

FORUM

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Edison Plaza Building. Owners: Toledo Edison Company • Engineers, Architects, Planners: Samborn, Steketee, Otis and Evans, Toledo, Ohio.

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JAMES R. WATT, P.E., TECHNICAL SERVICES MANAGER,
TOLEDO EDISON COMPANY

National attention began focusing on Edison Plaza even before construction began. The reason: the building incorporates systems which may well become models for many other buildings as the nation moves towards greater emphasis on conservation of energy.

The building's "skin" is composed of more than an acre—50,000 square feet—of Thermopane® insulating units made with Vari-Tran® coated glass. This is an expensive glass, but according to the designers it saved over \$123,000 in initial construction costs by reducing the size of heating and air conditioning equipment needed for the 1/4" clear glass. "We are pleased that, after a year, the actual operating costs are very close to those anticipated."

The architects incorporated in the design a heat reclaiming variable air volume system that uses heat generated from the interior lighting to heat the structure. "At Edison Plaza, the 8000-plus light fixtures generate more than 5 million BTU per hour, enough to heat 75 average homes. It was found that with proper distribution of this energy, little if any auxiliary heat would be needed."

"The key to good operating efficiencies" says Mr. Watt, "is the proper selection of air systems, heat reclaiming devices and building glass, like Vari-Tran."

With the design of Edison Plaza, the Toledo Edison Company demonstrated that it is possible to have optimum lighting levels and a striking exterior . . . and conserve energy at the same time. You can too! For more information about Vari-Tran, send for "Reach for a Rainbow," Dept. F-473, Libbey-Owens-Ford Company, 811 Madison Ave., Toledo, Ohio 43695.

LOF

LETTERS

AN URBAN PLANET?

FORUM: Your December issue was most stimulating. And I would like to put in my one cent.

Ms. Ward's article "An Urban Planet?" was most interesting. I began reading the article on the assumption that she was going to give an alternative to the title of the article. Instead I found that she was going to propose a way to make an Urban Planet a nicer way to exist. I found, further, that her prejudices and mine are in basic agreement.

The problem is that I have often been in this situation over the past fifteen years. I have read any number of well written, concise, thought-out solutions to Urban Ills. I have gloried in the first tentative attempts at implementation of powerful schemes. I have admired the pictures of results. I have applied this knowledge to projects of my own. I have watched as these ideas put into practice have turned inevitably into timeless lemons, examples of silly fadishness of a particular instant in time. These wonders have been everything from children's play-parks to Granite Plazas; from Zips to Zaps; from glass boxes to concrete tombs. I have gone from feverish excitement to embarrassed disclaimers. I don't regret having tried these new things, since I have learned something at every turn.

The reason that I mention this tired repetition of fads and fancies is that it seems to me that Ms. Ward may very well be suggesting the ultimate and final expense in the pursuit of architects' and planners' fads.

I agree most heartily with the need for federal programs. This is because local programs, almost by definition, will fail. If Detroit solves its problems and makes itself into the Shangri-La of urban living, it will immediately become the fastest growing metropolis in the world. At this point Detroit's problems are unsolved. Therefore, federal programs are an absolute necessity.

The problem is that we have no solutions. We don't even know how to tell if the programs we have implemented are working. We don't even know what

the problems are in many cases. If we solve the housing problem, have we complicated the transportation problem? If we solve the transportation problem what have we made better? If crime declines, does mental illness increase? What would happen if we didn't solve the transportation problem in the first place? What is the transportation problem? Silly questions? I don't know the answers.

I suggest that what we need is a well monitored federal cornucopia, federal funds and assistance used at local discretion and sensitively monitored to determine success. Rather than monitoring the immediate problems addressed, I propose that monitoring be addressed to human behavior. Crime, mental illness, welfare and other such basic data will better indicate whether a program succeeds than whether a million people can be crammed into our downtowns in one hour. Also, a multiplicity of attempts will better indicate a general direction, than one all-encompassing federal program at this time.

Denver, Colo. TOM E. MORRIS, R.A.

TONGUE-TIED PROFESSION

FORUM: Your editorial (December, '72) just received, also scored a nice, neat hit.

I was delighted to read what you said about Ada Louise Huxtable and her distinguished work as one of our outstanding architecture critics and writers, and your very timely comments regarding writing. How wonderful a double-edged renaissance would be that raises both the general appreciation of architecture and of well written, graceful English prose.

In March 1972 I wrote the following letter to an officer of one of our architectural organizations who is still in office. I have not received any reply to it, nor to a number of other letters and long distance telephone calls. This lack of common courtesy, even from a friend and colleague, seems not to be unusual these days. The letter reads:

"About a dozen years ago efforts were made to raise money for a Special Fund, the income of which would be used for the publication of writings on architectural subjects that might not otherwise be published. The objective was the sponsorship of literary projects dealing with the

history and philosophy of architecture, and biographies of distinguished architects.

"The organization's efforts in architectural education do not, I believe, include any support of creative writers in the field of architecture. Do you think you can arouse the interest of the Board in this direction, with a view of providing funds to aid and encourage those in our profession with talents in this direction?"

"The best encouragement for writers is publication of their work. But each year there seem to be fewer places where they can submit what they have written. Architectural and commercial book publishers are not optimistic about sales to the architectural profession and the general public, and booksellers are several degrees more pessimistic about the type of books described above.

"Another element in this situation may be that there is a cultural drift away from creative writing which, I believe, affects the aspirations of the present college generation.

"Our organization may well enter this fertile area of creative writing in the field of architecture and the fine arts. I feel certain that the interest and results will prove to be most satisfying and rewarding."

The lack of response to this letter has not discouraged me in any way. There is a genuine need for projects of this kind and some day I hope they will be realized.

As you mentioned, Mrs. Huxtable has often taken our tongue-tied profession to task for, among other things, being tongue-tied. You, as well as Mrs. Huxtable, are aware, I am sure, that for the past six years or so, the "tongue-tied" condition has not pertained to fields totally unrelated to architecture. Architects suddenly have become Sociologists, Politicians, Statesmen, Military Strategists—"The Compleat Expert."

May the FORUM continue to have that vital spark and the quality of excellence which is so refreshing and so consistently evident in all its issues.

E. JAMES GAMBARO, FAIA
New York, N.Y.

FORUM: Re William Marlin's nice neat hit—DISTINCTLY EXCELLENT!

THOMAS F. STURR, Architect
Oak Park, Ill.

PLANNING

FORUM: May I say that the letter in your November issue from Charles D. Bonsted of Syracuse stinks? He must be one of those little minds who can only be happy when he cuts someone else down to his own size. As a licensed (registered, if you like) Landscape Architect and a planner, I say, "God help us if planning is dependent on his kind!"

To begin with, the most elementary planner should know that the only legal basis under the federal and probably all state constitutions for regulating the practice of any profession, trade or other activity is protection of the public health and welfare, on which the police power depends. This is the same power under which planners operate when they regulate the use of land through zoning. Or doesn't he know about that?

And the regulation of the practice of a profession does protect the public health and welfare when it establishes standards of education, skill and ethics which attempt to guarantee to the people that the doctor knows what he is doing when he operates, that the architect does not build a skyscraper which will fall down and kill everyone in it and on the streets nearby, or that the landscape architect plan a park which is full of booby traps in the form of dangerous steps, blind street crossings for paths or dangerous mixtures of recreational uses. It is not yet mandatory that landscape architects must be hired, but at least where they are licensed or registered you have some assurance when you hire one that you are getting someone who knows his job.

When I was working toward my Masters in Landscape at the University of Michigan 40 years ago, we used to long for the day something could be done to raise the name "Landscape Architect" to an honorable status. In those days, the most rickety old wagon in town was likely to bear a sign reading "Landscape Architect—Ashes Hauled." It is beginning to appear that a similar means is needed to bring the title "Planner" to repute. If Mr. Bonsted is an example of a "Planner" some regulation is obviously needed.

MARY P. SOBERS
Landscape Architect and Planner
Yucaipa, Calif.

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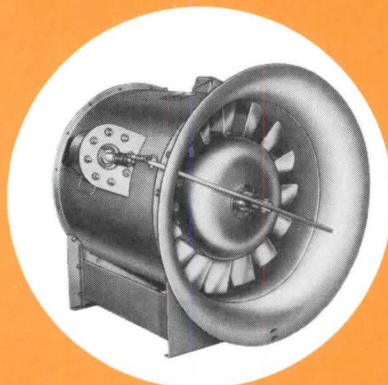
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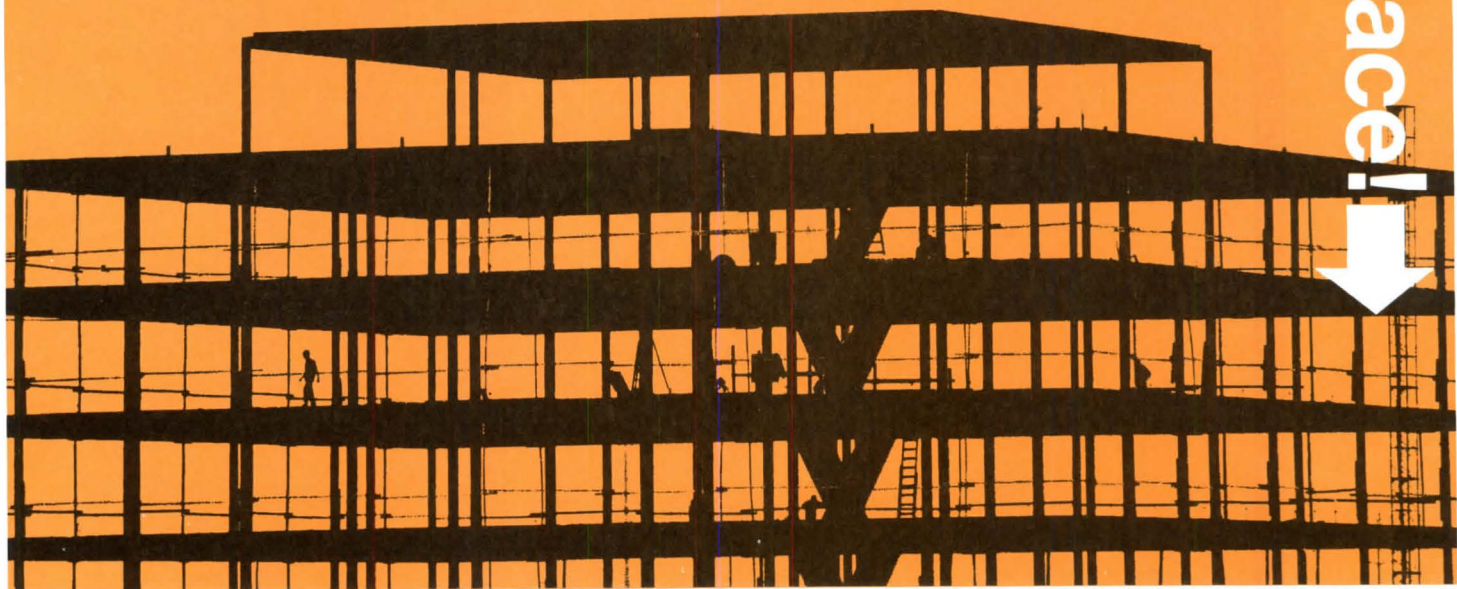
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each module has its own mechanical services in an adjacent tower. This modular concept allows for future building additions without disruption of existing work areas.

The architect chose his exterior building materials for economics as well as esthetics. The exterior is colored in warm bronze and brown—specially glazed brick, no-maintenance weathering steel, and 77,000 square feet of high-performance *Solarban 575 Twindow* insulating glass from PPG. (The *Solarban 575* unit, with a *Solarbronze*® coverplate, takes on a muted bronze tone that complements the coloring of the other exterior materials.)

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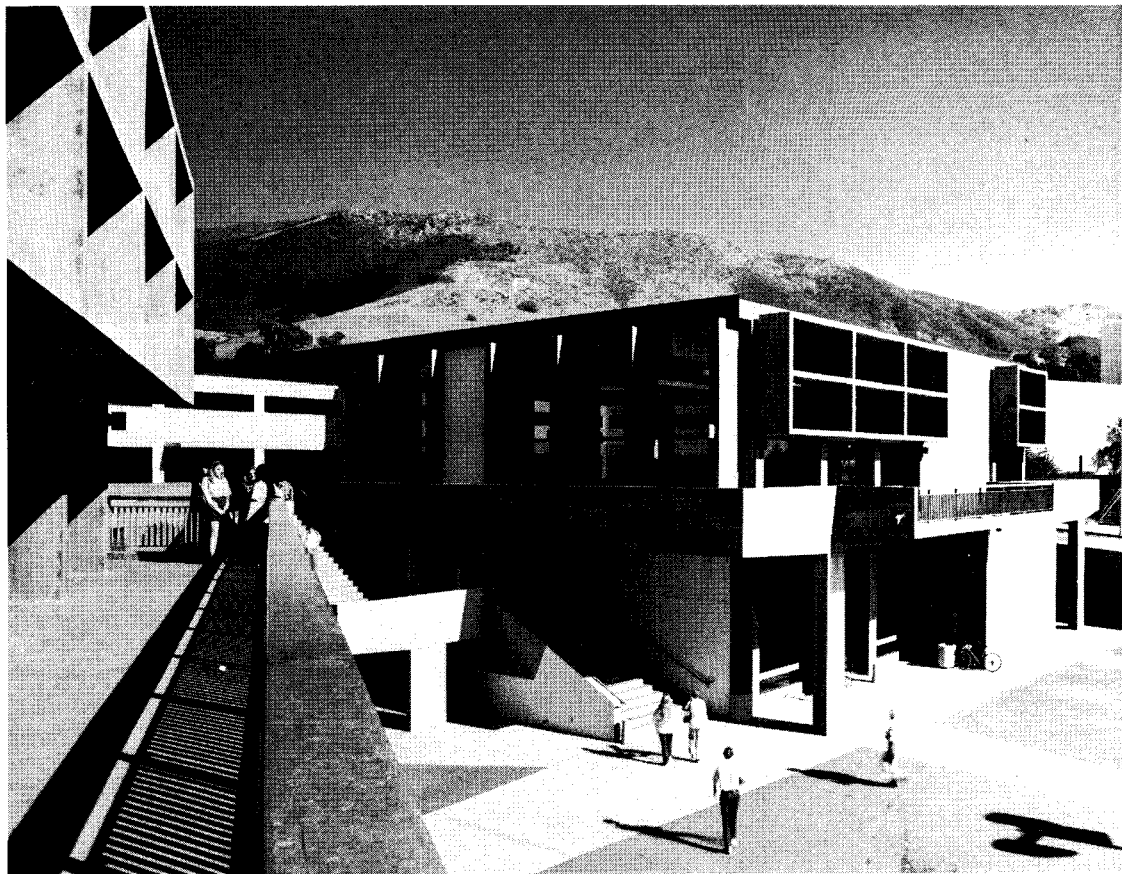


Owner: S. S. Kresge Company, Troy,
Michigan
Architects and Engineers: Smith, Hinchman &
Grylls Associates, Inc., Detroit, Michigan

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FOCUS



UNION COLORS

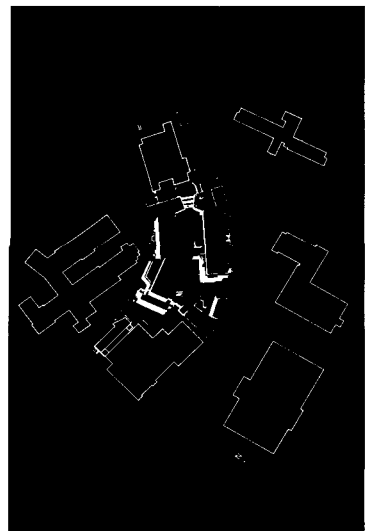
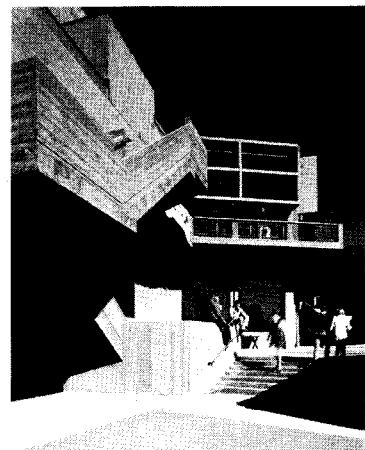
In the energetic design for the College Union at California State Polytechnic, San Luis Obispo, Architects Esherick Homsey Dodge and Davis have been unusually bold with color, both inside and out. The T-shaped support and railing for the landing, and the infill panel above it (top photo), are a rich orange. The rear wall with slot windows and the lower stair walls are a brilliant yellow. On the interior this yellow is repeated on the soffits of the stairwell skylight, the waffle slabs, the metal deck ceiling and the stairwell walls which also have a narrow band of orange. To cool things a bit, there is a triangle here, a column there, and even a wall of lime green. The colors combine with the oblique angular forms to produce a kinetic atmosphere conducive to lively interactions.

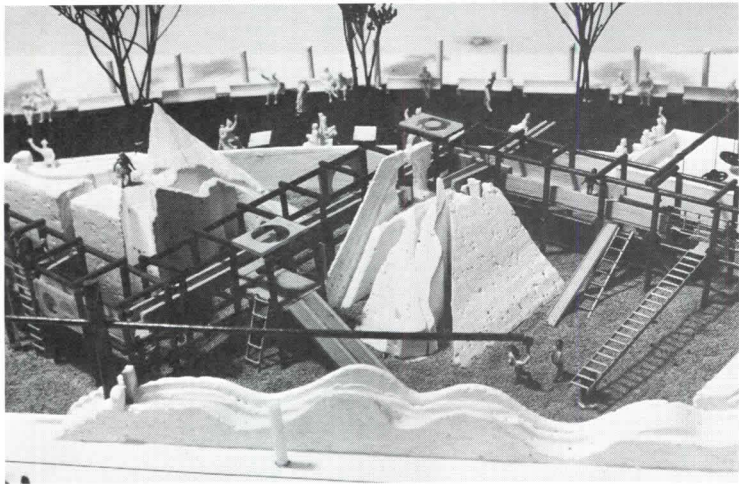
The view above is taken from the walkway around the lounge adjacent to the second floor multi-purpose room. The lounge looks toward another lounge opposite. The view to the right is taken a little further back, from ground level, and looks in the same direction, alongside the bookstore. A fan-shaped plaza, with a fountain by Lawrence

Halprin, opens to the right.

Other program requirements accommodated are: meeting rooms, offices for foundations, student business and activities, exhibits, bowling, billiards, workshop, graphic arts, photography laboratory, student government chambers, a burger bar and small commercial services. A tunnel connection to an adjacent cafeteria provides food service to the pantry re-heat area of the multi-purpose room.

The exposed concrete framing system adapts to the variety of space requirements. A long-span Vierendeel truss system was used for the major portion of the bookstore and at the bowling and billiards area. Exposed mechanical systems thread through the voids. The lounges and large lobby have high ceilings with precast concrete beams spanning 64 ft. The mechanical and workshop area of the building, with offices and conference rooms above, is a basic post-tensioned concrete waffle slab system. The post-tensioned longitudinal and lateral walls of the multi-purpose room support retractable partitions and an exposed cast-in-place concrete frame roof with metal deck ceiling.



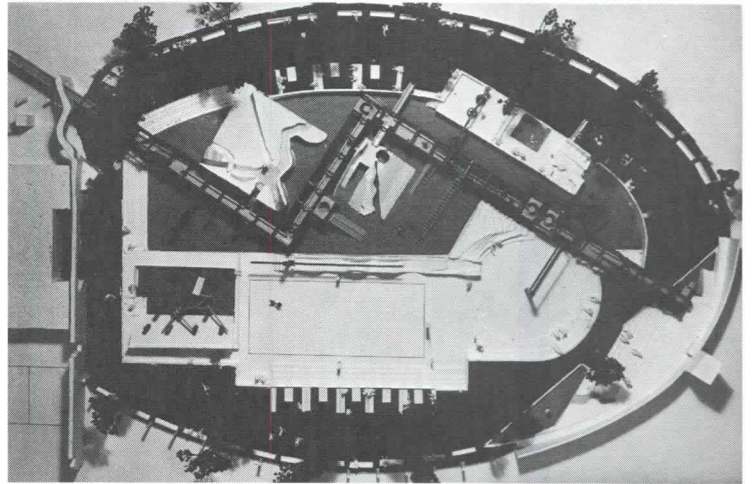


PLAY AT ANY AGE

What better thing than to make an asphalt wasteland—which is supposed to be a playground—jump? Architects Mayers and Schiff, working with a coalition of New York City community groups, have developed an expressionistic design to bring to life such a playground at 83rd Street and Riverside Park, satisf-

ying a variety of community needs. What the groups need now is a coalition of financial backing to realize their proposal.

Free form openings in a sculptural wall compose the entrance. Half the playground, for younger children, is sand based with two pyramidal structures having stairs, slides, tunnels, and a zigzag, two-level

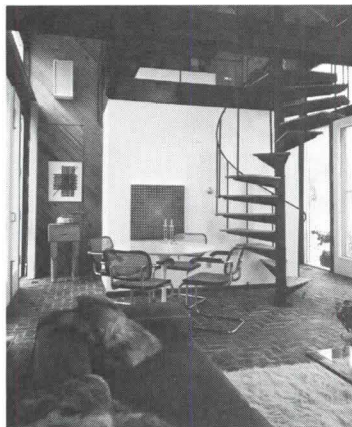


play frame which forms a walkway connecting all play apparatus (firemen's poles, ladders, ramps, bridges and rope or tire swings) on the second level. This area is separated from the paved sports area (with stepped spectator seating) for older children by a wave-shaped water trough which empties into a combined spray pool, skating

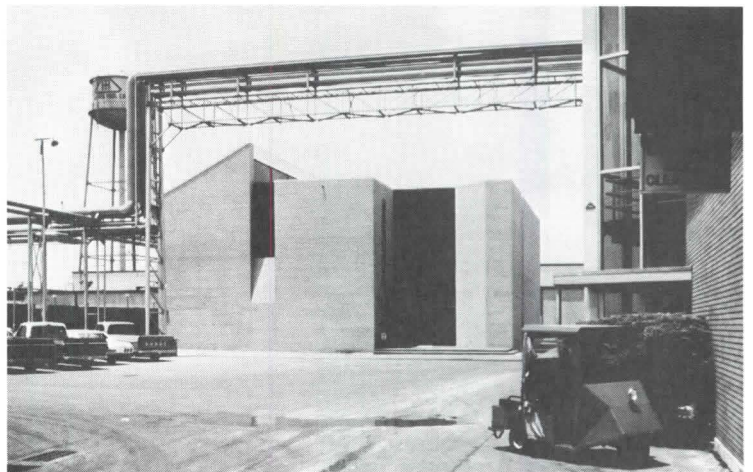
area and amphitheater which will also be used for square dances and concerts. A creative play area, having vertical pipes with adjustable clamps, will enable children to build. The peripheral promenade which the elderly enjoy will be retained and another row of trees, new benches and picnic-game tables added.

AN OLD KENTUCKY HOME

This weekend house, a renovated, 125 year old tobacco barn and stable, was built on one of the first pieces of property settled in Kentucky. Rather than jacking the building and risking permanent damage, the heavy timber structure was dismantled, parts numbered, and rotted boards replaced. The original mortise and tenon joints were maintained as far as possible, but such joints were not used in the new construction. Graduate and undergraduate students of Architect David Spaeth did the basic construction work excepting the installation of mechanicals, plumbing, flooring and plastering. The major new element, a native



limestone fireplace, was built by local tradesmen who, according to the architect, "have an uncanny sense of how things go together."



TOOL BOX

The Quality Assurance Building of the Hughes Tool Company, a large oil well drilling tool concern in Houston, Texas, is a rarity among industrial buildings. Designed by Architect Allan James, it reflects "the excellence of quality that the company expected this department to uphold."

The site, selected by the architects and plant industrial engineers, is at the intersection of two major traffic arteries, convenient to all manufacturing areas, but restricted by an overhead pipe rack to the east and south.

The ground-level work areas

allow ready access by fork lifts. These include a gage room for the repair of inspection equipment; a controlled environment, dust-free metrology lab for calibrating the equipment; and a comparator room. The second-level offices with a north-oriented clerestory run the full length of the building.

The structure—steel tube columns in masonry walls—supports an overhead of bar joists and lightweight concrete. The walls are tan, sand-textured brick; the glazing is gray plate glass. Both the brick and the quarry tile paving of the terrace continue into the lobby. Interior partitions are covered in vinyl.

(continued on page 12)

A NEW LOOK AT INRYCO® WALL PANELS



1. Delta Air Lines, Inc. Maintenance Facility, Atlanta, Ga. Low first cost, fast erection, easy repairability and made building good looks dictated material selection here. 2. Duane Arnold Energy Center, Iowa Power & Light Co., Cedar Rapids, Iowa. Inryco Metal Wall Panels need no costly heavy equipment to install and only light framing. Large pre-fitted panels speed the job and save time on labor. 3. Office/Manufacturing Building, Diversy Chemicals, Des Plaines, Ill. Inryco panels were selected for durability, noise control, fire resistance and durability were key factors in selection of Inryco Panels for this application. 4. Low Income Housing, Kansas City (Kans.) Housing Authority. Effective insulation, attractive appearance and sun-and-salt environment were chosen for this building. 5. Westinghouse Nuclear Components Plant, Tampa, Fla. Inryco Wall Panels were chosen to resist high winds and corrosion. 6. Centralia plant, Pacific Power & Light Co., Portland, Ore. Three years passed and wall panels installation of first there was no visible difference in color.

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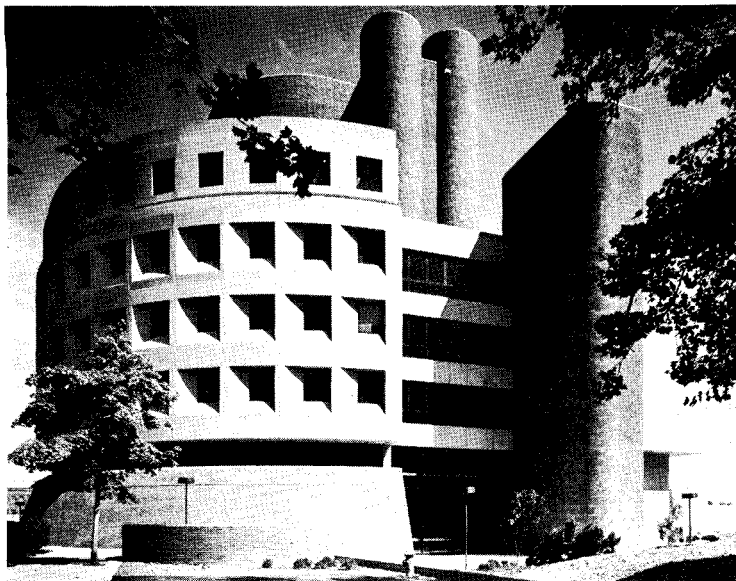
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A New Look at Inryco Wall Panels



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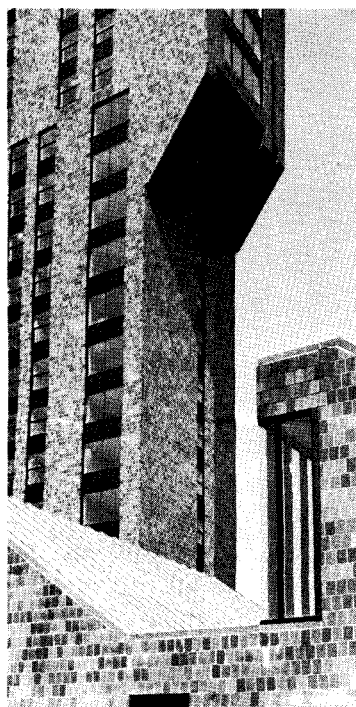
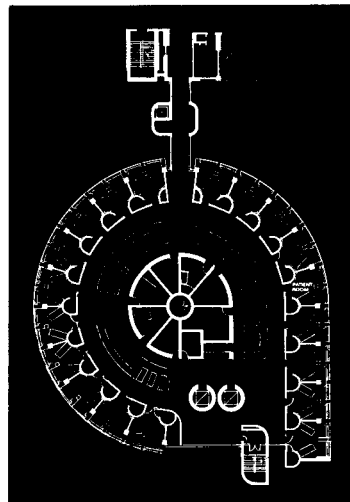

EYE OPENER

Known as the Black Hole of Calcutta when it was housed in black-painted underground quarters, the Department of Ophthalmology of the University of Pennsylvania is seeing better days. In its new building—called the Scheie Eye Institute after its Director—the department's research, teaching and patient care facilities are both consolidated and expanded to handle 3,000 inpatients and 50,000 outpatients a year. Vincent G. Kling & Partners were the architects. A central 125-seat lecture room, a library, classroom, record storage, animal research colony and mechanical equipment rooms are located in the basement. On the first floor,

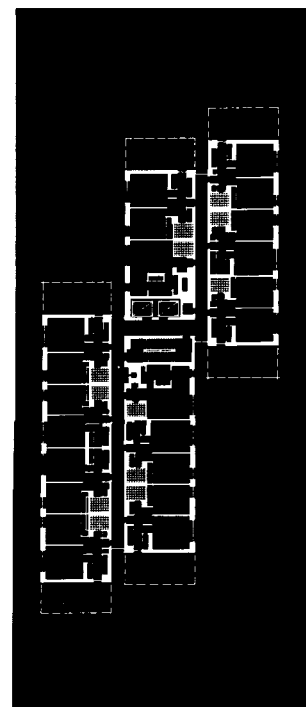
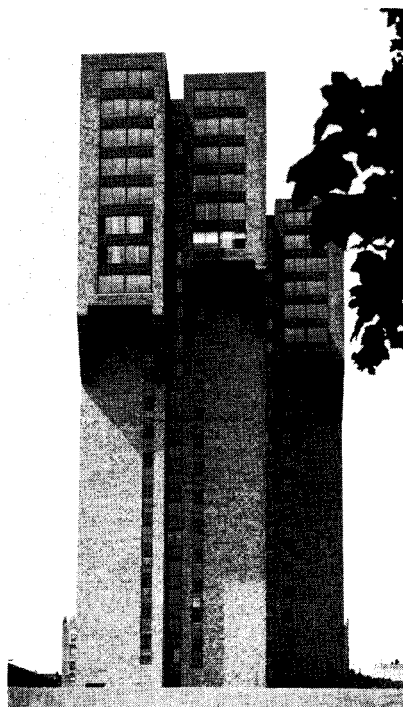
surrounding a two-story waiting room for 100 people (below left) are outpatient admission and treatment facilities. Five second-floor operating rooms serve the outpatient floor below and the two inpatient floors above. The operating rooms have open plans, in accordance with Dr. Scheie's wishes, but they are designed to be easily enclosed if a successor so desires. On the third and fourth floors (plan left), the patient rooms are on the perimeter; nursing stations, pantry and storage are in the center. The fifth floor is unfurnished, allowing for expansion of either the inpatient facilities below or the research which is now conducted in 12 sixth-floor laboratories which surround the cold room, dark room and conference room. There are two levels of mechanical equipment above the sixth floor. The new building is connected to the adjacent hospital from the basement through the fifth floor.

The structure is reinforced poured-in-place concrete with a coffered pan floor system. The upper floors have precast window panels. The lower floors and all towers are of brick matching nearby buildings.

PHOTOGRAPHS: Page 8, Wayne Thom. Page 9 (top) Robert Mayers; (left) W. Wallace Wilson. Page 12 (center left) Lawrence S. Williams, Inc.; (bottom) Robert Gray.


UP AND OUT

The 2440 Boston Road Apartments for the elderly in the Bronx were designed for the New York City Housing Authority by Davis, Brody & Associates. It has won an award from the New York Society of Architects for breaking out of the box-like forms so typical of low-income construction. The architects incorporated such unusual amenities as: exposed brick on corridor walls, natural light in all corridors, much larger windows, factory finished baked enamel window frames, a minimum of protruding columns, and recessed convectors under the windows. They also used a nonstandard brick ($5\frac{1}{2} \times 8$ in.). 82 percent of the 235 units are for the elderly. The larger apartments at the top are expressed by cantilevers. A community center with large clerestory spaces is adjacent.





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BOOKS

FRANK LLOYD WRIGHT: An Interpretive Biography. By Robert C. Twombly. Published by Harper & Row, New York. \$10.00.

REVIEWED BY DONALD HOFFMANN

Setting straight the story of Frank Lloyd Wright is a tall task, and one which will, I suspect, never be entirely accomplished. Wright's incredibly long career was as dense as it was intense, his mind always at work even during what seemed to be the fallow years. Moreover, and almost as if to confuse history, he came to see the story of his life in heroic measure, not bothering with such important facts as accurate dates, sometimes willfully disregarding or distorting the facts, and rarely acknowledging the accomplishments of other architects, whether they practiced before his time or during it. He was not only Louis Sullivan's "mythographer," as Philip Johnson put it, he was his own as well.

Near the end of an impressive new study entitled *Frank Lloyd Wright: An Interpretive Biography*, Robert C. Twombly declares, "The more Wright is demythologized, the more believable he becomes." I'm not at all sure that Wright becomes any more believable after Twombly's book—the nature and the source of his genius indeed seem even more elusive—but it's good to have the truth about so many things. It is clear that Twombly, in his process of demythology, paddled through an unending stream of Wrightian literature and scouted about for the most obscure sort of references, such as ephemera in small-town newspapers. His source notes, most of which spill out like the particles of a split atom, are staggering. But his writing is rarely pedantic.

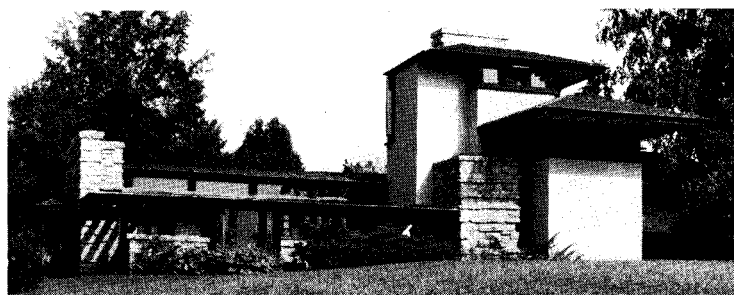
Certain curious matters about Wright were resolved a few years ago by Thomas S. Hines, Jr.; that he hedged two years

on his age, that he spent less than one good year at the University of Wisconsin (instead of spurning academe shortly before graduation), that the marital relations of his parents differed greatly from the way Wright described them. But through his meticulous investigation, Twombly has brought together the facts that will serve as signposts for the events of his whole career.

Although he does not underestimate Wright's accomplishments (he even credits Wright with influencing "cubism in painting," an untenable assertion), Twombly's tone, as one might guess, tends to be iconoclastic. Thus, Wright "had come to Chicago as something of a rube." His second "In the Cause of Architecture" paper, published in 1914, suggests that he "may even have developed a mild paranoia." The lean years of the 1920's and early 1930's

Wright's fiercest writing, however, is reserved for the Taliesin Fellowship and its successor, Taliesin Associated Architects. When the Fellowship was begun, he writes, critics speculated that Wright, "short of capital for several years and in 1932 still without commissions, was assembling young people gullible enough to pay for the privilege of growing his food and keeping his estate in repair."

In contrast to the masters of the Bauhaus, Twombly declares, Taliesin never developed into anything like a fellowship among equals. As time passed, it "veered off into handicrafts, music, dance, even spiritualism . . . at Spring Green the students became ingrown, isolated, and provincial sycophants, who neither criticized their Master nor equaled his achievements." Well, no one could have reasonably hoped for Wright to be soon equaled.



Frank Lloyd Wright's Taliesin North.

"opened the floodgates of a speaking and writing deluge," and for the rest of his life he was often in the news, "popping off on one or another issue, whether or not he knew anything about it." At 65 years old, "he was considered even by many of his admirers as an eccentric, opinionated, flamboyant, arrogant, slightly screwy old man with strange ideas who talked too much." As a debunker, he "may not have believed half the things he said, but he obviously enjoyed saying them, and intimidating his listeners."

Twombly writes almost without mercy. "Not until after marital difficulties frightened away his (largely urban) clientele," he asserts, "did Wright become single-minded about metropolitan evil." Yet in his last years, Twombly notes, Wright enjoyed pontificating while strolling along Fifth Avenue, and he extolled the virtues of his special suite in the Plaza Hotel. Twom-

Twombly, who now teaches history at City College of C.U.N.Y., is ambitious in attempting not only an accurate chronicle of Wright's life, but also an analysis of his contribution in architecture and his contribution in thought. Faced with the enormous body of Wright's buildings and projects, Twombly is forced to be both synoptical and highly selective. Thus his description of the books by Henry-Russell Hitchcock and Grant C. Manson ("their heavily detailed works are valuable compilations of raw data") is unhappily condescending, for both books remain standard texts for anyone interested in Wright's work.

In those of Wright's designs which he does discuss at any length, Twombly's remarks are incisive and sound, despite the sociological and psychological musings that admittedly are indebted to Norris Kelly Smith's manner of dealing with Wright. Twombly's concise definition of

what Wright tried to express by his all-embracing term "organic" (although he in no way indicates that organic and functionalist theory existed years and even centuries before Sullivan and Wright) is excellent. Yet his criterion of whether Wright was offering "constructive new suggestions on how to organize individual and social life" leads to much unrewarding commentary on family and social togetherness. There is a naive confusion here between house and home. Clearly enough, family harmony or dispersion can occur with an open floor plan, just as family life can be enriched within the walls of High Victorian, Greek revival, or many another kind of architecture.

Somewhat similarly, he argues that the impact of music on Wright's architecture—the love of music being inspired by Wright's hapless father—was at least as important as the Froebel blocks provided by Wright's mother. Whether music is called an "edifice of sound" or architecture is called "frozen music," cross-references between the abstracted elements of the different arts are rarely fruitful, and even more rarely does creative energy leap from one to another.

When he comes to Wright's thought, Twombly asserts that much of the vast literary output "has been neglected." Yet surely among architects, historians and students, Wright's books have enjoyed robust circulation (on my own shelf I see some 30 books, pamphlets or magazines written by or about Wright), and neglect to Twombly must mean lack of secondary comment. In any event, Twombly launches into a fairly long account of Wright's thought, accurate but rather less interesting than reading Wright's own words directly.

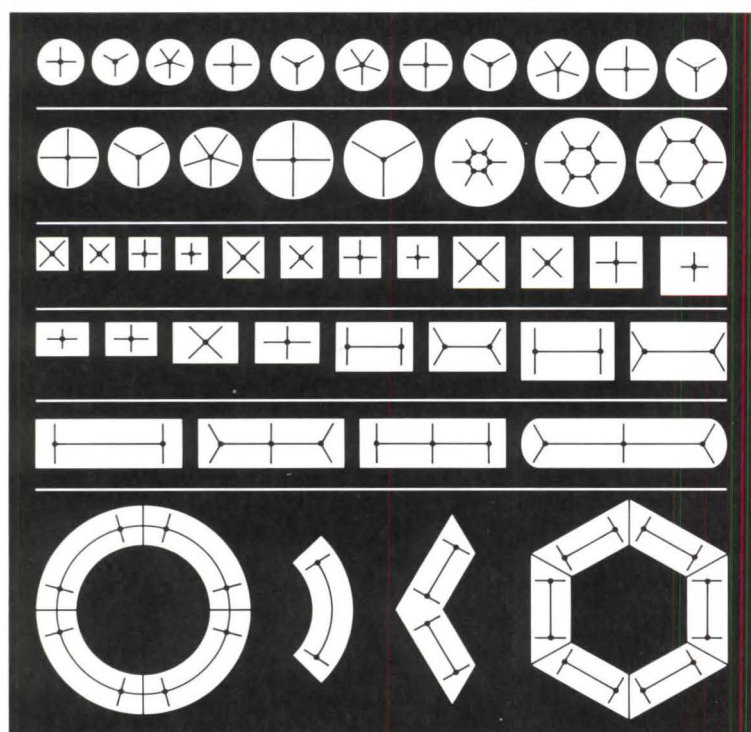
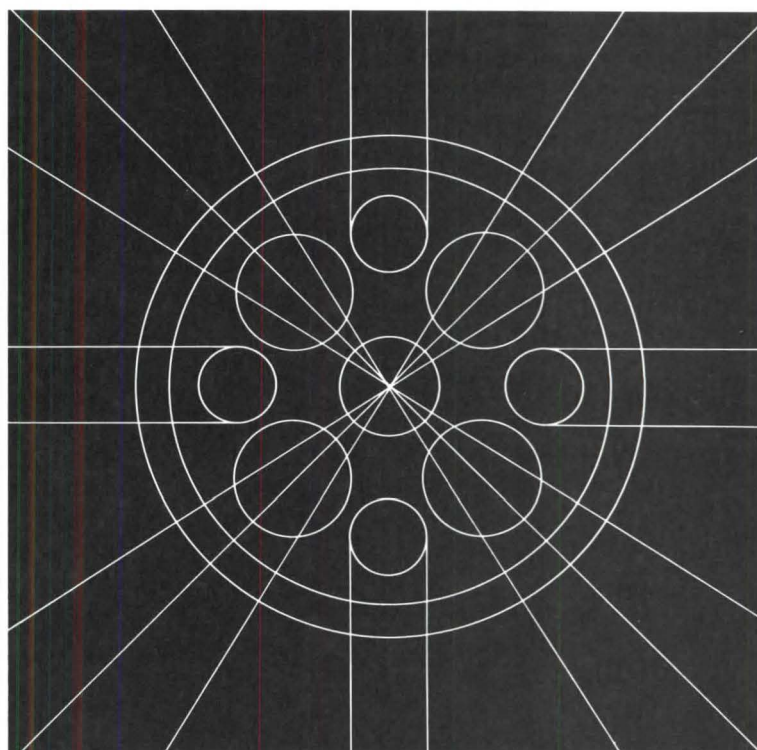
Those who will be outraged by Twombly's frankness in dealing with Wright should consider that Wright's achievement will not be diminished by such close studies. On the other side, Twombly's biography will not, I think, displace *An Autobiography* (which Twombly calls "difficult, revealing, inaccurate, but compelling"), because Wright told his own story with an emotion more important than fact. And if the myth functioned to protect and nurture his creativity, are we the less for it?

Mr. Hoffmann is art critic of *The Kansas City Star*. His study, *The Architecture of John Wellborn Root*, is being published this year by the Johns Hopkins Press.

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FACETS

NEW TOWNS

WATERFRONT RENEWAL

The United Housing Foundation has announced plans for a \$2 billion new town in Jersey City, New Jersey. A 2,200 waterfront site, where railroad yards and swamps now fester, will be developed into a community of cooperatively owned moderate-to-middle-income dwelling units (with some low and luxury housing included). The 20,000 units of housing will offer a range of different dwelling types from high-rise to courthouses, arranged around a shopping complex on a 575-acre portion of the site. The 1,000 acres to the south have been designated for an industrial park for which joint developers National Kinney Corp. has first option.

Urban planners for the project are Raymond Parish & Pine, with Marquis and Stoller, the architects; Herman Jessor, (architect for Co-op City), a consultant; Farkas, Barron & Partners, Engineers; Zion & Breen Associates, Landscape Architects. Other consultants include several firms investigating the environmental impact of the new town on marine life.

LIVING AND LEARNING

Columbia Maryland is opening up yet another category of new town—the "new town in a new town." And this town will be based on a rather singular

concept: It will be a research and residential community for retired professionals.

A 90-year old resident of Columbia, George Rusk, first envisioned the program 20 years ago. Now the Senior Institute for Research in Arts and Sciences, two years old, has begun working with the Rouse Company to build a complex of work-laboratory buildings with approximately 240 garden apartments for its scholar residents. The community will not only offer educational resources, but will also seek research contracts.

UTOPIA IN GOD'S COUNTRY

Those proverbial little old ladies from Duluth will have something to talk about. An experimental new town for 250,000 people is being planned for a rural 50,000-acre site in the Minnesota heartland, about 90 miles west of Duluth. Planners of Minnesota Experimental City (MXC) are seeking legislation from the state to fund the project for a two-year development period. Eventually the MXC group would like to have a special planning district established for the site (now 60 percent publicly owned) and a public benefit corporation created to float bonds for its construction.

HUD and HEW grants will also be sought to support some of the town's innovative features. For example, tunnels are to be built for underground services, utilities and deliveries, portions of the town's open space will be enclosed and climate-controlled, and alternate movement systems used in place of cars.

Economist James Alcott, Di-

rector of the project, has explained that communications especially will be advanced, since the town's prime industry will center around information and learning.

Other aspects of this post-industrial society would include a skill and credit exchange in place of money, direct participation by citizens in urban planning decisions through computer networks, and possible self-sufficiency in food production and distribution.

The concept for the new town has received support from such diverse persons as R. Buckminster Fuller, Senator Hubert Humphrey, and General Bernard A. Schriever (in charge of Atlas missile development), all of whom belong to the steering committee that has launched the project.

LAND USE

SOME RESERVATIONS

There are several reasons why the Tesuque Indians near Santa Fe, New Mexico are up in seven irons over a plan to build a golf course and resort community on their reservation. One reason is water—there isn't enough to quench the thirst of both the Tesuques and the tourists. Another reason has to do with basic services, like road maintenance, fire protection, medical care and schools—the Tesuques fear that what few funds they have would go to subsidize creature comforts for the Great White (hen-pecked) Father.

What is developing in Santa Fe is a land war which has everyone (including the courts)

buffaloed. The question, and one with national implications: Can non-Indian developers rightfully build subdivisions on Indian land? At issue: a development called, romantically enough, Colonias de Santa Fe—one of those would-be spas for slicing, hooking and sipping.

In 1968, a federal Indian law was changed to allow commercial leases on reservations to extend from the usual 25 to 99 years. Mr. Jimmy Campos, the one iron behind all this, came on like the 7th Cavalry, promising the Tesuques a piece of the action—meaning a cut on the sublease price.

The Tesuques, however, looking at this from the proverbial "rough," weren't taken in and demanded an environmental impact statement from the Bureau of Indian Affairs at the U.S. Department of Interior. The BIA, considering that such a statement wasn't necessary on land already leased to developers, went ahead and approved the lease agreement.

The Colonias developers were, of course, thrilled at this bureaucratic cop-out and began, so we hear, ordering golf carts by the thousands. Furthermore, when Santa Fe city and county officials accused the developers of defying local ordinances, they pulled the flap over their tents and said, in effect, "Go back to your white man's ways." Ways like paying state taxes, or like applying for a liquor license.

What ensued was a pale-face assault on the sun-tanned golfers. The city, the county, the state and the Tesuques sued. In response, the State Supreme Court sided with the developers, pointing out that the reservation did, indeed, fall under federal, not local jurisdiction. Indeed, it does, agreed the 10th U.S. Circuit Court of Appeals in Denver, siding with the Tesuques and the environmentalists. The Denver Court, pointing to the National Environment Protection Act (1970), suspended all sales and offerings with respect to Colonias de Santa Fe, and ordered the BIA to get on with an impact statement.

The developers who call Santa Fe a "shade backward" when it comes to "progress," are fuming—alongside the golf carts (and septic tanks) which may never be used.



Model, "Liberty Harbor," Jersey City.

(continued on page 20)



ENERGY

“Architecture creates its own world—literally. A building is more than a space enclosure; it is a sealed life support system. A high rise building is artificially lighted, heated, ventilated and cooled. Think about that. Think about it in terms of Playing with the environment. Think of it in terms of the *energy crisis*. And polluting side effects. And the multiplication of power needed for every commercial or institutional building in a city.”

Ada Louise Huxtable
The New York Times
July 16, 1972

**The FORUM'S editors have thought
about that...AND TAKEN ACTION...**

The Architectural Forum

announces a special July-August issue
devoted to the coming crisis in

ENERGY

This publishing event will itself be
a source of energy—*creative* energy for
the architectural profession at a time
when energy was never needed more.

The bad news...and the good news...

Something new in architecture must happen—and soon. Only recently have architects begun to think about design in terms of the ominous news that between now and the year 2,000, the USA will consume more energy than it has in its entire history . . . that our demands for energy by then will have doubled . . . that in the perspective of history the era of fossil fuels (coal, oil, gas) will be a short-lived interlude . . . that within a generation, the depletion of our fuel reserves may be in sight . . .

. . . and that in terms of this energy crisis, that glistening achievement of twentieth century design, the glass box, has been, as Ada Louise Huxtable called it, "an invitation to disaster."

Both industry and the design professions have recognized the problem. And industry—either out of enlightened self-interest, social conscience or both—has taken the initiative in developing materials, especially glass products, with superior screening and insulation properties. For it is now understood that even the finest new buildings in our cities are squandering energy. Their sealed glass walls have invited floods of solar heat to invade their interiors—as their air conditioning systems devour huge supplies of energy to do battle with the sun. Their structural engineering may be designed to save *human* energy in minimized construction labor, but the office building grid is eminently wasteful of steel, and the energy needed to produce it. Their efficiencies in heating and lighting could be vastly improved—as they must and will be as the fuel shortage nears the point of crisis expected near 1985.

Architects must now think of energy consumption as a design standard and search for a new esthetic. Looking three decades ahead, they can entertain happier visions of the coming nuclear age and the promise of energy that is almost limitless.

By the turn of the century, breeder reactors will be producing vast supplies of low-cost energy. The controlled fusion process has a similar potential and is, beyond that, pollutionless. Fusion scientists may have a controlled reaction running in their laboratories by the end of this decade, an operating power plant late in the 1980's and plans that are economically attractive by the end of the century. When this reality arrives, our unsightly networks of electrical wiring may be torn down, and,

conceivably, large office buildings may gain all their power from a self-generating plant in the basement that is hardly larger than a suitcase.

Impact of Energy on Tomorrow's Design

How will the energy crisis change the face of architecture? The FORUM's editors are gathering some fascinating answers. They will offer readers an absorbing insight into new energy economies for the building industry which influences our energy use more than any other industry except transportation and the military. The FORUM will draw on the insights of professional activists like Richard G. Stein who has lately become an architect-of-the hour for his research into the energy problem and its influence on design.

Stein has pointed out that in office buildings, heating and air conditioning needs can be cut 19% by eliminating sealed windows, and using untreated outdoor air during temperate seasons. He claims that energy used for lighting could be cut 50%—and still satisfy the occupants' visual and psychological needs. He has shown how re-design of steel beams could save a tremendous outlay of energy in steel production. In the July-August issue, the findings of Stein and other thinkers will bridge the practical and the poetic, the scientific and the esthetic, showing how the energy crisis will influence architecture and environmental design.

New Directions in Research

The FORUM will also cover the full spectrum of expertise in energy research. The editors will report on what's being done to develop synthetic fuels from coal and shale oil . . . to reduce pollutants in petroleum fuels . . . to tap the earth for developing geo-thermal energy . . . to return (at least in theory) to the windmill and harness the air currents, also the tides, also the ocean temperature gradients to develop the strange new science called magnetohydrodynamics.

The FORUM will also appraise the design of the latest nuclear plants, including their tourist and educational facilities. Reports will also appear on progress toward workable breeder reactors and controlled fusion—a possibility so potent that fusion energy from a cubic kilometer of seawater corresponds to the energy equivalent of 2,000 billion barrels of oil—or roughly the world's oil reserves!

Publishing Events in 1973-4

The July-August ENERGY issue will be a major landmark in a series of important publications, including most recently the January-February 1973 issue about Philip Johnson. Future issues this year will take readers to Boston for an assessment of I. M. Pei's new Hancock Tower and his Christian Science Center . . . to Manhattan for a fresh look at that controversial landmark, Grand Central Station . . . to Chicago for the story behind the story of that city's stunning architectural progress . . . around the Pacific perimeter to view the new architecture of Australia, Singapore and Japan . . . to China (in a special January-February 1974 issue) for a first look at the architectural and planning scene in that vigorous society . . . to sites all over the USA and abroad for a hard look at the situation in housing, labor, building codes, zoning practices and the tax structure.

Throughout this handsome editorial series, the better instincts of both architects and the industries which serve them will be brought to light, as will the momentous social and technological trends which influence us all.

The attention of everyone concerned with architecture's evaluation will focus on the FORUM as the ENERGY issue appears this summer. As Richard G. Stein has said, "We architects can either reinforce the rapid acceleration of energy use or dramatically reduce its rate of consumption, and, in fact, can help reclaim a significant part of our present capacity."

THE ARCHITECTURAL FORUM agrees and has laid its editorial policy on the line.

Memo to Advertisers

Advertising forms for the July-August issue of The Architectural Forum will close on July 2.

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FACETS

(continued from page 16)

ARTS

EXPANSIVENESS IN THE ARTS

- The darkhorse winner in President Nixon's 1974 budget turned out to be the Arts. (You know where low-income housing and education placed.) A record-shattering \$80-million has been included, more than twice the amount of last year. Since the National Endowment for the Arts will control the purse-strings to \$72.5 million of the proposed funds (the remainder goes to state art councils directly), Chairman Nancy Hanks may find her organization besieged by students and poor people who figure the obvious

Roche, Dinkeloo (FORUM, June, '70) to go ahead.

The American Bicentennial Wing, along the west facade facing into the park, will be built at a cost of \$15 million. The museum will seek \$3 million from the city, \$3 million from the federal government, and obtain the rest privately. Groundbreaking will take place this year, even if government money has not funneled through in time, so that the wing will be ready by 1976. Meanwhile (depending on the outcome of the Euphronios vase trials), park lovers may be joined by Italian government officials in protesting the Met's expansionist policy.

- The Guggenheim Museum in New York has announced its own expansion plan—less ambitious, perhaps than the Metropolitan Museum's, but just as controversial. The Guggenheim plans to install a tearoom and bookstore on the portion of the

ated a museum or merely a monument is still being debated—but, we suspect, not half as heatedly as this latest proposal to improve on him.

CONFABS

DO YOU LIKE TO DANCE?

There were two questions on the registration form sent out to prospective participants of the 1973 International Design Conference in Aspen. One was "What are your existential coordinates?" The next was, "Do you like to dance?"

These rather *outré* queries relate well to the theme of this year's conference, June 17-22. The theme, "Performance," dreamed up by graphic designer Milton Glaeser and social scientist Jivan Tabibian will keep past year's concerns over social responsibility, revolution and participation waiting in the wings. Instead, the designer-as-performer will be center stage, whether s/he is designing a building, a city, product, or poster. The performer's motivations will be analyzed and external constraints that affect the end product of his or her performance investigated.

Three sub-themes dictate the scenarios of many of the conference's sessions: the psychodynamics of performance which analyzes the psychological constructs affecting performance—feelings of powerlessness, potency, sexuality, revenge, guilt, perversion; the confrontation between the designer's expectations formed by his education, and the realities of his professional life; and finally the "death of the audience"—the audience as the user, consumer, spectator of the performance.

Sessions will be directed by a varied crew such as a skilled therapist, a film director, a women's liberation leader, a black writer. Reyner Banham will also perform in a rite against anti-human architecture. Other events will include an art participation event by Robert Rauschenberg, presentations and discussions by Robert Benton of his films, rock/Indian music concerts, an international poster competition and exhibition, and an instant landscape designed and built by Paul Friedberg with the Aspen conferees. Robert Simon the developer who

lost \$3 million on Reston, will discuss the consequences of performance when dealing with heavy financial investment. And naturally each participant is encouraged to present his or her own private performances usually conducted at such gatherings. For details, write I.D.C. in Aspen, P.O. Box 664, Aspen, Colorado 81611.

- An International Conference on Urban Housing will be held in Detroit, May 7-9. It is being presented by the Civil Engineering Department of Wayne State University with the cooperation of the AIA, ASCE, Associated General Contractors, Wayne State's Center For Urban Studies and College of Engineering, Detroit's Plan Commission and Urban Collaborative, the International Association for Housing Science, Michigan State Housing Development Authority and the South East Michigan Council of Governments. For further information contact Professor Vasily Kouskoulas, Conference Co-chairman, Civil Engineering Department, Wayne State University, Detroit, Michigan 48202.

- The Design Activity International Conference sponsored by the Design Research Society (DRS) of the United Kingdom and the Design Methods Group of the United States will be held at Polytechnic of Central London, August 29-31. Its purpose is to discuss the issues and applications of design research, design methodology and design practice in the creation of a more beautiful, livable environment.

The conference will be limited to about 300 people and accommodations will be available on the Polytechnic campus. Fees range from \$20 to \$50. For information write: The Secretariat, DRS/DMG Design Activity Conference, c/o Polytechnic of Central London (Short Course Unit), 35 Marylebone Road, London NW1 5LS, U.K.

PLANNING

THE BIGGEST AND BESTEST

Although New York doesn't have a large enough convention center to capture the business of political parties at election time, it soon will proudly possess the largest. (But of course.) The convention center will be sited on 40 acres of Hudson River

(continued on page 70)



American Bicentennial Wing, Metropolitan Museum.

move now is to claim themselves as artists, and apply for foundation grants.

- Museums and other cultural institutions are finding themselves on the receiving end of federal funding, largely due it seems to the American Bicentennial in 1976. New York's Metropolitan Museum—recently accused of having obtained its 2500-year-old Classical Greek Euphronios vase not too indirectly from grave robbers in Italy—has received official recognition from the American Revolution Bicentennial Commission in Washington and the New York Bicentennial Corporation. This recognition may clear the way for the museum to receive direct federal appropriations for 1976 celebrations, permitting its expansion plan by

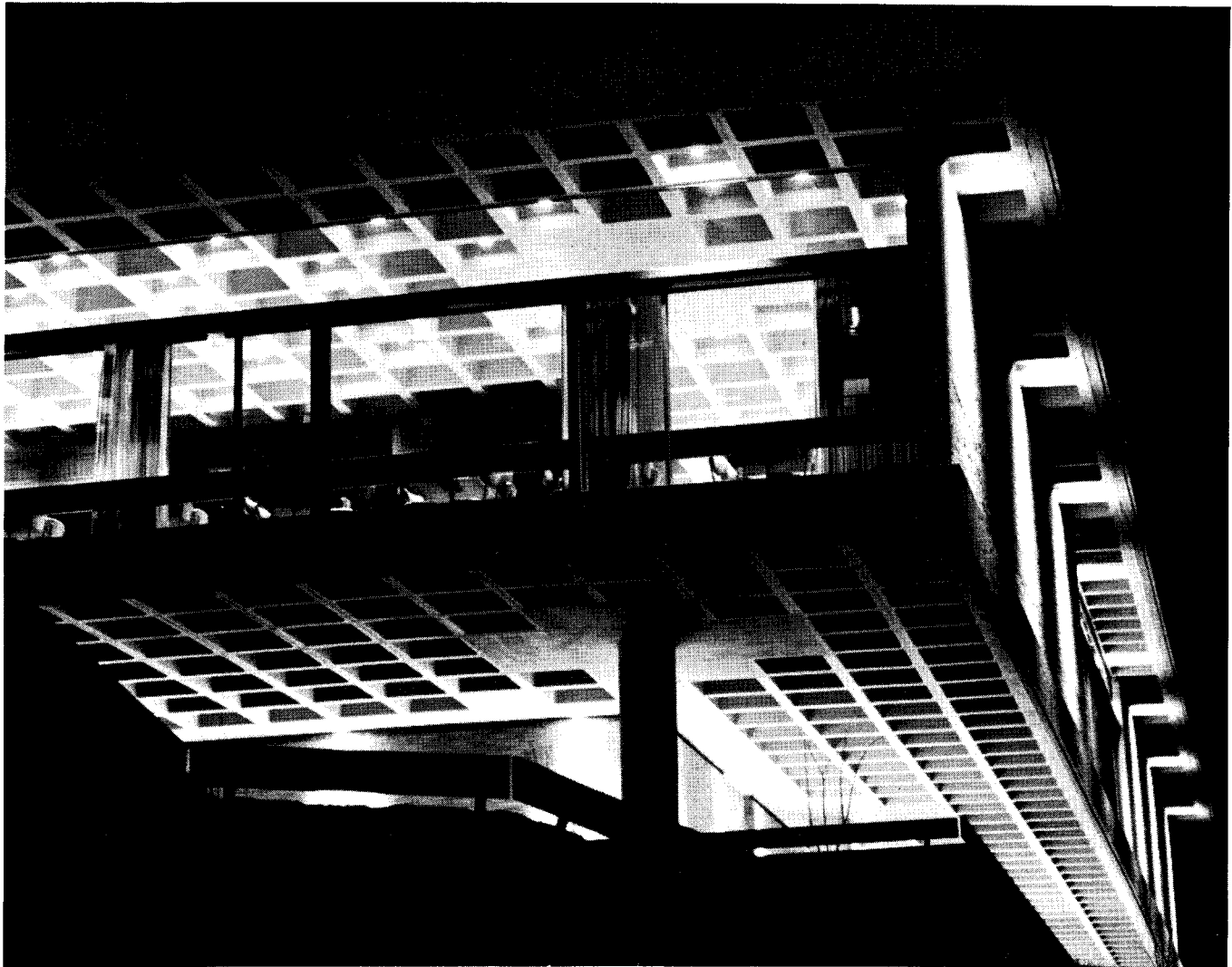
narrow site where a sheltered curved drive now separates the spiraling exhibition hall from the administration wing.

Despite vehement protests from the architectural community that has seen too many modifications of Wright gone awry, the Museum intends to build the extension by December. Architect for the sticky job is Donald Freed of New York.

The so-called tearoom would accommodate 70 persons inside and 20 in a garden facing 89th Street. The bookstore would face Fifth Avenue. Both elevations would be entirely glazed. The admissions counter would also be relocated to the new space so the entire ground floor of the spiral hall could be free for exhibitions.

Whether or not Wright cre-

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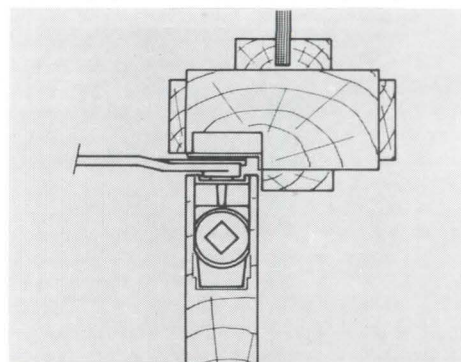
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Is there anyone in the room who doesn't know what the AIA stands for?

If there is, Scott Ferebee will be right over.

Mr. Ferebee, in case you haven't heard, is the new President of the American Institute of Architects and *not*, as Frank Lloyd Wright termed it, the Arbitrary Institute of Appearances.

Mr. Ferebee may not like my saying so, but he is also a first-class radical. And the reason is that his radicalism doesn't show. First off, his family roots go back to 1662, in Virginia. Second off, he doesn't go in for flashy clothes, just dark suits. Then there is that soft-spoken, self-effacing manner of his. You may never know he's in the room—until it's too late. All of which relates to something my old boss, Lawrence Perkins, once told me: "To be effectively radical at any given level, you should *appear* to be conservative at every lower one."

Scott Ferebee does. But what sublime deception. For this point of style should be a point of substance for our professional aims; the main one being *effectiveness*. For Mr. Ferebee, effectiveness is not letting everyone know you're in the room—right away. Nor is it taking all the oxygen out of the air with your opinions, or personality. It is, rather, a matter of presence, which means being around when central decisions are made. Decisions about environmental standards, and social needs; design and construction guidelines; land use controls, zoning, taxation; even the structure of government.

During the last session of Congress, AIA representatives testified on 32 occasions. At the local, workaday level, architects are increasingly vocal in decision making, consulting with such new "clients" as legislative committees or community organizations. That is where a new sense of professional competence is emerging, and it is one which Scott Ferebee intends to nurture. "We must move up the architect's point of penetration into decisions," he has stressed. "And we must be better informed, better prepared to contribute."

Those who think they know the architect, or need one for some reason, should not think of the architect as just a specifier of building products. What has to be emphasized, more and more, is the architect's role as a specifier of *parameters*, as a specifier of those guidelines and standards which will decide where buildings can be built, what configuration they can be, what environmental impact they can have, how much energy they can consume, and not so incidentally, what products can be in line for selection. In this enlarged role, the architect is about as nuts-and-bolts as you can get, and those who think they know the architect had better start gearing themselves accordingly.

It's not hard to see why this is so if you look, *really* look, at some of the AIA initiatives. True enough, some have faltered. And, let's face it, "task forces" are terribly in. Even so, the programs recently announced by Mr. Ferebee provide fair warning that the AIA intends to be effectively

radical at several given levels. There is the National Policy Task Force (headed by Archibald Rogers), and its new adjunct, a housing policy study (headed by David Todd). Other task forces include Creative Economics (to get at the fiscal aspects of environmental and development policy); Creative Public Administration (to get at, rather educate, officials about how good design can be good politics); and something called "Re-Creation of the Inner City" (a program to dramatize and illustrate those recommendations Mr. Rogers and Mr. Todd finally come up with). In addition, but still amorphous, are studies about energy use and behavioral science.

If all of this seems beyond the architect's competence, bear in mind that there are a lot of non-architects around the AIA lately. In any event, none of this should be beyond the architect's concern. Instead of being cynically detached from what has been called an Establishment, there are many ways, many formats, in which the AIA's initiatives can be supported. Instead of ignoring its issue-oriented stance as somehow remote from daily practice, remember that daily practice is itself at issue (maybe even in question) as national priorities are adjusted, and as the parameters of national growth are set. These changes will filter down and penetrate every level of society—levels where this more responsible, more thoughtful kind of professional competence must take root.

So, if there ever is someone in the room who doesn't know what the AIA stands for, go right over. Just maybe, you and I should have been there all along.—WILLIAM MARLIN

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SAN FRANCISCO



THE STREETS OF CAMELOT

The sources of a city's pride
are the sources of its architecture

"You left your *what* in San Francisco?"

"My notebook," I worried aloud. After padding around The City for three weeks, I had to admit that I had somehow left all those insights, notions and phone numbers behind.

But that's alright.

San Francisco is mostly memory anyway. Certainly, it is image. What's more, you can take it with you. Even back to New York.

The City. Write it upper case. Write it romantic, or rhapsodic, or narcissistic, and you write it for real. The City is full of emotion, experience, encounter—along and at the end of every street. Those streets are The City's character. Steady concern about what happens to them, and about what is built beside them, runs like a collective unconscious beneath the byways. Such concerns are more important than facts—the kind you write down in notebooks.

So, San Francisco fights. It fights for its Bay. It fights to preserve, and to use, the evidence of its history. It fights to keep open those views to the water, and to reinforce the clarity and beauty of the streets which lead to it. As almost everyone knows, it fights the kind of profit-oriented development which would short-change The City's character. Or, as Alistair Cooke put it, The City's "fortuitous mating of marine grandeur and terrestrial smugness." It is important to understand that San Francisco is not

so much fighting against progress as it is fighting for permanence—for those lines of continuity which connect the lay of the land, with the grid of the streets, with its strong social and cultural tradition. It is just as important to understand that San Francisco is small—a close-knit 47 square miles containing around 716,000 people. Generally speaking, they don't like chinks in the armor. Which means, generally speaking, that they don't want anything to happen. If something is going to happen, they want it to happen quietly, and without fuss. One young architect put it pretty well, "Out here, there is not a style, but style itself. You build like you dress. And, as you may have noticed, most people dress down in San Francisco."

Indeed, most do. After all, levis were invented there. Even when people "dress up," it comes naturally—and you are aware not of appearance, but of presence. This kind of grace shows up in other ways. When you order a Greyhound in The City, you'd better ask for *fresh* grapefruit juice with the vodka. And when you carry an umbrella, as is often necessary, it helps to swagger just a bit—the rich, lively texture of the streets and squares make swaggering natural.

About ten years ago, The City was a little startled to find that its future might not be as secure, or as serene, as its past. A lot of the old, family-owned companies were being taken over

by a new breed of managers and financial analysts, many of them coming in from other parts of the country. There was a lot of heavy breathing about making The City the financial capitol of the West. And there were a lot of heavy sighs as San Franciscans saw their low-profile skyline setting in the East. A rash of pin-striped skyscrapers, compliments of Manhattan, began to cover high-price downtown land—and to corrupt The City's scale. Their backers were seen to saunter, not swagger—and heard to say things like "a city can't live on memories."

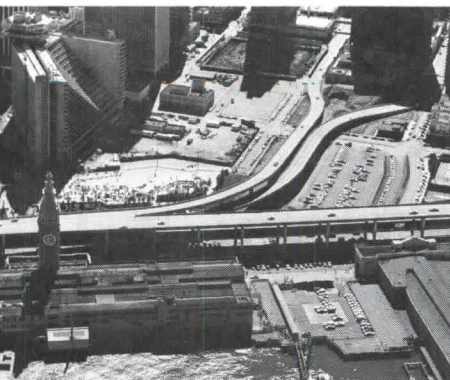
Let me tell you something. San Franciscans don't like that kind of talk. They didn't like it when highway engineers and contractors conspired to pave over their waterfront in the late 1950's; and The City became one of the first to halt a freeway in its tracks. They didn't like it when the U.S. Corps of Engineers suggested further filling of the Bay, which had already been shrunk from 700 to 400 square miles in the last 100 years; The City, joining with communities all over the Bay area, rolled back the Corps and, in so doing, took actions which led to setting up the San Francisco Bay Conservation and Development Commission—a model of regional government and environmental regulation. They also didn't like it when they were told, back in the 1950's, that those venerable little cable cars were getting in

the way of traffic flow; today, protected by The City Charter and designated a national historic landmark, the cars clang along at 12 miles an hour—a terrific substitute for a drink after work, and a terrific way to meet someone for a drink after work. All of which adds up to a good enough reason why so many F.A.R.-mad developers were down in their cups when The City forced its Board of Supervisors—a free-wheeling kind of city council whose members are elected on a city-wide slate—to take a hard look at what highrises were doing in, and to, San Francisco.

The results of this look-see, now about ten years in process, should be required reading for every city official, developer, planner and architect in the country. Accordingly, a little history on this score.

Looking back to the turn of the century, San Francisco has always had something called a Master Plan. Even before the 1906 earthquake, Daniel Burnham had worked out a design for The City which would have transformed it, for better or worse, into a kind of Paris with hills.

Burnham's plan left the hills alone. It recommended one-way streets, subways to downtown, and residential blocks in which backyards would merge with common greens in the center. The Plan did not continue the typical grid pattern of the streets; it suggested roads aligned with the contours, and



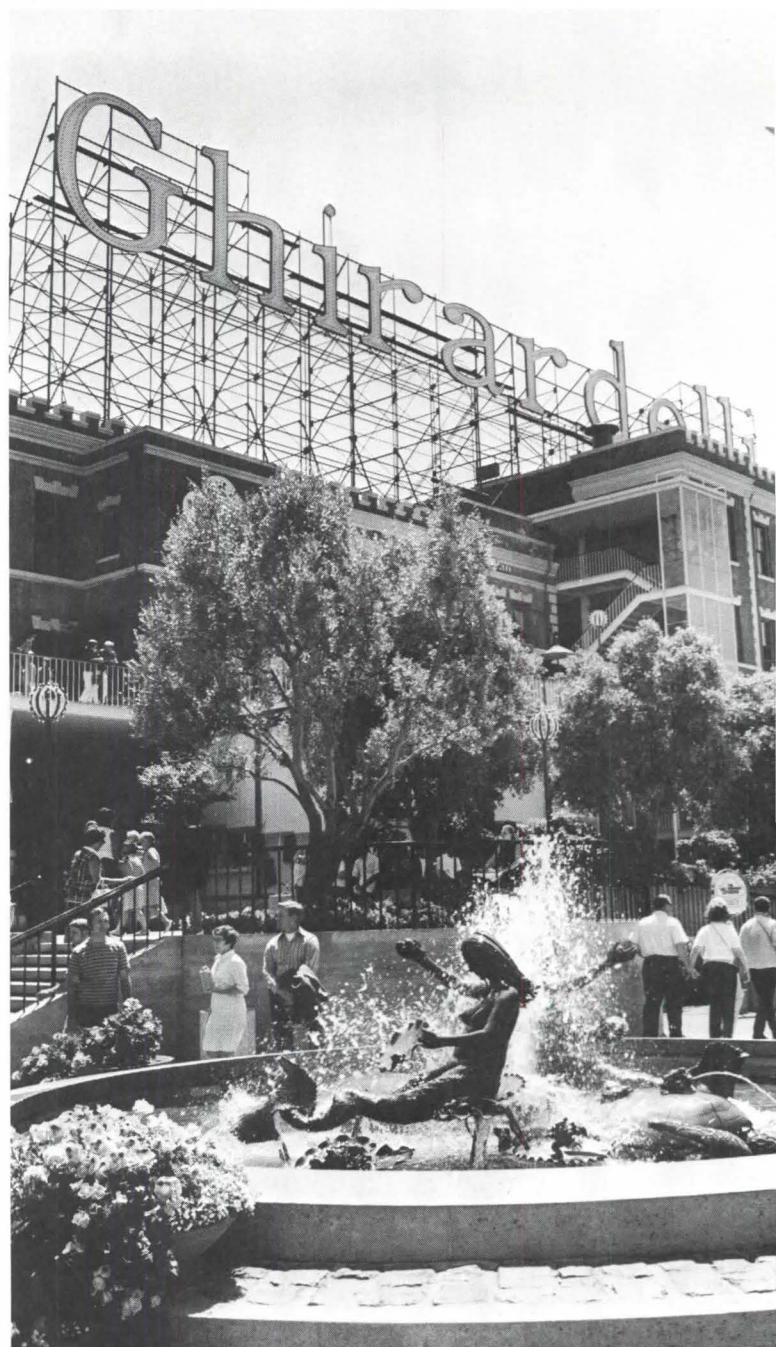


The Bank of America building lords over others in the San Francisco business district (above, center rear). Despite its severe geometry, angular setbacks and dark color, it manages to share itself with The City by means of a spacious, lively plaza. Architects for the project were Wurster, Bernardi & Emmons; Skidmore, Owings & Merrill; with Pietro Belluschi, consultant. Lawrence Halprin's plaza helps redeem the building's controversial size.





Ghirardelli Square (above and right) was brought off by William Matson Roth, philanthropist and civic leader; Lawrence Halprin; and Wurster, Bernardi & Emmons. The \$10-million investment has paid off in economic and social terms, attracts people from all over (60 percent of them from the Bay area), and transformed chocolate, spice, coffee and woolen works into a round-the-clock mix of commercial, culture and leisure-time activities.



the positioning of houses to preserve the views down the slopes. At the center of The City, at Van Ness and Market Streets, would have been something resembling the Place de la Concorde with a city hall, railroad depot and various cultural institutions. Extending from this core would have been eight broad, radial boulevards. Farther out, a majestic ring road would have commanded view of the Ocean and Bay without cutting them off from The City. True to form, Burnham stirred men's souls with this plan, but the earthquake prevented its adoption, and hasty rebuilding re-

sulted. The major remnant of Burnham's scheme is Architect Arthur Brown's sublime Civic Center, finished in 1915—justifiably called, or so I think, the finest in the country.

It may not be awfully flattering to say so, but Burnham produced just about the only unified urban design and development plan that San Francisco has had—until recently. But events during the last ten years indicate his lasting inspiration.

Up until the late 1950's, there was a 25-year period in which very little new building was done. With things picking up, some token zoning was passed.

The reason that I say "token" is that its F.A.R. limits were a mockery—with 20:1 everywhere but corner sites, where 25:1 was permitted. In 1963, the Board of Supervisors had the good sense to reduce the limit to 16:1, but the limit for corner sites remained in force.

Zoning bonuses were already being discussed at the time, but it was widely agreed that such bonuses would be unwieldy, and unworkable, without an overall planning program by which zoning could be geared to location and type of activity.

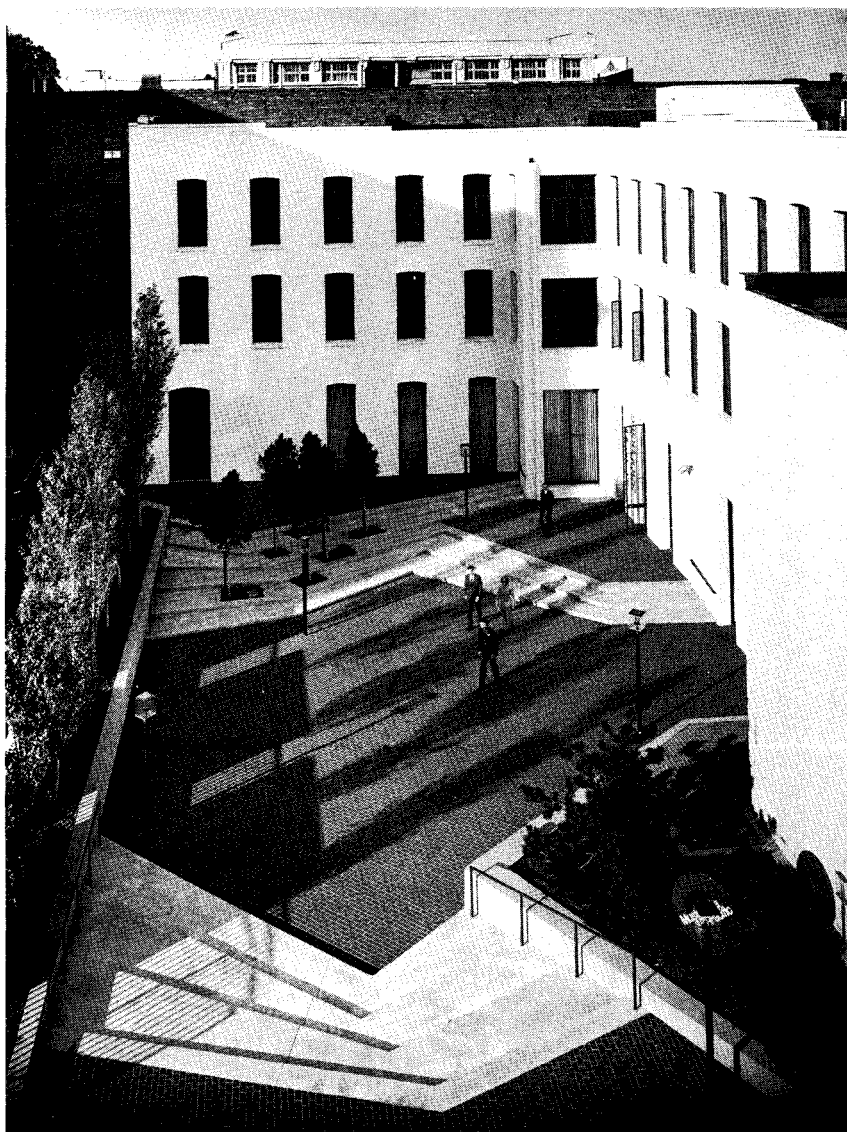
As I have pointed out, San Francisco didn't have the slight-

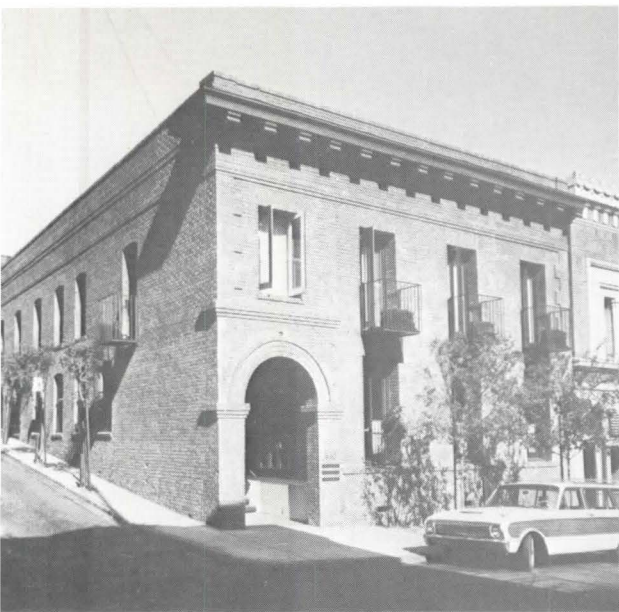
est idea about what an overall planning program was. What's more, and despite the Burnham precedent, many people weren't all that convinced that a planning program was needed. After all, hadn't The City done well without planning? Were all those carpenter-built, bay-windowed Victorian houses planned? Were those bracing views to the Bay planned? It took only a few blocked views, and a few bulldozed houses, to swing public support of a massive zoning revision.

The work on this revision was completed in 1966, and adopted two years later. It provides



Musto Plaza (left and below) is a superb example of the restoration activities in Jackson Square, The City's first official historic district. At a cost of \$500,000, an old warehouse (built in 1906) was recycled into 34,000 sq. ft. of rentable space; a former parking lot became a brick-paved plaza; the original masonry walls and timbers were preserved, and are accented by dark-glass windows, white-painted surfaces and, here and there, splashes of color and graphics. Architects for the project were Bull, Field, Volkmann, Stockwell; landscape designers were Royston, Hanamoto, Beck and Abey.





zoning bonuses—so many extra units of square footage for each unit of amenity. The amenities it provides for are: Improved access to transit systems. Improved movement around and through a proposed development. Features to make such movement more pleasant. Features to allow adequate light and air on the street. And protection of existing views and scale. Although several retail and real estate organizations balked at the bonus system, it soon became clear that they could cash in on it. They did. The result, since 1968, is that several leviathans have gotten through the loop-holes of the ordinance. However innovative its provisions for amenity and bonuses, the ordinance was geared to small and moderate-size sites. And, of late, these have not been the kind of sites which interest big-time developers. When you take the base F.A.R. permitted by the ordinance, add the F.A.R. bonuses, and apply the figure to whole city blocks, you are talking about city-splitting scale all out of proportion to the amenities which are being rewarded. Thus the views which are supposed to be protected aren't. And the plazas, supposedly being provided for the public's benefit, are thrown in the shade. The lesson came quickly: More specific zoning districts would have to be drawn, as would more specific size limits for new development in each district.

Lawyer Peter Svirsky, who is with The City's Planning Department, and an articulate spokesman in all these skirmishes, comments, "Were the downtown zoning study to be begun today, it would be a different study but, in part, only because of a heightened awareness of downtown planning issues produced by the very zoning standards that have been adopted." Obviously thinking of some of the new downtown highrises, he adds, "There is *nothing* like a building in place to show the public that what *might* occur *can* occur."

What occurred were such buildings as the 52-story Bank of America. Even with bonuses, it fell within the zoning limits at 17.7:1, thus meeting the letter of the ordinance. Yet, despite its expansive, lively plaza, despite its lower concourse full of shops, despite

440 Pacific Avenue (top left) is located in the Jackson Square district and was, before restoration by Architects Whisler-Patri, a non-descript boarding house from Barbary Coast days. The Whisler-Patri offices (top right), located in the Musto Plaza building (preceding page), dramatize the straight-forward treatment of brick and wood; ductwork, painted bright colors, read out as design elements in the space. Another on-going restoration program is that along Union Street. The cluster of shops at number 1980, done by Architect Beverly Willis, inspired community interest in the possibilities of adaptive use, making Union Street "a linear Ghirardelli Square."

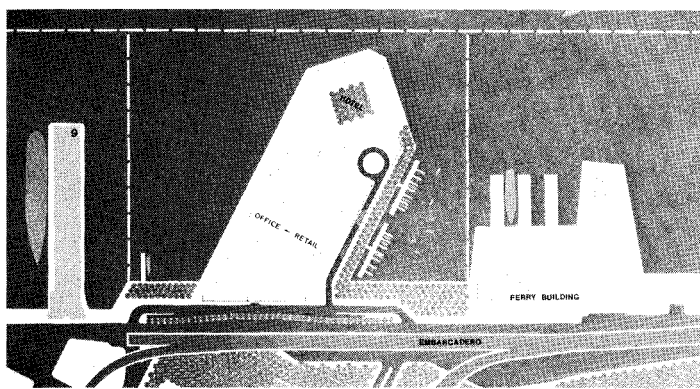
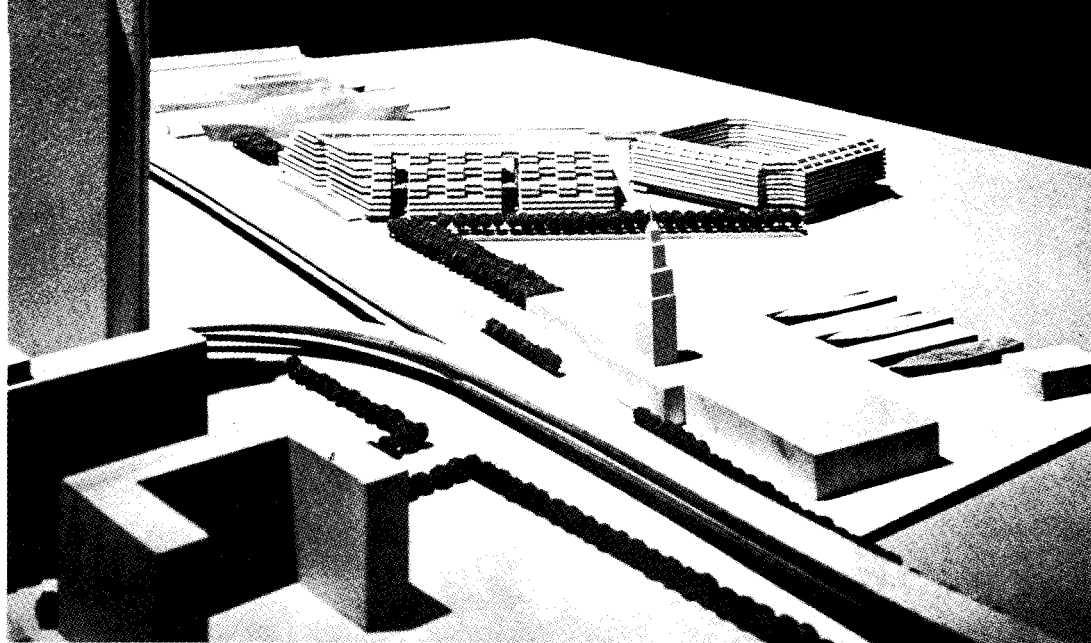
what is otherwise a thoroughly benign and beautiful scheme, Bank of America hit the San Francisco skyline like a bludgeon. To borrow from Mr. Svirsky, what *might* occur *did* occur—a dark marble mountain, chiseled off the Sierras, and plunked impeccably on what was once a rather gentle hill.

Two other proposals brought the need for absolute height limits into focus. They were Ferry Port Plaza, a little west of the old Ferry Building, and a development for U.S. Steel, between the Ferry Building and the Bay Bridge. They are, for some, martyrs in the cause of progress; and, for many more, the beginning of the end for unlimited growth in San Francisco. Write down the year, 1970.

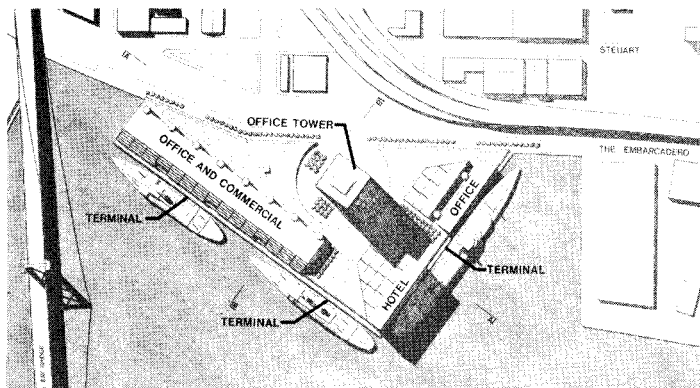
Ferry Port Plaza would have been about \$120-million of offices, apartments, shops and a hotel. Low-profile, and pier-like, it would have transformed a derelict waterfront district into a veritable garden, with only 20 percent of the site given over to buildings. Although the Planning Commission approved, citing its accommodation of the height limit in the area, the Bay Conservation and Development Commission, which is empowered by the State Legislature, vetoed the scheme. It was an important precedent affecting all future development on the waterfront.

This was borne out by the second martyr—U.S. Steel. The 84-ft. height limit, set by the Planning Department, would have been squashed under a 40-story, 550-ft. office tower. Besides this, the project was to include a hotel, lowrise offices, an international trade center, and lots of public access to the water. Fully aware of public mood, and of the Ferry Port Plaza ruling, the Board of Supervisors, under heavy political pressure, first voted to approve the scheme. What followed was a tidal wave of anger throughout The City, during which the Board found itself feet to the fire. The political pressure supporting U.S. Steel seemed to melt, and the Board reversed itself. In so doing, it technically cast a vote in favor of absolute limits on building height.

It was difficult, but one group managed to stay clear of the fray, although they were acutely conscious of its implications.

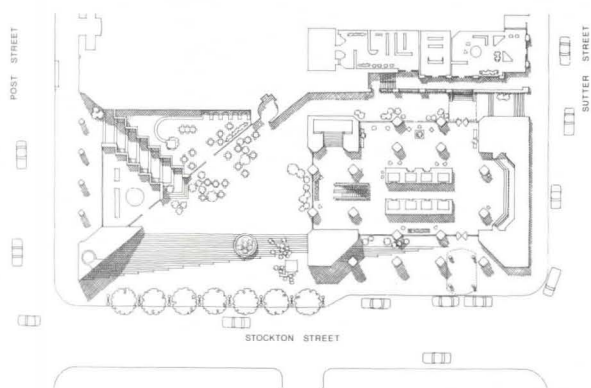
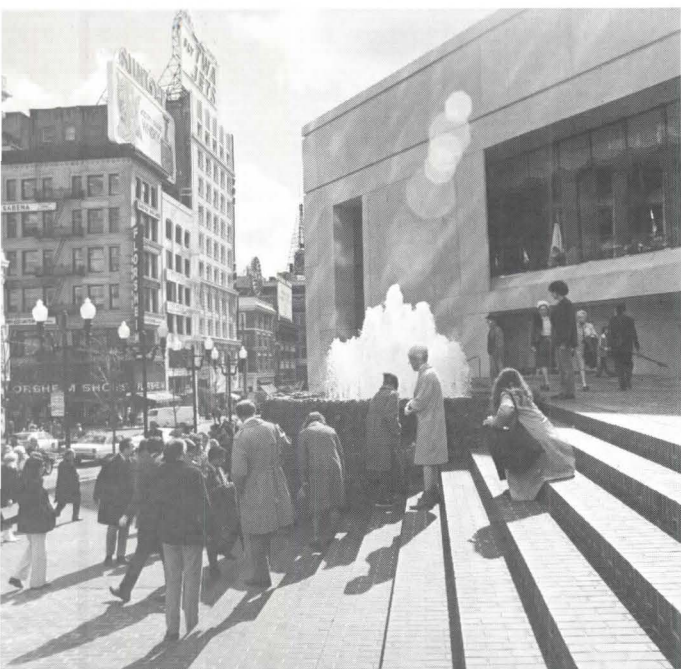


Ferry Port Plaza, by the San Francisco office of Skidmore, Owings & Merrill, was an ill-fated, \$120-million proposal to recycle under-used piers as a mix of commercial, retail, office and apartment space. Extended from the shore, parallel to the street system, and low-profile in nature, Ferry Port was nevertheless vetoed by the Bay Conservation and Development Commission, which has final say on waterfront development.

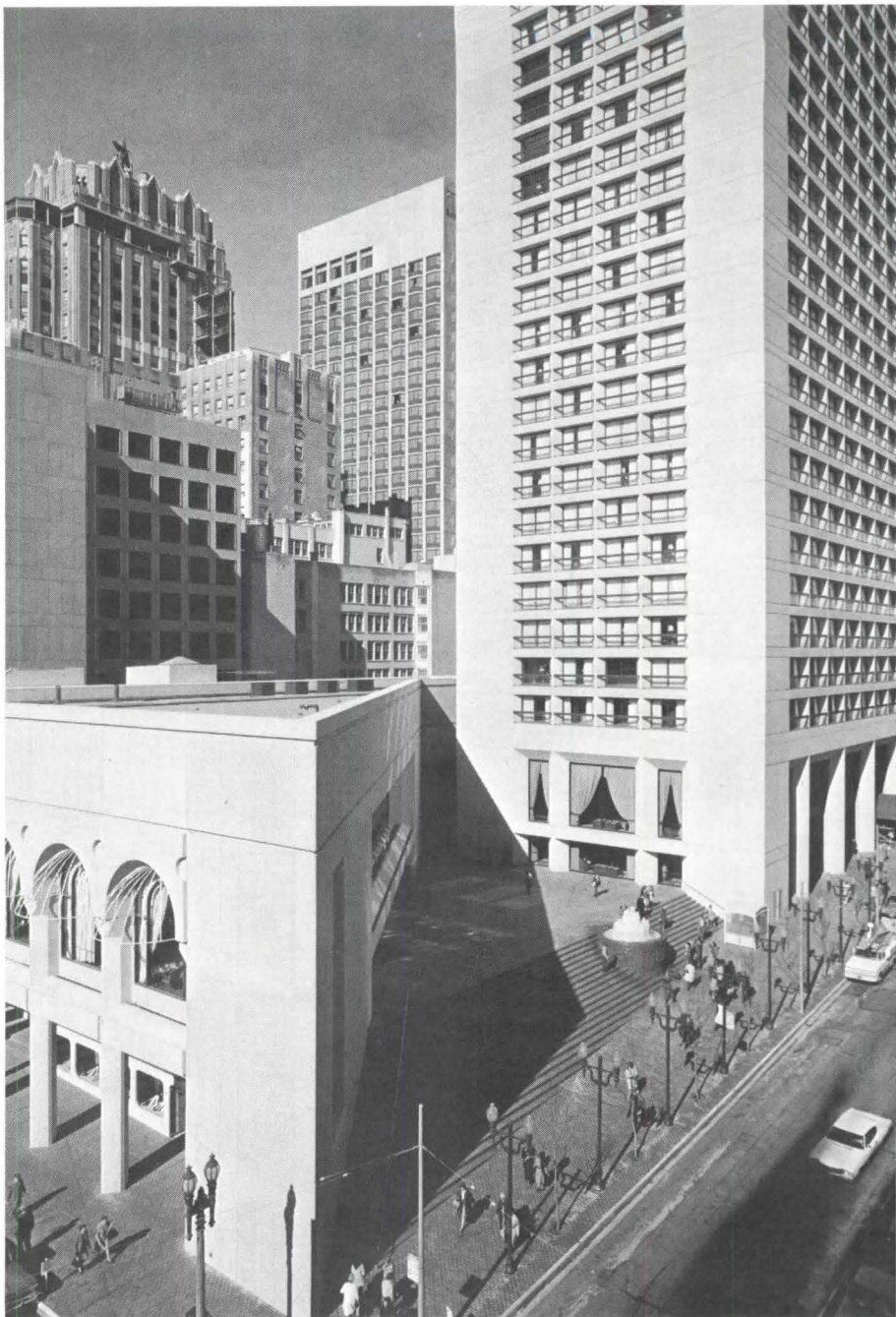


Also by SOM, and also ill-fated, was the massive U.S. Steel project, another martyr in the cause of "progress." In contrast to the more responsible Ferry Port Plaza, U.S. Steel would have resulted in a 550-ft. office tower, hotel, plus lowrise offices and apartments. Unlike Ferry Port, it challenged the recommended height limits set by the City Planning Department and, beyond that, inflamed heated public opposition. The City itself finally vetoed the incursion—a historic precedent.





Recently completed, the Hyatt House Hotel on Union Square, by Skidmore, Owings and Merrill, met the urban design guidelines set by the City Planning Department, whose staff consulted regularly with the architect. The low element, containing shops, maintains enclosure for Union Square; a stepped plaza, tucked in between the low and high element, enlivens the streets; arcades connect them.



The Department of City Planning, headed by Allan Jacobs, quietly moved ahead with preparation of San Francisco's Urban Design Plan. Unveiled in May 1971, and since incorporated in the Master Plan, it took two years to complete and, so far as I know, is the first time that design has been put on an equal footing with zoning in determining the long-range development of an American city.

The Urban Design Plan is really a palette of procedures by which design and development decisions can be made in the best overall interest of The City's scale and communities.

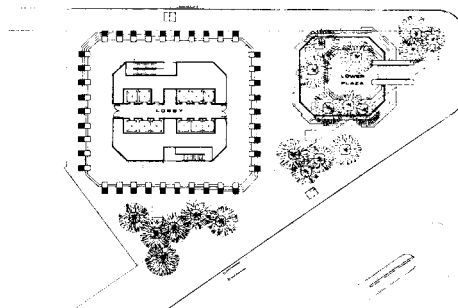
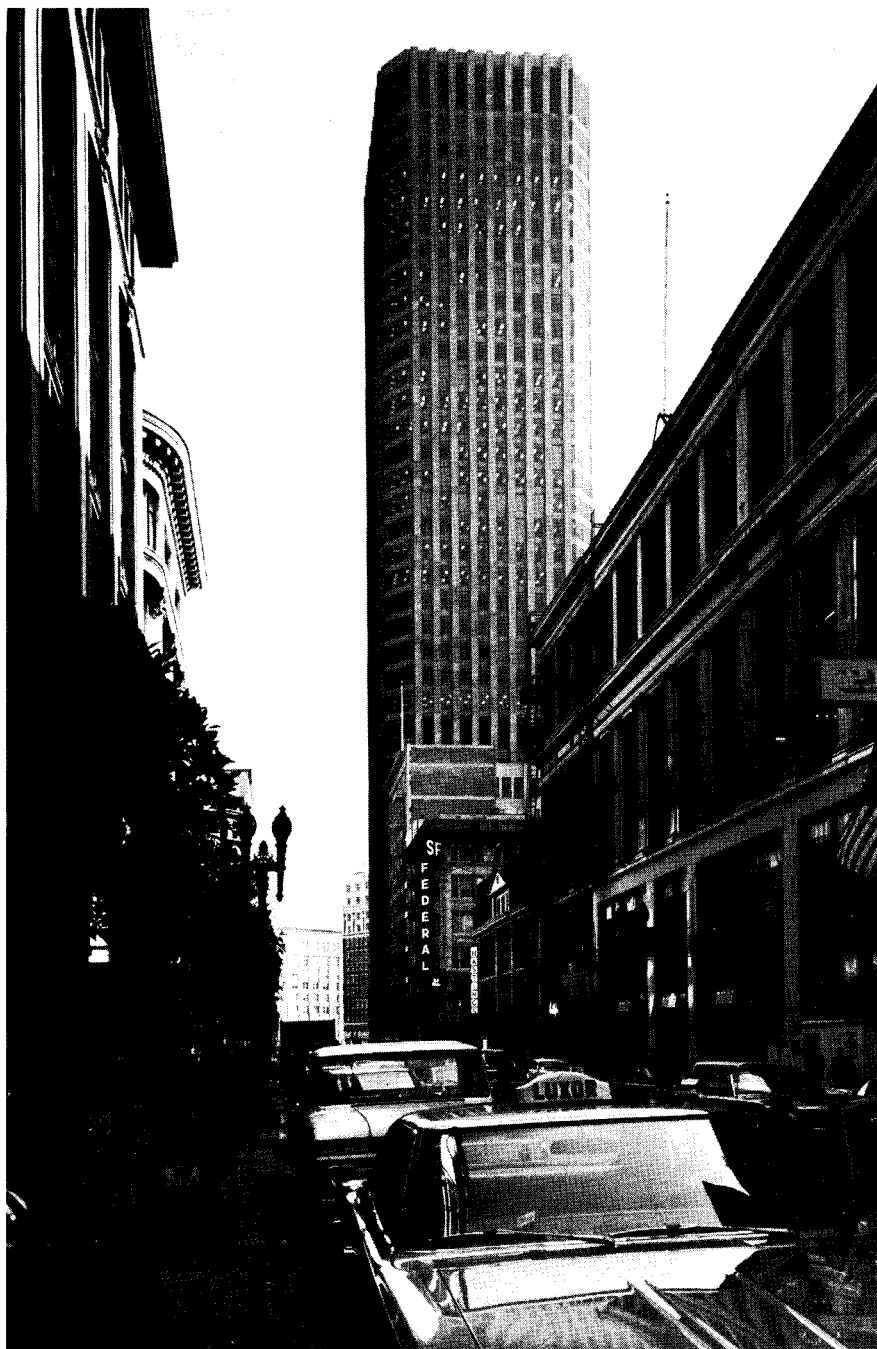
The Plan faces up to four primary issues: City Pattern, Conservation, Major New Development, and Neighborhood Environment. In each case, the Plan discusses human needs, objectives, basic principles and, finally, policies to be put into effect.

About City Pattern. Its objective is to take steps to enhance The City's characteristic scale, street patterns and views, all to reinforce The City's image, and intelligibility. In San Francisco, more so than in any other city, the *street* is synonymous with *architecture*. As Louis Kahn might put it, the street

is a room by agreement, or by common use. To strengthen the street, and its use, the Plan puts forth several policies. Views, especially toward the Bay and open spaces, are to be protected. The existing street pattern, especially as it relates to topography, is to be respected. Buildings, both old and new, are to be considered as integrated, not isolated, elements—and as elements which give identity and unity to the streetscape. Landscaping should be done to define important districts, or emphasize important geographic features. Special areas of activity should be set off by dis-

tinctive pedestrian features and unified, well-designed graphics. The Plan even offers variations in landscaping and lighting, so that both can be geared to a given kind of street or area of activity.

About Conservation. The objective of this section of the Plan is to retain The City's natural and historic resources — those providing a sense of nature, of the past, and of the varied scale which San Franciscans cherish. The Plan calls for preserving the remaining natural areas in The City. This means limiting "improvements," and discouraging development which



encroaches on the Bay and the major open space assets of the area. These conservation policies are especially strong with respect to the preservation and adaptive use of historic buildings and districts—one such district, Jackson Square, site of the raucous Barbary Coast, has already received official designation as an historic district. The Square is a much-used, round-the-clock reminder that preservation can pay. Offices, boutiques, galleries, showrooms, restaurants, pubs—all abound, as does ample evidence of what so many other special areas of San Francisco could become.

About Major New Development. This element of the Urban Design Plan hits home; and, for some, hardest. Yet it is, by far, the most revolutionary element—and one which is going to have to be reckoned with.

Get this. "The fitting in of new development is, in a broad sense, a matter of scale"—this, in a public document. Further, "It requires a careful assessment of each building site in terms of the size, the texture of its surroundings, and a very conscious effort to achieve a balance and compatibility in the design of a new building. Good scale," the Plan goes on, "de-

pends on a height that is consistent with the total pattern of the land and of the skyline, a bulk that is not overwhelming, and an overall appearance that is complementary to the building forms and other elements of the city. Scale is relative, therefore, since the height, bulk and appearance of past development differ among the districts of the city."

That's the kind of talk that would get people strung up in places like New York and Chicago.

The objective of this Major New Development section, which has since been given some very

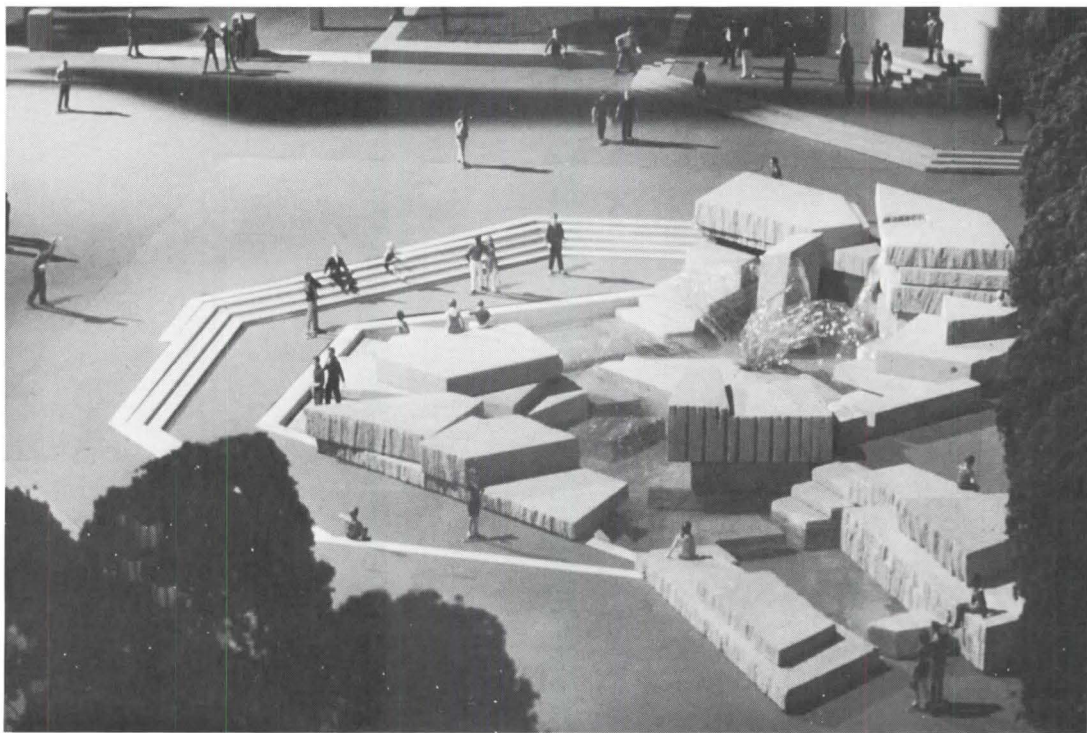
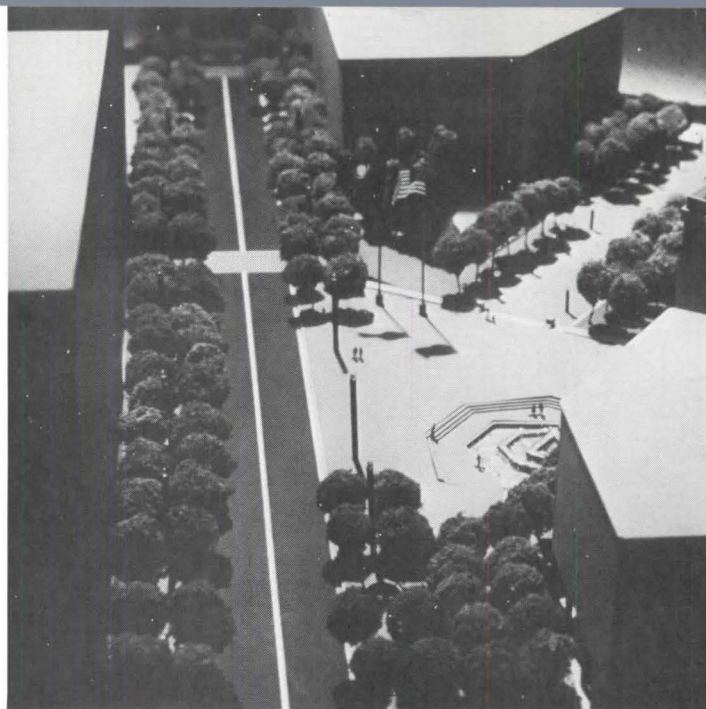
The Aetna Life & Casualty Building by Welton Becket and Associates might have been a casualty, indeed, had there not been the richly scaled Crocker Plaza at its base. The granite-clad, 533-ft. tower is a remarkably simple, slender statement which meets the historic intersection of Market, Post and Montgomery Streets with a sunken area full of shops, a restaurant and, soon to be completed, a BART station. Both the street and lower level are landscaped and become, in effect, an active, open-air "lobby" for the building which occupies only 55 percent of the tight triangular site.

respectable teeth (or fangs), is to moderate or, if you will, modulate the design of new buildings so that they will add to, and not detract from, The City's pattern, its natural and historic resources, and the integrity of its individual neighborhoods.

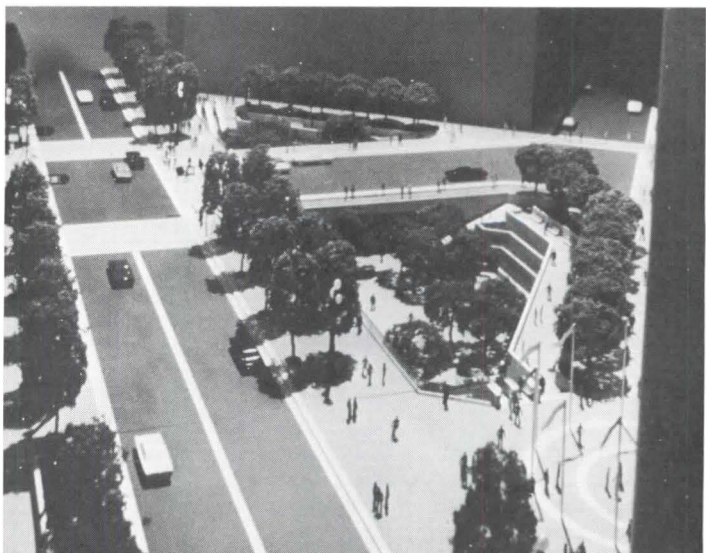
The policies to achieve this, as laid down in the Plan: Visual harmony should be provided between new and old buildings. This means avoiding extreme contrasts in color, texture and form. For buildings in prominent locations, effort should be made to achieve high design standards. (Quite an order, isn't it?) To enhance existing open spaces and public areas, building height should be related to important features of the land, or physical features of The City. For example, taller buildings should be placed toward the top of hills, with lower profile structures edging down toward the waterfront.

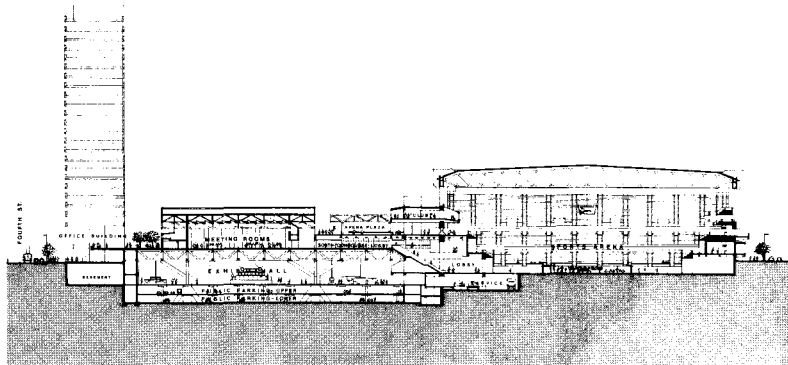
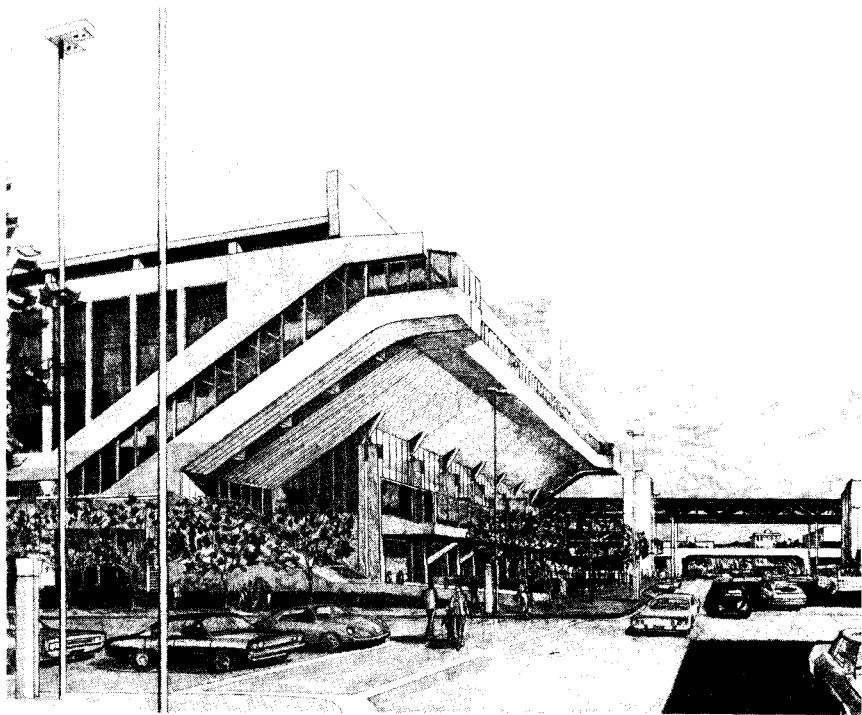
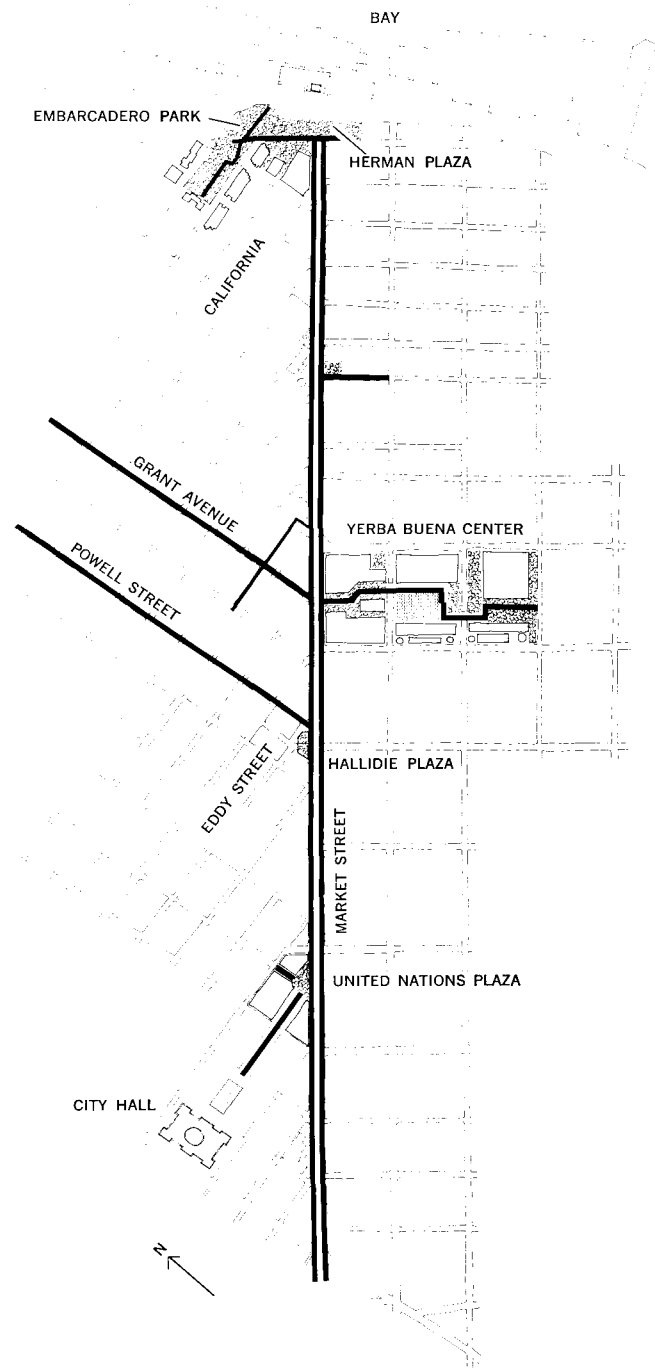
Just as significant are the bulk guidelines of the Plan. Its method for measuring bulk is pretty straight-forward. There is a maximum plan dimension, taken at a height corresponding to that of most buildings in the area. And there is a maximum diagonal plan dimension, which is the greatest measurement between two points on the outside of a building, taken at a height corresponding to that of most neighboring buildings. Taken together, these measurements of bulk are meant to determine how massive a building can be, given its environment. Put together with the Plan's height guidelines, this Major New Development section had every reason to hit the headlines, and did—particularly so, when you consider the atmosphere which had been created by the Ferry Port Plaza and U.S. Steel proposals. These guidelines were, of course, yet to become law—more of which shortly.

About Neighborhood Environment, the Plan's fourth major issue. Its objective is to enhance the long-standing character of The City's unique residential areas, all of which have very volatile, well-informed community spokesmen, and all of whom are adept at getting out hoses to spray developers back down the hills. The Plan encourages design factors to improve the safety, comfort, pride, opportunity, identity and peace



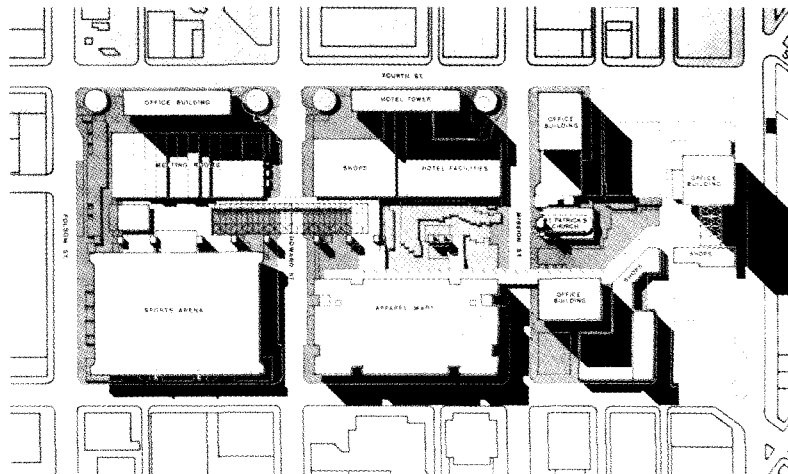
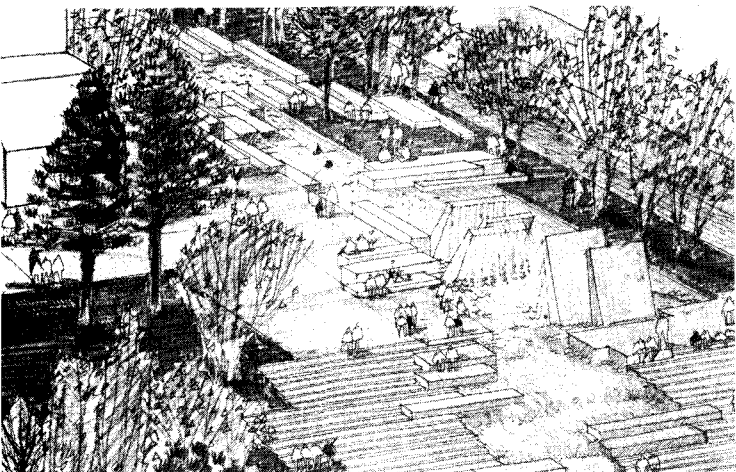
Lawrence Halprin's firm is coordinating landscape and open space planning for Market Street, The City's historic spine, now maddeningly disrupted with BART construction. Baron Hausmann wouldn't have dared do this well. Tree-lined, brick-paved sidewalks will unify a two-mile stretch—a vista culminating in the old waterfront Ferry Building. Near the Civic Center, the United Nations Plaza will be an angular slice off Market, with a visual focus toward the monumental Civic buildings. Its fountain (top and middle) is designed to have a surging effect, simulating the surf. Nearer to the business district, Hallidie Plaza (below right) is almost complete. Sunken plazas cut at sharp angles on either side of a main street, tunneling under it. Mr. Halprin has created, along Market Street, not only a cluster of places but a cluster of kinetic, human-scale experiences which make it architecture.

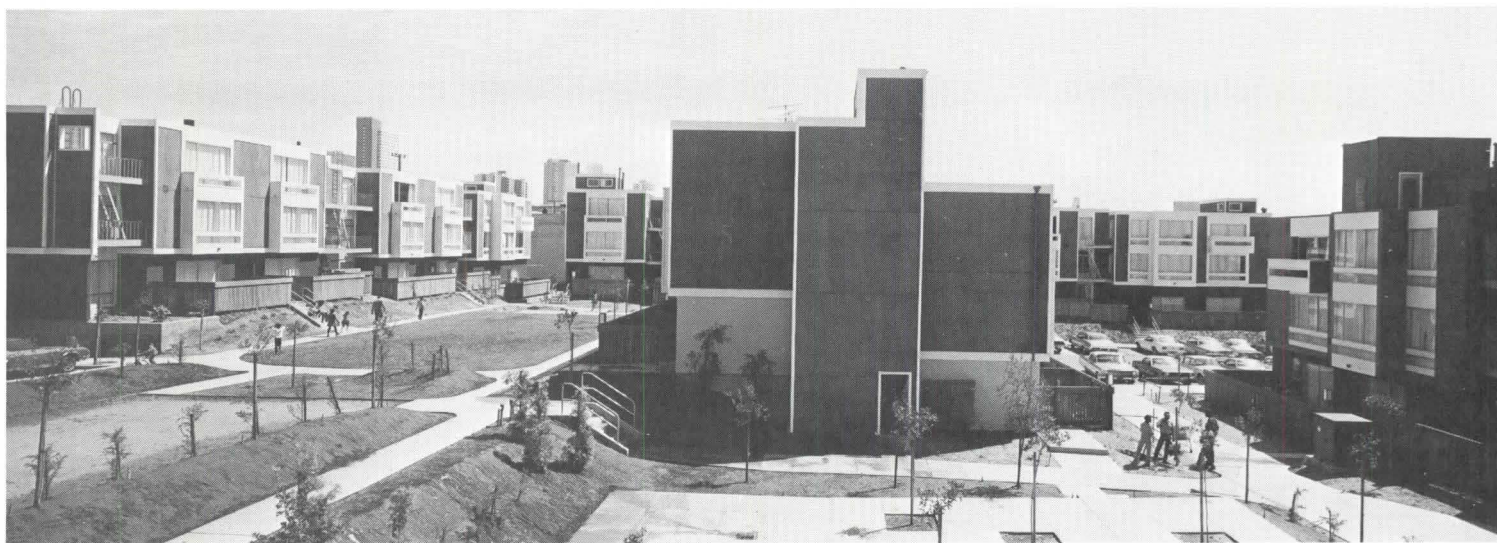




Yerba Buena Center will, if built, provide yet another amenity off Market Street, this one stretching massively (if masterfully) to the south. The project, covering over 80 acres, has been years in the making, only to be held up further by class action suits about displacement of homes and stores. The latest controversy involves concern over whether San Francisco can stand more hotel space when its present 7,000 rooms are already underused. In joint effort,

McCue Boone Tomsick have done the Center's master plan, and are responsible for the immense exhibition and convention hall which is, in effect, a vast underground plinth from which other structures rise (above); Kenzo Tange & Urteck are responsible for the cavernous Sports Arena (top); Lawrence Halprin has once again produced a lyrical landscape which would interconnect The City with the Center (below left); Mario Ciampi's firm is consulting on urban design.





of mind of the average dweller. I suppose you could say such aims sound like so many election promises. But in San Francisco they are well-researched planning objectives.

A key aspect here is the Plan's proposal to protect residential areas from the side-effects of heavy traffic. The idea is not to cloister off neighborhoods but to make access, once achieved, worthwhile—meaning safe and pleasant. The Plan, based on extensive study, encourages the use of landscaping, decent graphics, and various traffic and road design devices to divert, or at least slow down, traffic.

There are specific design suggestions about how to achieve better neighborhood scale, recreational areas, and keener community interaction by making the sidestreets, now and again, real centers of activity.

Following several months of public hearings, the Planning Commission adopted the Urban Design Plan in August 1971. It was a timely action, politically and otherwise, for a massive citizen initiative was building toward the November ballot box. Sure enough, the sentiments voiced at the public hearings, held all over The City, came crashing in with a rather re-

spectable 38 percent of the vote.

On the same day that it approved the Plan, the Commission gave it some teeth. As developers dropped theirs, the Commission announced further hearings on the height and bulk provisions of the Plan. It directed the Planning Department to draw up specific zoning districts and height and bulk limits, all in six months. Every square and cubic foot of San Francisco was at stake.

The reason so many developers dropped their teeth is that the Commission's decision, in effect, put the height and bulk guidelines of the Plan into ac-

tion while amendments and refinements were being made. Something called interim law.

During the interim, yet another citizen initiative was building; its goal, nothing less than limiting all new construction to 40 ft. throughout The City. Several consciences were cracked together in the campaign for the blanket limit. Business leaders, developers and high city officials were scared out of their wits.

Mr. Jacobs and his staff plodded along. In February 1972, their refined guidelines were submitted to the Commission. With all the maps (and



Martin Luther King Square (this page and opposite) was designed by Kaplan & McLaughlin, and has received first honors from the AIA and HUD. Its configuration and appearance stem from a study, "Designing for Street Life," 1965, which attempted to take the pulse of a black community, plan with the people, all to produce a more pertinent solution. Consequently, the lowrise units were spliced onto the street system—the street becoming an extension of the dwelling. Simple materials and methods were used to ease construction, much of it done by unskilled volunteers. Stylistically, Victorian parody was dismissed because the black community equated it with the run-down slums which they could never afford to fix up. Altogether, a good example of "advocacy" in the days before it was fashionable.



writing) on the wall, The City stacked up, more or less, in this fashion: In most areas, the limits ranged from 40 to 50 ft. In others, they ranged from 65 on up to 240 ft. In the downtown business district, they ranged from 300 ft. on the fringe to 700 ft. at the core. In addition, each district, block by block, was given a bulk limit. Both height and bulk guidelines took into account the existing structures in the area, upcoming development projects, community opinion, views of The City and water. The Planning Commission, reviewing these precise revisions, had something else to



take into account. In June 1972, the second referendum chalked up 43 percent in favor of the 40-ft. limit. Not quite enough to win, but enough to speed the new height and bulk districts from Commission approval to review by the Board of Supervisors, which unanimously passed them into law. Write down the month, September 1972.

A signal aspect of the district provisions is that there is recourse for appeal; no zoning variations are possible. If a developer finds it impossible to live within the guidelines, he must change the entire law. This would mean, besides time and expense, the danger of having at least 43 percent of all San Franciscans marching on his house. The alternative is, of course, early consultation between developers, their architect, and the City Planning Department. After having taken a rather hard left to their chins, most developers are showing remarkable imagination working within The City's design disciplines.

There have been a few glaring exceptions. When the Urban Design Plan was approved in August 1971, and it became interim law, it had no effect on building applications on file.

For example, one developer, who has long-standing plans for a 28-story highrise apartment building on Russian Hill, has recently filed suit against the 40-ft. limit in that district. The developer, having received a permit in May 1971, the month the Plan was first announced, is hotly contesting citizen suits which claim that the new restrictions should be retroactive.

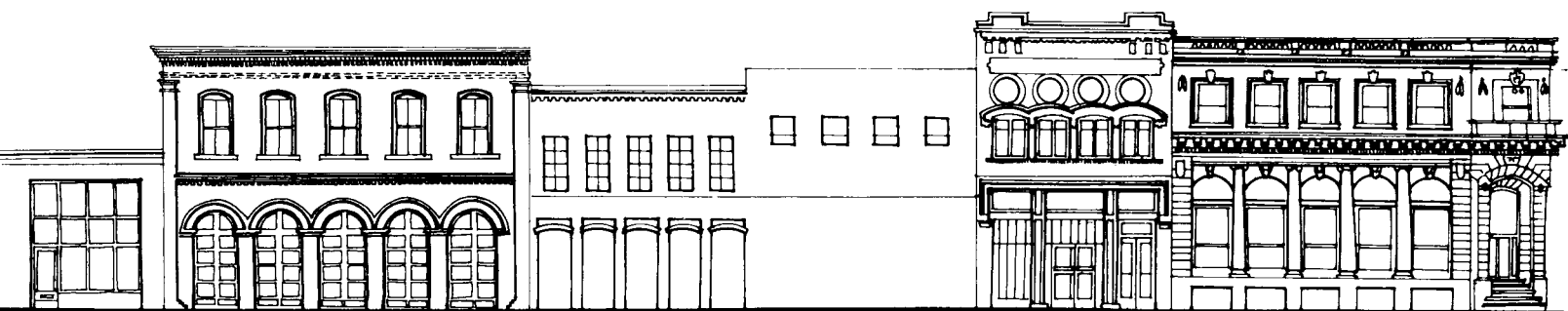
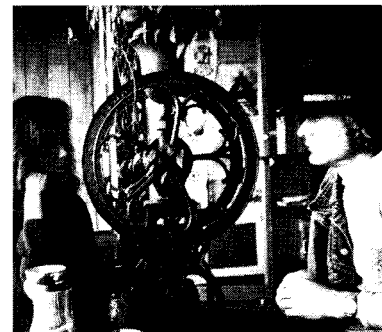
Another example, alarmingly near historic Jackson Square, is the Transamerica Building—located in what is known at the

Planning Department as a "transition zone," this one between downtown and the Jackson Square and North Beach neighborhoods. Actually, construction on The Pyramid, begun December 1969, well predates the Urban Design Plan. Had its height and bulk districts been in effect at the time, The Pyramid could never have been built as it was—1,000 ft. high, give or take some. Nor is it likely that the discretionary review powers of the Commission, since strengthened by last September's action, would have allowed such an unseemly incursion on The City's scale, especially at such a sensitive point. Yet, as of late 1969, this colossal act of indecent public exposure met the zoning requirements. The Transamerica robbed San Francisco of the soft, easy-going transitions which prevail there; in contrast to the controversial Bank of America, which at least offers a congenial plaza at its base, the Transamerica evades all responsibility to the environment around it. One thing which should be said in its favor is that it is, by far, the most popular stop on the Greyhound Bus Tours. I hate beating a dead Pyramid, but the point in doing so here is to emphasize that, due to the landmark planning legislation we have discussed, there will be fewer of them to beat in times to come.

Things like harmony, beauty and efficiency. Things like options for personal and neighborhood expression. Things like economic success, yes; but also, and always, The City's image, and its memories. Once you've experienced these, you've seen San Francisco's future and, to borrow from Lincoln Steffens, "It works."—WILLIAM MARLIN

The pioneering Hallidie Building (opposite) was named after the man who invented cable cars, and designed by Architect Willis Polk in 1917. Its seven-story curtain-wall is a classic, both rational and romantic—but has since been bastardized with a street-level storefront. Still, the Hallidie Building continues to muscle into the awareness of San Francisco where support is gaining for its designation and protection as a historic landmark. One of the last vestiges of true innovation in downtown architecture, it proves that Chicago had nothing on the Chicago School except, of course, the ability to outlive bastardization. The Hallidie, in many respects, symbolizes San Francisco's stylish stubbornness to hang in there.

PHOTOGRAPHS: Jeremiah Bragstad, 24, 25, 29, 30 (top), 32; Joseph Rychetnik, 26; Jim Ball, 27 (top), 39; Joshua Freiwald, 27 (bottom), 28 (left, top left), 30 (middle); Fred Kaplan, 28 (right), 29; Balthazar Korab, 33; Rondal Partridge, 36, 37; Jack Lind, 38.





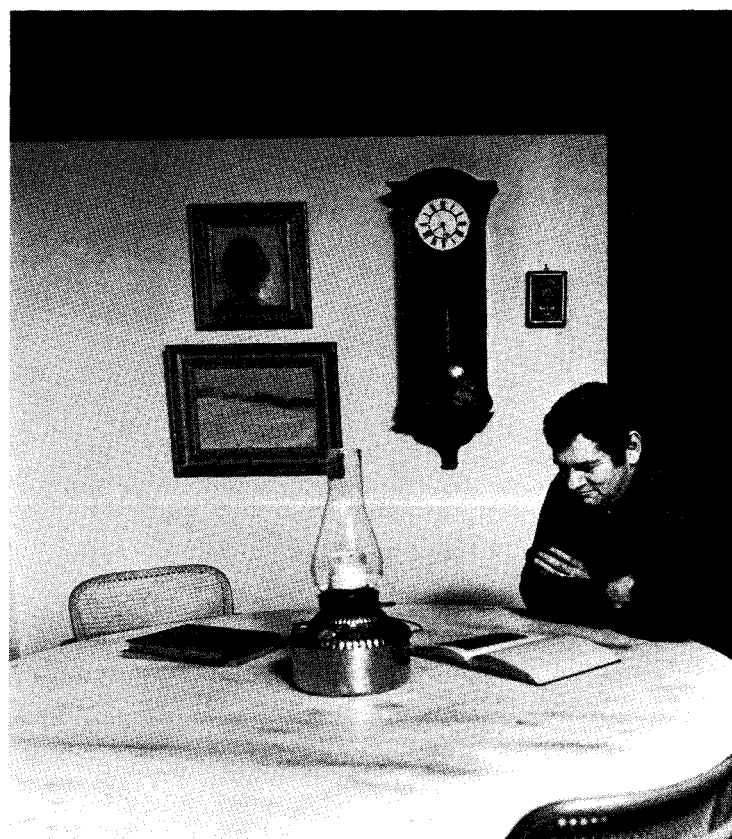


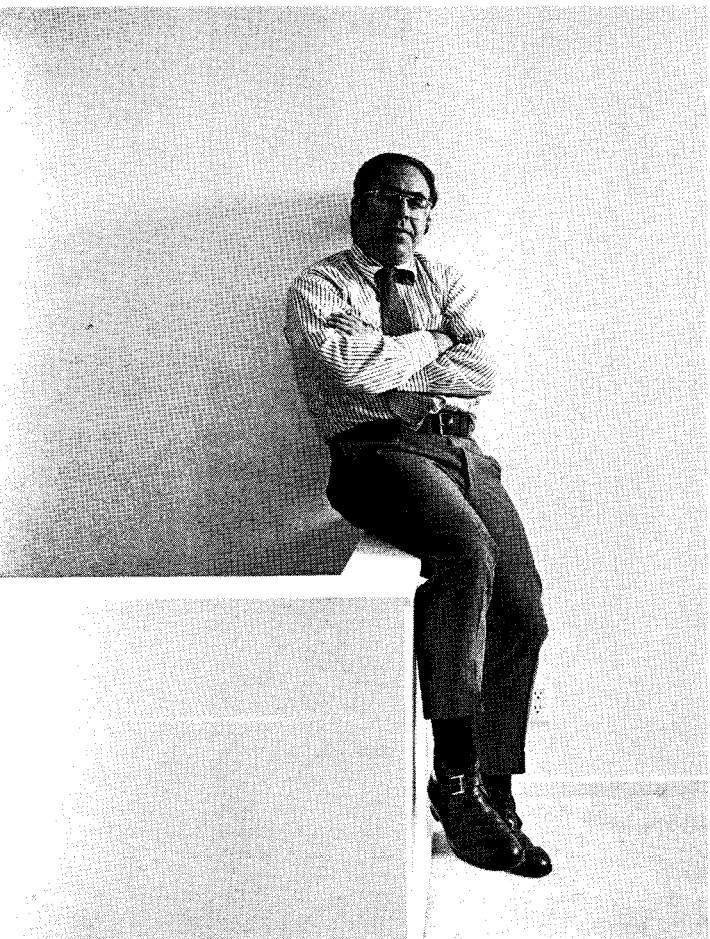
BOB MARQUIS

CITY SHAPERS

San Francisco architects are into everything. Especially when it comes to sharing themselves, and showing you their City. Self-serving comments are rarely heard. City-serving comments are. The architects shown on these pages, photographed by Joshua Freiwald, are among San Francisco's most articulate, and active, human resources. They stretch the spectrum of opinion but, no matter how different their opinions are, there is no difference in the primary principle guiding their work. That principle has to do with love. And in San Francisco, that emotion is so tangible, you can build with it. The result may not always come up roses, like a Jeanette MacDonald song—in fact, Hard Rock is found at every turn. But forget the score for a moment, and remember that what counts in this City are the emotions which are elicited by the environment; the conversations and encounters which occur because there are so many places (meaning reasons) to meet. If, as seems to be the case, architecture is one of the most discussed subjects in San Francisco, it is largely due to such very well put-together people and the confident ease with which others can claim a stake in what architects think about and build.

CHUCK BASSETT





PIERO PATRI

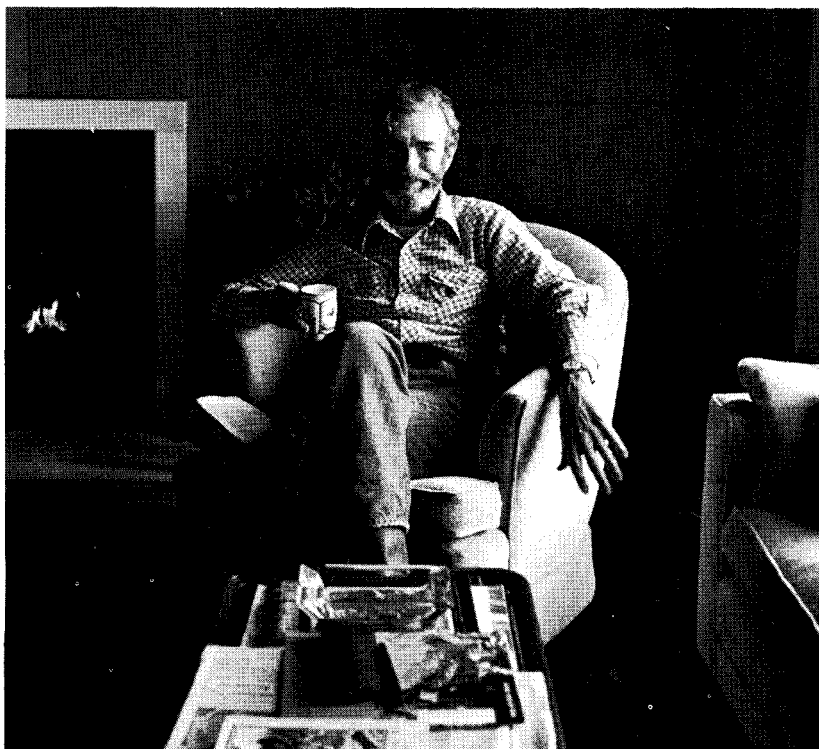
Robert Marquis, in partnership with Claude Stoller, has received numerous awards for innovation in the field of low-income housing. His affable attitude, designed into such famous projects as San Francisco's St. Francis Square, done in the early 1960's, is matched by a deep concern for the social problems of our day (opposite above). **Edward C. Bassett** (near left) is a partner in the San Francisco office of Skidmore, Owings & Merrill, and brought off one of SOM's more benign biggies in the form of the new Hyatt hotel on Union Square (page 32), which demonstrated that even a large building can come down off it. **Herbert McLaughlin**, a partner in the firm of Kaplan and McLaughlin, is shown with his three sons in their hockey rink, meaning living room (right). Herb personifies the studied casualness of the San Francisco architectural community. Waving off formalities, he has more time to execute award-winning jobs like Martin Luther King Square (pages 36 and 37). **Piero Patri** (above) of Whisler-Patri works out of the old, now restored Musto Building in the Jackson Square area (page 29). A galloping gourmet (as well as architect), Mr. Patri is involved in work which ranges from adaptive use of old San Francisco buildings, to a home communications center of the future, to a plan for the Hyde Street Pier on the waterfront, to a series of inviting, simple designs for the Magic Pan chain of French restaurants.



HERB McLAUGHLIN



GERRY McCUE



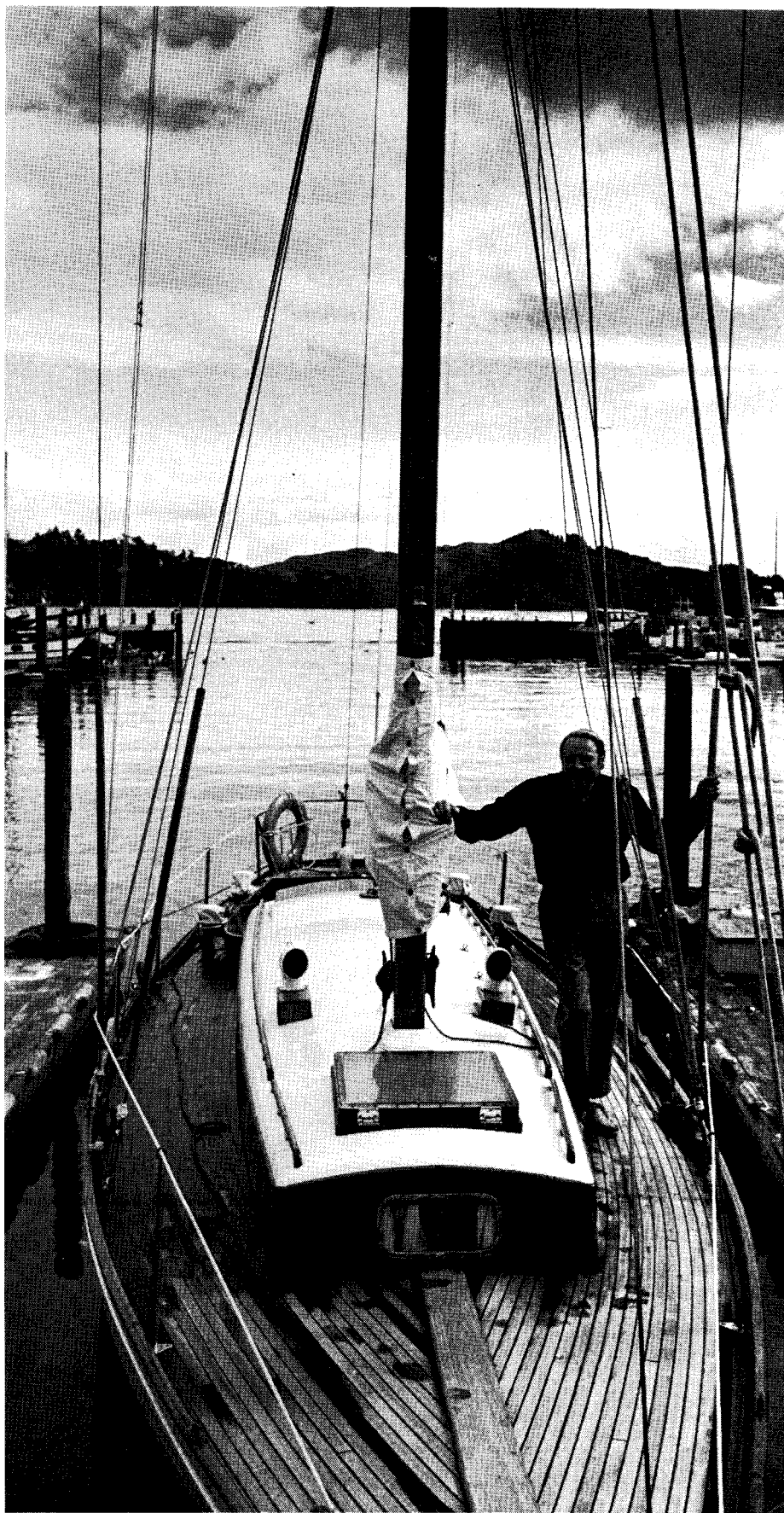
JOE ESHERICK

Gerald M. McCue (left), President of McCue Boone Tomsick, co-authored "Creating the Human Environment" and, as such, shook loose an expanded concept of service for the architectural profession, receiving a Kemper Award in the process. **Joseph Esherick** (left below) is, of course, head of school at Berkeley, and a principal in the firm of Esherick Homsey Dodge and Davis. Its projects include several BART stations (see next section), the student union at California State Polytechnic College, San Luis Obispo (Forum, April '73), and a number of stunning adaptive use projects including, most memorably, The Cannery and, most recently, the transformation of an old warehouse into a trendy, community-oriented Center for Educational Development. **Beverly Willis** (opposite below) is president of Willis and Associates, and of San Francisco Urban Investments. A woman of considerable class (and clout), Bev's urban instincts first found expression in her restoration work along Union Street (page 30), where her example sparked the revitalization of a whole area. **Don Emmons** (opposite right), of Wurster, Bernardi & Emmons, is a long-standing defender of San Francisco's natural and historic resources; meaning, as you might expect, its Bay and its old buildings. The firm's skillful adaption of the old Ghirardelli chocolate factory in the 1960's has since become a benchmark example of how economic incentive and cultural consciousness can be combined in service to the community (page 28). Last, but never least, **Lawrence Halprin** (opposite above) personifies the kind of collective unconscious behind San Francisco's character and charm. His temperament and skill show up all over The City: At the foot of Market Street, where his fountain at Justin Herman Plaza is a focus for personal and community improvisation (pages 24-25); on Market Street itself where, upon completion of BART, a grand boulevard, lined with trees, amenities and plazas, will replace the present two-mile-long mess of BART construction (page 35); and, hopefully soon, at Yerba Buena Center where, in concert with Gerry McCue's firm and Kenzo Tange, he has choreographed a sequence of urban spaces, sitting areas and fountains which would interweave the city core with the now-derelict area south of Market Street. Talking about his free-wheeling office, Larry comments, "We work and play with little understanding of which is which." That is San Francisco for you.



LARRY HALPRIN

BEV WILLIS



DON EMMONS

BART

Although it took 20 years to complete, America's newest rapid transit system is right on time

BY WILLIAM H. LISKAMM

The San Francisco Bay Area's long awaited rapid transit system has arrived. 39 miles of the 75 mile system is currently operating in a north-south corridor, linking East Bay communities including Richmond, Berkeley, and Oakland, and continuing South to Fremont (map below). Other lines, servicing San Francisco, and inland suburban communities, are scheduled to open later this year.

Much has been written about the engineering accomplishments and, more recently the difficulties of BART. But the system offers valuable insights into the architectural and planning aspects of this entirely new regional network—the first to be built in this country in over 50 years.

These insights should be particularly valuable for cities like Washington, D.C., Atlanta, and Los Angeles—currently building

Mr. Liskamm, an architect and urban planning consultant living in San Francisco, has been involved in major transportation projects across the country, including BART. Much of his work has focused on the impact of such projects on social, economic, political and physical systems.

or planning new rapid transit systems—together with those cities contemplating this step. Key issues include the architecture of the BART stations, which were done by many leading Bay Area architectural firms, together with urban design and planning aspects of BART's impact on residents of the local communities.

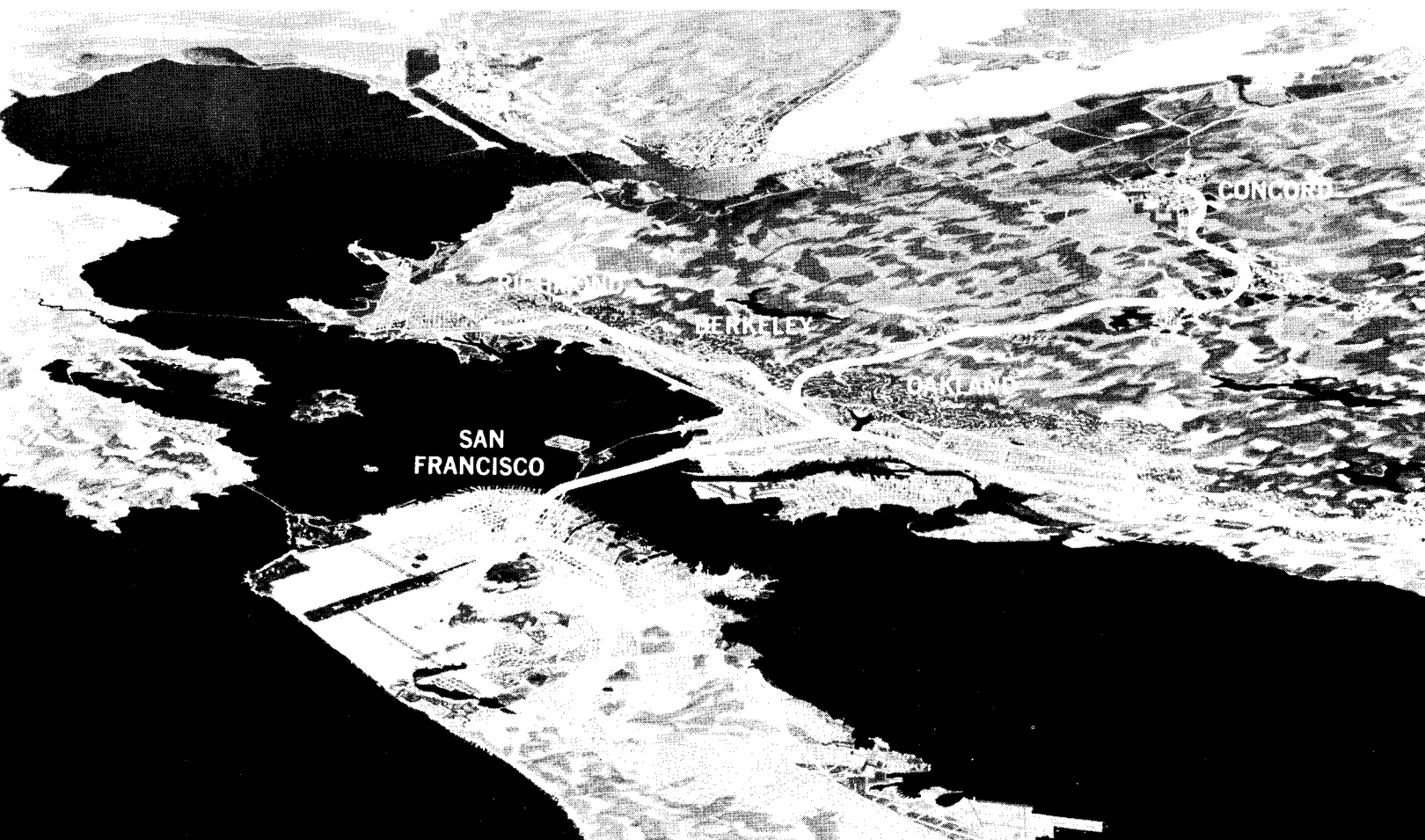
Riding on BART

Recently my three daughters and I took a ride on BART. This experience reassured me that, despite the emphasis on BART's advanced technologies, human factors survived, helping passengers identify with the system, adding delight to the experience.

While BART was under construction, we had often passed the MacArthur station, located in the median of an elevated freeway. Since it was familiar, we decided to get on BART at this station. As we drove back and forth along MacArthur Blvd., there was no station to be found! Instead, it was located a few blocks away—closer to one of my children's "landmarks"—a local MacDonald's.

Entering the station at sidewalk level, we were impressed with its architectural qualities, as later we were at other stations. The children pointed out a shiny new change-making machine. I found that it would not change a ten dollar bill. When I presented it to the station attendant, I was told that I might try a nearby supermarket. Having made change, the children delighted in watching the electronic numbers on the ticket vending machine as it added up the coins. With tickets in hand, we approached the shiny turnstiles with some confidence that we had begun to understand the fare system. After inserting the magnetized ticket into the turnstile slot we were dismayed that it would not allow us to pass. Instead, when we removed the ticket for use upon exiting, the turnstile opened.

Once inside the "paid" area, we became more aware of the architectural details of this major transfer station. Many of the BART stations utilize strong spatial concepts and structural forms in their design. Frequent vertical openings provide visual



and spatial connections between platform and mezzanine levels. In some cases, sky-lights add to the vertical dimension. Escalators are dynamic elements, located and designed so the movement of people adds another experience to the viewer and user. Most stations utilize bright colors and rugged materials. In many cases, murals and other art works have been integrated into the design.

Provisions have been made for passengers in wheelchairs, and for baby prams, by utilizing elevators and ramps. Bicycles are not accommodated. Station attendants supervise the operation and offer information at each station.

BART has permitted advertisements in its stations and trains to produce income. In general they do not appear visually offensive—with the exception of illuminated destination signs that make their sales pitch between trains. Station graphics are striking with good fare charts and over-all system maps. One of these maps is a simplified diagram of the four BART lines, indicated by different colors. In addition, there is a geo-

graphic map indicating more accurately the lines and stations. Missing, however, are the individual maps of each line, together with a list of those stations still remaining in each direction of travel from your station. These have proven useful in London, Moscow, and other, older rapid transit systems.

After a slight delay, the train arrived. We found the car interiors quite attractive, with noise-reducing carpets, wide doors for easy access, large windows, well designed seats arranged in small groupings, good colors, and a comfort level not generally found in public transportation vehicles. The walls of the car contained ads and the system maps. Again, no maps of the individual lines.

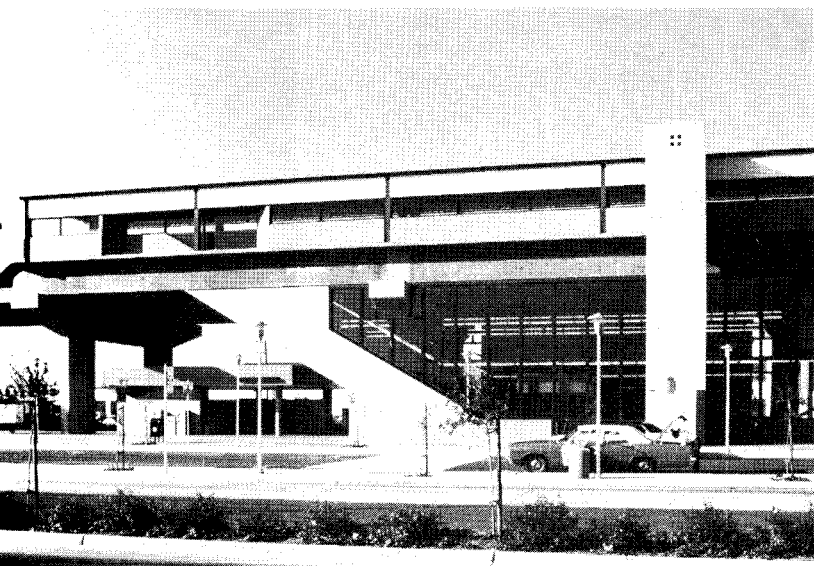
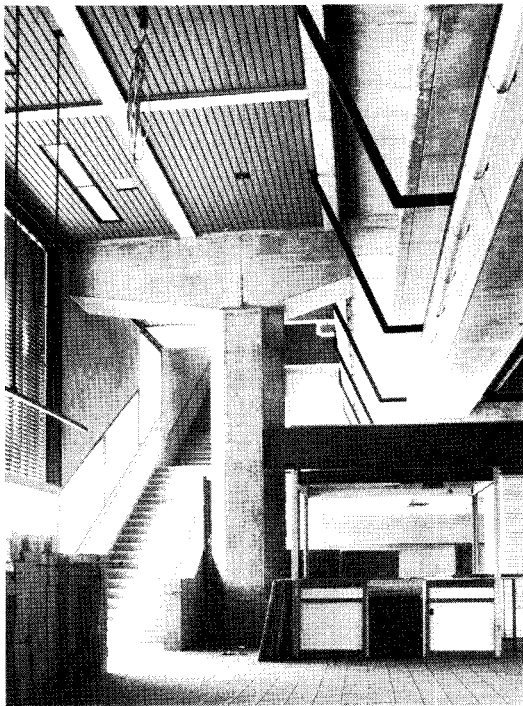
The ride was smooth and fast. Activities connected by BART along this route included the major retail cores of Oakland and Berkeley, major educational, cultural and administrative facilities, a sports complex, some suburban shopping centers, employment areas, and access to many urban and suburban residential communities.

In its elevated alignment,



BART's Central Berkeley station (top), is covered by a futuristic dome, and is reached by escalators. Simple lines, soft colors and good lighting characterize the lower concourse of the station (middle), designed by Architects Maher & Martens, with landscape design by Royston, Hanamoto, Beck & Abey. The aluminum BART cars (immediately above), designed in consultation with Sundberg-Ferar, offer spacious interiors with tinted windows, carpeting, upholstered seats and, due to the system's electric motors, lots of quiet.





At BART's Pleasant Hill station, a ribbon of elevated track (top) contrasts with an older, still popular form of transportation, and is softened by excellent landscaping by Anthony Guzzardo. The information and ticket area of Pleasant Hill (middle), designed by Gwathmey, Sellier & Crosby/Joseph Esherick & Associates, is straightforward with strong concrete elements and bright colors. The same architectural and landscaping firms collaborated on the San Leandro station (immediately above). Like Pleasant Hill, this station is a low-profile element in the community. Clean lines minimize its visual impact.

BART offers new views of San Francisco Bay and the nearby foothills, together with unexpected "backyard" views of older industrial areas. We were disappointed that, with all the fine station architecture, no one had improved the visual experience of an underground transit trip over the New York or London subways. In addition, there was the electrified "third rail" which is located at track level and supplies the power to the BART trains. This concern was particularly true in those areas where the BART alignment is at grade, or almost at grade, and children are kept from the "third rail" by means of a cyclone fence and signs in several languages.

During the trip, a mechanical voice identified each approaching station. We were awed when this voice warned us that the doors only remain open 20 seconds, immediately after having separated a family on the platform from an elderly grandfather who had become trapped on the train. As we left, the family was desperately giving instructions for the grandfather's exit at the next station.

Our particular train had a driver with a cigarette cupped in his hands, as if he too was nervous. At several stations people would knock on his window to ask directions. And at one station he was given some goods by a station attendant to be delivered somewhere down the line.

From their behavior, it seemed clear that many passengers were new to rapid transit systems. Although our car contained only six standees, all were crowded around one pair of doors making access difficult. Some passengers became somewhat disoriented, particularly underground. Some couldn't tell if they were traveling forward or backward—others couldn't remember where they had left their car. One woman, with her daughter, asked directions of a fellow passenger. And, as he was responding, there was a loud mechanical click indicating the closing doors. The woman dashed off the train with her daughter—apparently concluding that the platform was a safer place for decision making. No doubt much of this confusion will disappear once Bay Area residents become accustomed to their new BART system.

Lessons from BART

Transit passengers today should, and do, expect first-class facilities and equipment. BART has succeeded in achieving this image in its stations and trains. Their attractiveness and comfort should go a long way toward inducing automobile commuters and other travelers to use BART. Despite their recent difficulties, the BART management and consultants should be commended for producing this vast public improvement in a manner that is generally pleasing and attractive to its users.

Certain behavioral aspects relating to the use of the BART system may be emerging. Differences exist in the orientation needs of a first time transit user, an occasional user, and a commuter. These orientation needs seem to be increased when the passenger is underground and visual landmarks and other clues do not exist. Some success has been achieved in the color coding of different lines and stations, but additional attention should be given to the problem of user orientation. Again, the graphic system of including individual strip maps of the line you are on, as well as lists of forth-coming stations—used so effectively by London transport—seem to be a great help. In addition, design attention must be focused on the issue of whether the "view from the train" can be made attractive when traveling underground.

While BART is basically a commuter oriented system, it has, in most cases, located stations to afford access to other community activities including schools, health services, governmental offices, recreation areas, cultural and sports facilities. In general, these locations appear to be well planned. Some are well integrated and within easy walking distance of the facility, while others, for some reason, are located some distance away—a little farther than practical walking distance. Transit stations should be integrated with and directly linked to the facilities they are intended to serve.

BART has recognized the need for a feeder bus network that will collect passengers at or near their homes and deliver them to the BART stations. Together with AC Transit in the East Bay, they have developed an excellent feeder network for

this purpose. When the BART system is in full operation later this year, AC Transit will change its emphasis from commuter service to San Francisco and replace it with feeder service to BART. Similar arrangements have been made with San Francisco's transit system—the Municipal Railway. However, there are no plans for handling passengers with bicycles—not even on weekends. Nor are there plans for the movement of goods, which means a wasteful underuse of the system in off-hours.

The impact of the BART system on local communities has been significant. From a regional viewpoint, it has provided many construction and engineering jobs over many years. In addition, BART has provided a significant number of operation and management jobs.

At the neighborhood level, impact is especially evident. Except where the system is underground, all neighborhoods through which the system passes have either an elevated concrete structure or, if it is on grade, a path protected by cyclone fences. Since BART has purchased, in many cases, existing railroad rights-of-way, the new structures often pass through the neighborhood at a diagonal to the existing street pattern. In some cases, this has been visually disturbing. More significant is the problem that the system might create barriers between neighborhoods in existing communities. The fencing and electrified "third rail" provide a formidable barrier, although pedestrian overpasses and underpasses have been provided to reduce the problem. In addition, attractive landscape design elements have been placed along the route—particularly where the system is elevated—to reduce the barrier effect and to provide community parks and recreation areas. Nevertheless, the citizens of Berkeley approved a bond issue that increased their property taxes by 20 million dollars to underground the BART system through their community rather than live with the elevated system that had been planned for them.

Social and economic impact still needs to be measured. BART is currently conducting studies to determine their nature. Real estate speculation

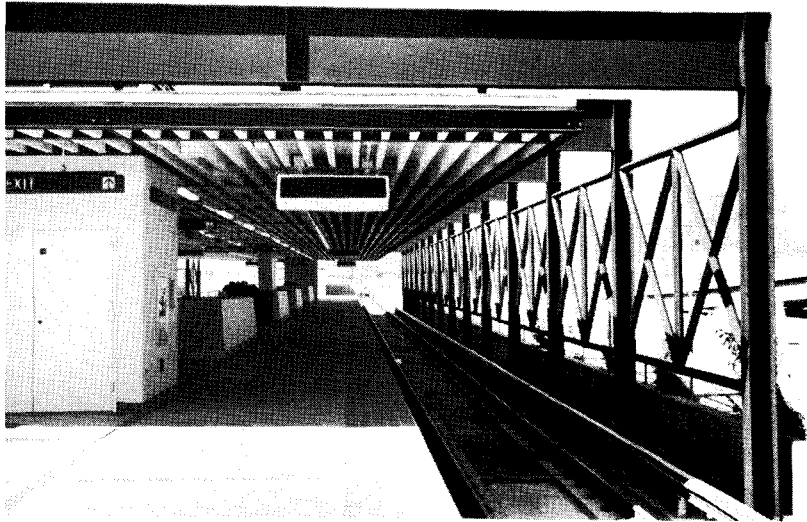
around station areas is underway, and property values in these areas are increasing. Downtown San Francisco has experienced a significant office building boom in recent years—much of it in the vicinity of the BART stations that will not be ready for use until later this year. In smaller communities, there is concern that location of BART stations, along railroad rights-of-way some distance from retail cores, will change commercial patterns. Some suburban BART stations are located along railroad tracks in areas that have long been abandoned as commercial centers, in favor of newer areas with auto access. In some cases, new retail and residential complexes are expected to develop near these BART stations.

The social impact of BART on the residents of the Bay Area is not yet known. As described above, BART has provided a significant number of additional jobs to the community. It will afford some additional access to housing opportunities, employment centers, community services, schools and recreation areas. However, the potential for BART to provide social and other benefits was not a major planning objective during its conception in the early 1950's.

In fact, one of the main lessons to be learned from BART is that this long time lag occurred—20 years from concept to reality. The BART commission began in 1951—the transit district was formed in 1957. In 1962 the bond election passed, and the first trains were running in regular service late in 1972. The issue is, how to make a major public improvement of this scale responsive to changing needs and social climates. In 1957, when the transit district was formed, the major planning objective was relief of traffic congestion. Today's objectives might be: provide mobility, include concerns about where and how this mobility is provided, and consider BART's relationship to local activities.

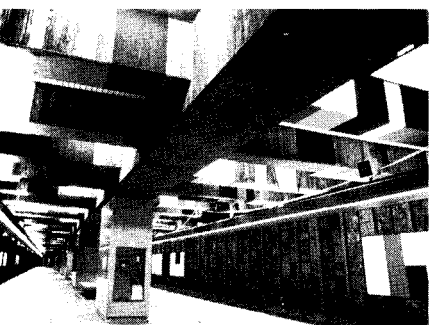
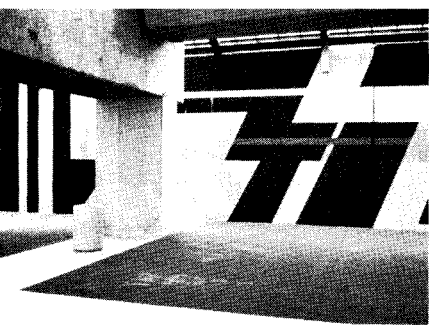
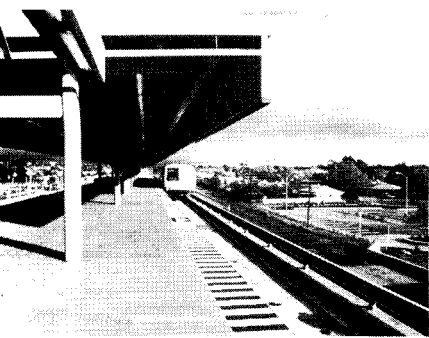
Down the Track

Today, there is a recognition at BART that transportation helps shape development. In its current planning work, BART has taken significant steps to insure effective citizen involvement in its planning activities.



BART's MacArthur station (above), by Architects Maher & Martens, is elegantly spare in its use of steel. Street-level landscaping by Royston, Hanamoto, Beck & Abey enhances the structure and the community it serves. Supergraphics by artist John Wasthuber enliven the walls and entranceway of the Oakland Coliseum station (below), designed by Architects Reynolds & Chamberlain/Neill Smith, with landscaping by Anthony Guzzardo. Murals by artist Helen Webber cover three concrete columns which support the platform structure of the Lafayette station (bottom), designed by Architects Gwathmey, Sellier & Crosby/Joseph Esherick & Associates, with landscaping by Anthony Guzzardo.





BART's Bayfair station (top), also designed by Architects Gwathmey, Sellier & Crosby/Johep Escherick & Associates, with Anthony Guzzardo's landscaping, has an extremely simple and open center platform, and is connected to an adjacent regional shopping center. The same firms worked on the Orinda station (middle) which is located within a reconstructed freeway exchange. A retaining wall of its concourse has a mural by artist Win Ng. Light is admitted through a continuous skylight. At the Glen Park station (immediately above), designed by Architects Corlett & Spackman/Ernest Born, with landscaping by Douglas Bayliss, colorful graphics relieve the brusque concrete surfaces.

Now planning studies include extensions of the system into northwest San Francisco, and two extensions into East Bay suburban communities; access to the Oakland and San Francisco airports, studies of the feeder systems, and express bus systems to extend and connect the ends of the BART system in the suburbs; the impact of BART on local communities, a travel projection model to test policies, a trail system to connect with local open spaces, and studies to extend the system into nearby counties.

In 1970, the regional planning agency for the Bay Area—the Association of Bay Area Governments—completed its regional plan utilizing a city-centered growth model. In general, the BART system reinforces this regional plan and its objectives. However, citizen groups, aware of the potential growth impact of BART, have expressed concern that the introduction of the system into their community will accelerate growth in areas where it is not wanted. This point of view has been expressed recently in Marin county, north of San Francisco, where reduced-growth objectives have been prescribed.

The Bay Area's recently formed Metropolitan Transportation Commission is currently preparing a regional transportation plan that attempts to relate the differing policies and objectives of the communities within the region. This commission, although organized separately from the regional planning agency, is a significant first step towards resolving transportation systems that are sometimes conflicting and competing. In addition, the Metropolitan Transportation Commission has considerable authority in that all federal funding for transportation studies and improvements pass through it.

Despite the existence of this new transportation agency, very little has been done to integrate all the transportation systems of the region into one organization. This consolidation, done so successfully in Hamburg, where a regional transportation organization is responsible for all transportation modes, eliminating redundancy and conflicts, could provide significant benefits to the Bay Area and other regions.

If we learn nothing else from

BART, it should be that major institutional changes are needed in the funding sources, responsibility, planning, and organization of regional transportation systems. A process is required that would permit such a major public improvement, realized at great time and expense (20 years and a \$1.4-billion), to be planned and built so that it can continuously be "tuned" to current needs and objectives. When BART was designed, transportation improvements were primarily an engineering issue. Today, we are aware of their social, economic, and environmental potentials. However, no "feedback" loop exists that permits us to readjust BART to take advantage of these potentials. Given the location of the system—based primarily on engineering criteria—BART has, in recent years, realized these potentials wherever possible.

The experience described here indicates the need for changes in the transportation planning process. Recent changes in BART's planning approach, together with descriptions of transportation projects in other parts of the country, indicate that some changes are being made. Some required changes in the current state of the art include:

- Institutional frameworks that permit planning, funding, and coordination at local and regional levels.
- The recognition of social, economic, and environmental potentials of transportation improvements, and the integration of these aspects into the planning process and its objectives.
- The development of a process that can be made responsive to changing needs during the long planning and construction period, and during the operation of the system. This process should draw heavily on the involvement of the local citizens who will be most affected by the improvements.

Finally, the transportation process will continue to require people with creative visions of the future. Analysis of a problem is only a first step; synthesis should be our objective—the synthesis of transportation modes with every level and element of our personal and community lives. Transportation, after all, is not merely a stretching of legs. It is, just as vitally, a stretching of imagination.

Amidst all the kudos and controversy about BART, the old cable cars are still a way of life, and a mainstay of San Francisco's mood.

PHOTOGRAPHS: Paul Fusco, page 49; Joseph Escherick and Assoc., page 46 (center and bottom), page 47 (bottom); all others by William H. Liskamm.

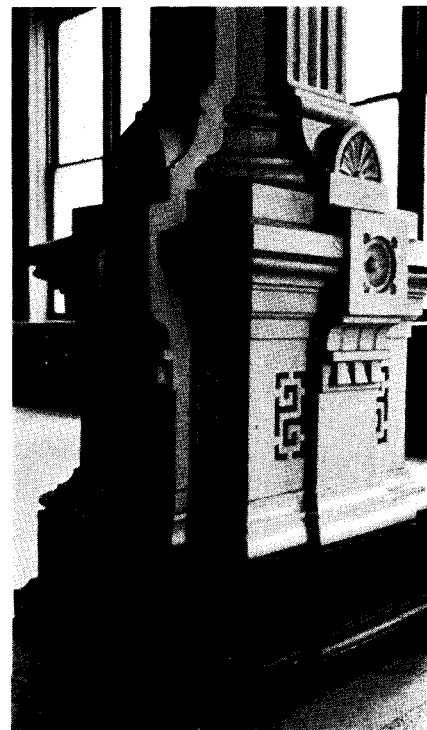




RINGING IN THE OLD

The General Services Administration has become a key custodian of America's architectural heritage

BY CARLETON KNIGHT, III



Not many people took note last summer when President Nixon signed the latest surplus property bill. The law—actually an amendment to the Surplus Property Act of 1944—is one of the most significant preservation measures ever passed.

For the first time, the General Services Administration is allowed to transfer the titles of historic, government-owned buildings to local public bodies for revenue-producing purposes. The revenue-producing part is the key; previously the transfers were allowed only for historic monument or museum purposes. The problem was, cities often did not want or could not afford to maintain such structures, and many were demolished.

Now, old federal buildings no longer needed by the government don't have to suffer such a demeaning fate. They can be

"recycled" for useful new lives by imaginative architects with an eye for the past. The possibilities are limited only by the mind of the designer—the buildings can, have and will become offices, stores, workshops, studios and even hotels.

The President, upon signing the bill on August 4, said, "Under the new law, the states and localities will be able to use the federal surplus buildings as centers for urban commerce and tourism. They will be able to preserve the historic buildings, to cherish them and to use them as active facilities which will raise sufficient revenue to keep them well maintained."

He further noted, "Although it is true that historical preservation of buildings may seem to have a low priority, we should not turn our backs upon these quiet, stately, authentic reminders of our heritage." Noting that "the value of historic preservation can no longer be seriously challenged," he called on the Congress to approve a number of other matters related to preservation.

The new law permits the free transfer of architecturally or historically significant buildings that have been declared surplus by GSA. The surplus status comes after one agency moves out and GSA is unable to find another to take the space. One criterion for their architectural or historical importance is listing in the National Register of Historic Places. The transfers must have the approval of the Secretary of the Interior and the Administrator of GSA.

A close examination of the plans and finances proposed for the new use of a building is mandated by the law. The Secretary of the Interior must review and approve all the financial arrangements, the proposed activities in the building, and the plan for actual restoration and rehabilitation.

Furthermore, the law states, "The Secretary shall not approve a financial plan unless it provides that incomes in excess of costs of repair, rehabilitation, restoration and maintenance shall be used by the grantee only for public historic preserva-

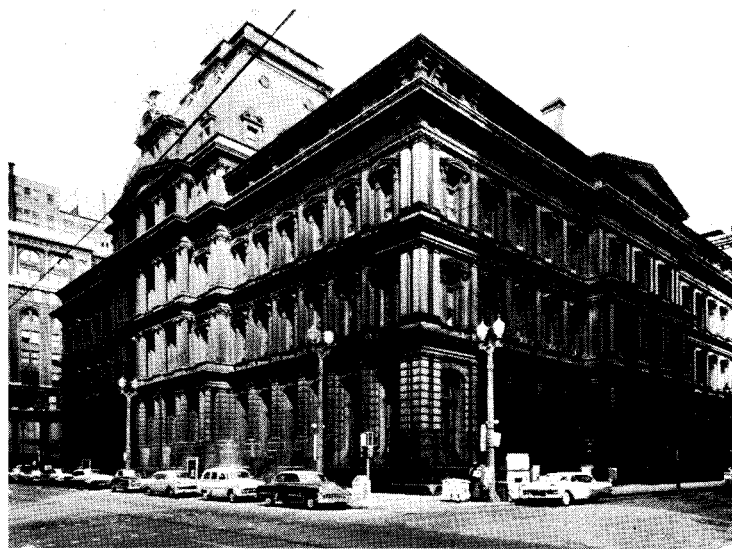
tion, park or other recreational purposes." The grantee is the local public body that takes title to the building. In most cases it is expected that the grantee will lease the building to a local group or developer.

Arthur F. Sampson, Acting Administrator of GSA, says that the new law gives his agency, "all the power we need to do the job we want to do. This piece of legislation has been a real milestone in this field, and I think that you are going to see it being used quite extensively. We are going to keep searching to use it to its maximum."

Indeed, GSA is searching—there are currently nine surplus federal buildings whose transfers are being negotiated. Two others were transferred in October of 1972.

The law became known unofficially as "the bill to save the Old St. Louis Post Office" because of the close association with that long-standing preservation battle. Notes GSA chief Sampson of the post office: "That was the one that

Mr. Knight, Washington correspondent of the Forum, is an assistant to the editor of the National Trust for Historic Preservation and is responsible for the monthly newspaper, **Preservation News**.



The Old Saint Louis Post Office, above, executed in the French Second Empire style in 1884, will be renovated to function as a hotel/shopping complex. Architects Packham-Guyton's design preserves such details as gargoyle heads underneath cornice of cupola (opposite top), ornate interior columns bordering interior court (opposite bottom, and right), and ground level fenestration.

gave us the idea of going into a new way of preserving buildings. It was the impetus."

The Old Post Office, completed in 1884 from the designs of Alfred B. Mullett, was vacated in 1961 and declared surplus by GSA. A number of developers have eyed the site in the intervening years—it is located on prime downtown land—and they would have liked to demolish the French Second Empire structure for a high-rise.

Many St. Louis citizens, excited by the building and its potential, began efforts to preserve it. They formed a group, the Old Post Office Landmark Committee, by now a legendary coterie of cultural and business interests. GSA, for its part, held on to the building and that, says Sampson, saved it. In the last several years, there has been increasing pressure for some sort of action. The Advisory Council on Historic Preservation took up the case and urged its retention. The National Trust for Historic Preservation made a consultant service grant for a study on adapting the building.

But nothing could be done until GSA was legally permitted to transfer the title of the building. President Nixon proposed a change in the law to allow such transfers in his 1971 Message on the Environment. Following that, Sen. Charles H. Percy (R-Ill.) and Rep. Gerald R. Ford (R-Mich.) introduced similar bills in both houses of Congress. Following the usual delays, it was passed.

The Old St. Louis Post Office is still awaiting transfer, but it is coming along. The plans have been delayed because of technicalities over who will receive the title and pending completion of the financial arrangements. It is expected that the St. Louis Land Clearance Authority will take title to the building and then lease it to the Apted/Hullington Group, owners of several hotels and restaurants in St. Louis.

Developer Stephen J. Apted is now actively pursuing financing for the project. He believes that he will have enough commitments for capital within a couple of months. He says that he has obtained the necessary equity

and is negotiating the long-term financing.

"I'm getting close," he says, but notes that it is difficult to borrow \$6 million "on a building that nobody [the lenders] is enthralled about."

He reports that he has letters of intent from 20 merchants for space in the building—only 10 short of his goal. A hotel, The Custom House—after an early use for the structure—will take up about half the space. Apted commissioned Architects Peckham-Guyton, Inc., to prepare plans that will adapt the four-story building into the shopping and hotel complex. The main floor and mezzanine will be leased for stores and restaurants, leaving the upper three floors for hotel use.

Some of the shops and hotel rooms will look out onto a 90-ft.-high skylit central courtyard. To take advantage of the 22-ft. ceilings on the top two floors, the hotel rooms are designed on two levels. A spiral staircase will take the visitor from the two-story sitting area to the upper-level bedroom.

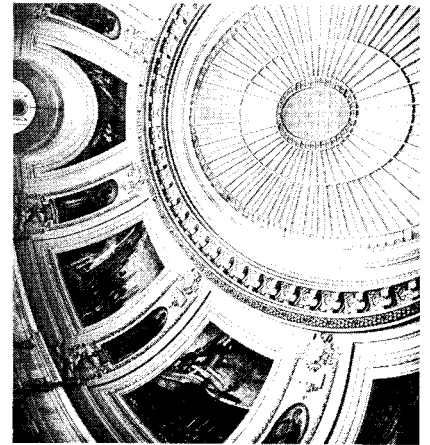
While the Old St. Louis Post Office awaits final action, two other surplus federal structures already have been transferred. On October 20, the Old Post Office in Battle Creek, Mich., was turned over to the city and Calhoun County; the Old Federal Courts Building in St. Paul, Minn., was turned over to that city.

The Battle Creek building, designed by Albert Kahn in 1907 and considered an important starting point for observing Kahn as a classicist, is to become a court facility for the city and county governments. Both will join to form a building authority that will sell bonds to pay for the rehabilitation. The bonds will be retired with rental payments.

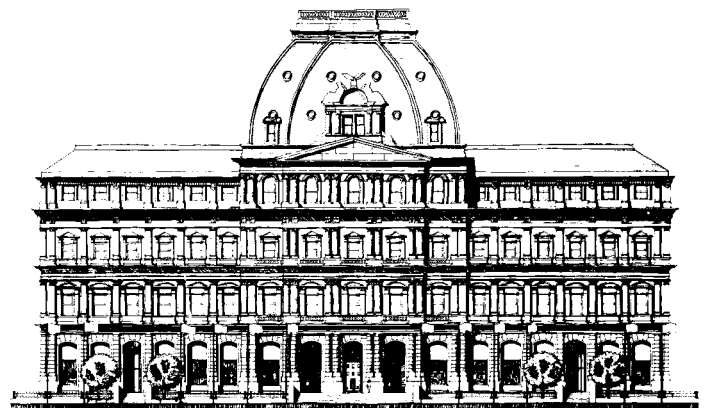
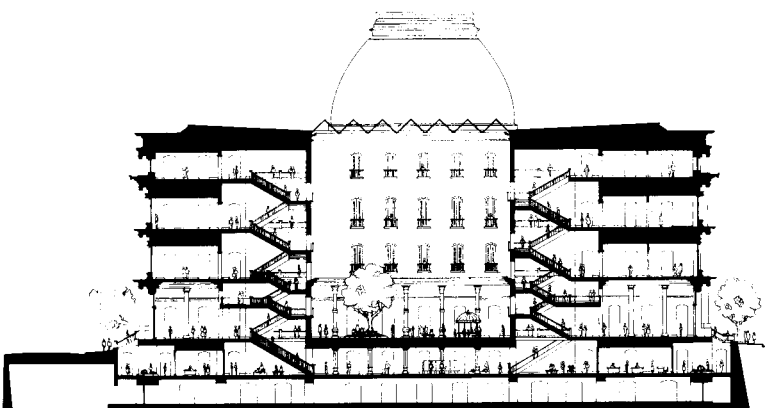
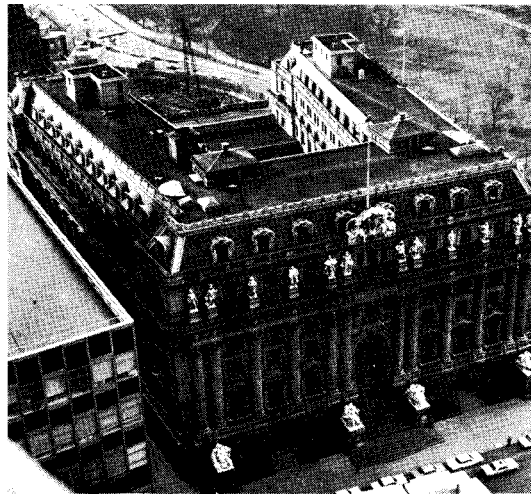
Plans for the St. Paul building are quite elaborate—it is to become an educational and cultural center managed by the St. Paul Council of Arts and Sciences for its member organizations. There will be shops; a rathskeller; exhibit space for the Minnesota Museum of Art; offices, performing and rehearsal



Retail shops, hotel rooms, and restaurants overlook the 90 ft. high skylit court of the renovated St. Louis Post Office, left. Details will be kept, such as the Corinthian-style capitals (above). Section of renovated building and elevation of facade are opposite, left and right.



One of the nine Federal buildings being considered for transfer to revenue producing purposes is the United States Customs House in New York City. The building was designed in 1907 by Cass Gilbert in the late French Renaissance style. Proposed renovation would transform the Customs House into a downtown cultural center, with Giorgio Cavaglieri as architect. Second floor hallway (above) leads to the rotunda (above, right) where paintings by Reginald Marsh border the dome. Outside, at the main entrance, are statues by Daniel Chester French.



space for the St. Paul Philharmonic Society; offices and exhibit space for the Schubert Club; a conference center for the Minnesota Metropolitan College; offices for the St. Paul Council; and offices for city and county agencies.

Brooks Cavin, advisory architect for the building and the chairman of a committee appointed by the mayor to find a new use for the building, says that the building has great potential. Four courtrooms—to be come recital halls—were recently cleaned, floors sanded and painted, as demonstrations of what the future will bring.

The St. Paul Council is now selecting a consultant to develop the best program for the building; then an architect will be chosen. Cavin sees the earliest occupancy as being September 1974.

There seems to be some question about the actual architect of the building. W.J. Edbrooke was the supervising architect of the U.S. Treasury at the time the structure was built, but James Knox Taylor is also cred-

ited with the design. The Romanesque Revival building was completed in 1901 at a cost of \$2.5 million.

It bears a striking resemblance to the old Benjamin Franklin Station Post Office at 12th Street and Pennsylvania Avenue, N.W., in Washington, D.C., which may be transferred to a government agency and also preserved. It is threatened by plans to complete the Federal Triangle. But Don't Tear It Down, Inc., a local preservation group, has mobilized support for the building and planners are taking a serious second look.

Similar citizen action is occurring all over the country. A case in point concerns the Old Mint Building in New Orleans, where Architect Jack Cosner, working with faculty and students at Tulane University, has developed an adaptive use program for the neo-classical landmark. Although the Mint was transferred to the State of Louisiana in 1966 for museum purposes, no funding was secured—a typical story. Because of Cosner's initiative, and with some help from the

National Endowment for the Arts, New Orleans now has a clear idea of what the building's cultural and community value could be, if sensitively adapted. One of the purposes being discussed is a visitors' center.

GSA is working in other areas for historic preservation. Last summer it established an Office of Fine Arts and Historic Preservation to oversee the transfers and to conduct the art recovery program. Initially in the Public Buildings Service of the GSA, this program was recently transferred to the office of Director Sampson to increase effectiveness. Karel Yasko, FAIA, is in charge of the office and continues to trace lost murals and other works of art that were commissioned by the government during the Depression.

Last December the agency completed the first part of its efforts to comply with President Nixon's Executive Order of May 15, 1971, directing all federal offices to preserve their historic buildings. GSA has prepared a list of 49 buildings that it will nominate to the National

Register of Historic Places. The agency has retained 13 consultant specialists—architects and architectural historians—to prepare the nomination forms.

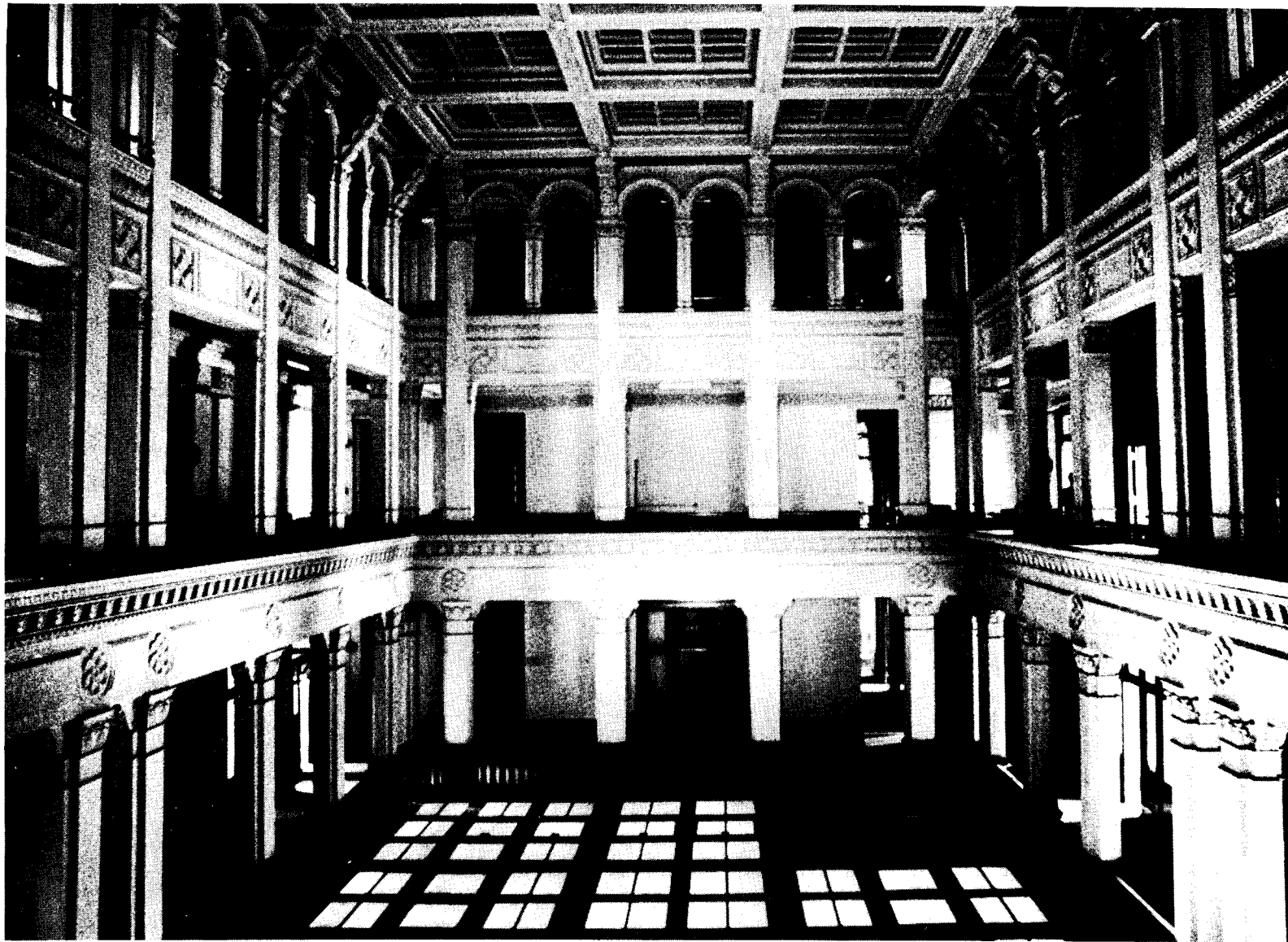
In a recent statement to members of the Advisory Council on Historic Preservation, Sampson said, "Historic preservation is no longer just another GSA program. Because it is so important for us to understand our past, as reflected in the architectural environment around us, GSA has designated the preservation of historic and architecturally significant public buildings as a top priority item."

All this work in preservation at the government level is in line with increased citizen concern at the local level, and it is only a beginning—perhaps a belated beginning at that. But it is an effort that should be recognized and taken advantage of. There are surplus federal buildings everywhere. Brought back to useful lives, many of these could become key urban elements, making possible a "fair return" on economic as well as cultural grounds.



The Old Mint Building (above) in New Orleans was built in 1838. The neo-classical building, in an advanced state of disrepair, has been proposed by architect Jack Cosner for museum use. Its interior halls (below and right) would lend themselves well to exhibition purposes.

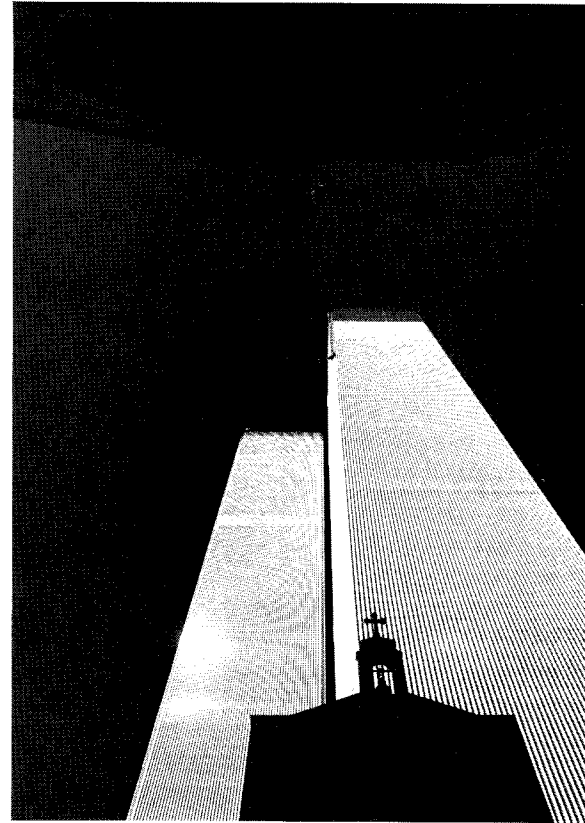




The Old Federal Courts Building in St. Paul, Minnesota, designed in 1892 has already been turned over to the city for use as an educational and cultural center. The court rooms of the Romanesque Revival building (left) recently underwent renovations to illustrate possibilities of their easy transformation to recital halls.

PHOTOGRAPHS: Bob Stratton, pages 50-52; National Park Service, page 53; Jack Cosner, page 54; Kent Kobersteen, Minneapolis Tribune, page 55.



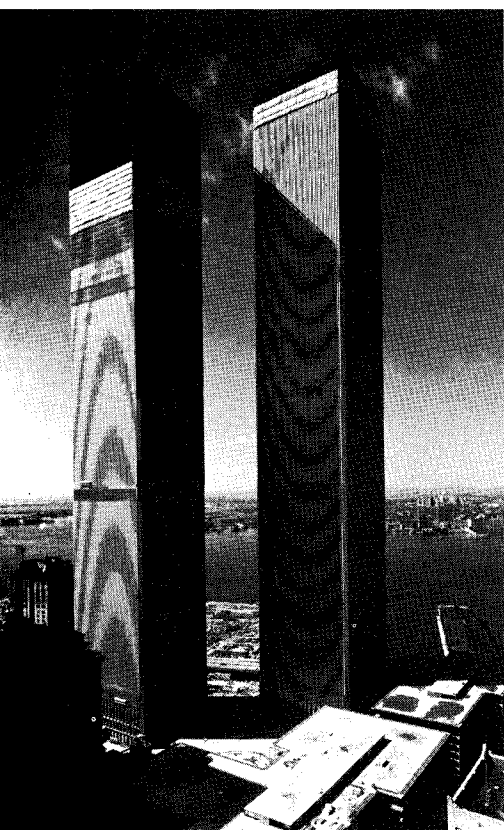


W.T.C. 2023

For the 50th Anniversary of New York's WTC (originally the World Trade Center) the Forum has unearthed photos of the once-celebrated colossus taken before its completion in 1973

In downtown Manhattan, near the old "Wall Street Business District" rise the two WTC towers, now almost forgotten except by a few vigilante organizations such as the Friends of Aluminum Panels and the Society for Neo-Gothic Revival Architecture. Strangely enough, at the time these marvelous old behemoths were built, they shattered records and stirred controversies among New York's paltry eight million souls.

For the first year or two af-



ter completion, the WTC was the Tallest Building in the World at the then conspicuous height of 110 stories, or 1,350 feet. Nearest contender at the time was the Empire State Building at 1,250 feet. Both were surpassed in 1974 by the Sears Tower in Chicago that stretched sportingly to 1,450 feet. Not for long, however. The old granddame of skyscrapers, the Empire State, brought the glory back to New York in 1977 when the tower was topped out with a 300-foot replica of King Kong (designed by that venerable century-old firm of Renturi and Vauch). What ensued of course was the free-for-all that initiated the Iconic Style of Architecture and gave birth to the militant opposition group, the Daughters of the Corinthian Column.

This early period, characterized at the time by a rather *passe* but nevertheless homely American spirit of competition, witnessed the last surge of steel-framed tower construction in

America. The Steel Frame era reached its peak in the 1980's, subsequently replaced by cheaper and more technologically advanced concrete and plastic megatubes. As we have seen by later construction that swallowed the WTC complex, concrete and plastic easily permitted 150-story structures of varying shapes. The two-mile long series of undulating slabs that Borden Gunshaft designed in the late eighties for the luxury "new-town-in-town" in nearby Soho, well illustrated the impact of this kind of technology on the urban landscape.

Because the WTC was part of the heyday of steel frame construction, the Landmark Preservation Commission has been urging its designation as a landmark for the past year. Their argument is based primarily on the extensive use of steel in the building—192,000 tons—and the unparalleled amount of glass—enough to create a ribbon 65 miles long and 20 inches wide. Because of the prohibitive expense of using authentic glass and steel in present-day construction, leading architectural historians urge the careful maintenance and retention of these almost forgotten towers. "The WTC", comments architectural historian, Henry Ruskin-Hillock, "clearly represents the most sumptuous use of materials and subtle manipulation of proportions extant in 20th century building. One only need analyze the relation between the 1,350-foot high towers, the four seven-story high buildings and the five-acre plaza, or the one ft. 6¾ in. wide perimeter columns with the one ft. 7¼ in. wide windows to perceive the overwhelming debt owed to the architect, Minoru Yamasaki, and the associate architects Emery Roth & Sons. Furthermore, Hillock has stated, "The twin towers, with their narrow slit-like floor-to-ceiling windows and delicate arch-like tracery at ground level, portray the most outstanding example of Neo-Gothic Revival Architecture built in America during that

time." The Society for Neo-Neo-Classical Architecture, however, claims the building as theirs, pointing to the scale and interior finishes of the six-story high lobbies in the two towers—clothed in high gloss Regina di Bianchi marble, stainless steel, and studded with crystal chandeliers. "Not since the Metropolitan Opera House has such elegance been attempted—an elegance not appreciated in that time or since," the leading spokesman, Edwardian Sorel Drone rejoins. For their part, avant-garde designers currently reviving the Kitsch Kult of the seventies look to the "unremitting tackiness of materials, details and design motifs" for their inspiration.

Another group in favor of the WTC's impending designation is the Skyscraper Club of America, an organization founded in 1978 to promote skyscrapers as tourist attractions. "The club was originally formed so that skyscrapers could profitably serve more than one function," points out SCA president Kazlur Fawn. "This concept," he adds, "managed to keep the WTC going when the bottom finally dropped out of the office building market in the nineties." At the beginning only 80,000 visitors were received daily, but by the nineties, with the office population plummeting from 50,000, the towers could more easily accommodate a doubled number of visitors.

The Skyscraper Club is responsible for bringing to light early statistics that may seem inconsequential in this day and age, but which at the time were astounding: Since the building sat on 16-acres of landfill, the foundations had to extend 70 feet down to solid bedrock, with a slurry trench method employed to create a concrete 3,100-foot long "bathtub" around the site to prevent seepage from the Hudson River. The 1,200,000 cubic yards of earth and rock removed created 23.5 acres of landfill along the old Hudson River waterfront. The hole left was so







large that 13 games of football could be played there, with three playing fields left over.

Other statistics were just as gargantuan: 110,000 megawatts were consumed daily by the WTC, enough for a city the size of Stamford, Conn. The chilling plant for the WTC's air conditioning system was the world's largest: enough to serve a city the size of Mount Vernon, N.Y. The Friends of Aluminum Panels also report that the towers used 2.2 million sq. ft. of aluminum for the exterior skin—enough to cover 9,000 homes.

The WTC also broke records at that time with its garbage and sewage output, the SCA proudly recalls. By the time of its full occupancy (1980), the WTC was producing 50 tons of garbage a day and 2.25 million gallons of sewage daily. The garbage was compressed and carted away by the WTC. The raw sewage, however, was dumped directly into the Hudson River, while the WTC awaited the completion of the pumping station on West 14th Street.

After a fifteen-year wait, residents along the New Jersey shore began complaining of a "buildup" on their beaches and decided to sue New York. The City then installed a dam between Battery Park City and the New Jersey shore to stop the flow of sewage and create more valuable real estate. Thus the sewage, plus the garbage from the WTC, became the basis for the landfill project that created the Hudson Flats. Since the air conditioning system of the WTC used 96,000 gallons per minute of Hudson River water during the summer, the landfill project did cause air-conditioning problems that are still being investigated.

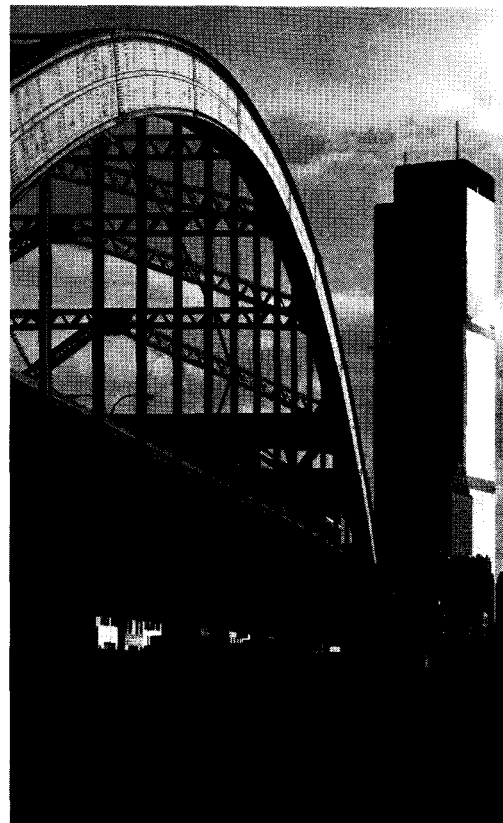
After the early nineties, the glut of office buildings on the New York market finally affected the rental of the WTC. The original plan had been to house international trade organizations. Ironically New York's role as a world trade center began dwindling just as the WTC was completed. Thus the Port Authority, which had

built the complex, had to acquire tenants who had nothing to do with world trade to avoid financial disaster. Meanwhile New Yorkers began complaining that the Authority was only paying the city a sum of \$1.25 million a year in lieu of taxes, when a private developer would have been required to pay \$40 million in 1973.

By the nineties, the Port Authority was clearly in trouble—required either to pay taxes or sell the building. Their dissolution in 1992, however, was brought on by the strike of WTC's daily 130,000 commuters for better mass transit. The disbanding of the Port Authority quickly led to the WTC being put up for sale.

But nobody wanted to buy it. So the City appropriated it and, during the late nineties, renovated it into housing for middle-income families. Since the towers employed frame-tube construction to withstand wind loads (closely-spaced load-bearing exterior columns, girdled by spandrels, with interior columns at elevator core), 40,000 sq. ft. on each floor was rentable. Column-free interiors meant that this space could easily be converted from offices to housing. But, sorry to say, middle-income dwellers lost interest in the building soon after they discovered that the windows were too narrow to afford any view. (City planning officials argued unsuccessfully that there were no views anyway, due to new construction surrounding the towers.)

So in 2014, the WTC reverted back to the City. As everyone well knows, it became the low-income housing project it is today. Tenants are allowed to rent certain amounts of floor space and put up partitions where they may. Operating as kind of a squatters' development under the aegis of the New York City Housing Authority, the WTC (officially renamed Workers' Tenement Cooperative) is finally successful. But, as those who seek landmark designation contend, "not too well maintained."—SUZANNE STEPHENS



FACTS AND FIGURES

World Trade Center, New York, N. Y. Owner: Port of New York and New Jersey. Architects: Minoru Yamasaki & Associates, Troy, Mich.; Emery Roth and Sons, New York. Project Directors: Aaron Schreyer, Kip Sirota (Minoru Yamasaki). Job Captains: Harold Tsuchiya (Yamasaki); Joseph Solomon (Emery Roth) and Malcolm Levy, Chief of Construction and Planning, P.A. Engineers: Skilling, Helle, Christianson and Robertson (Structural); Jaros, Baum and Bolles (Mechanical); Joseph R. Loring and Assoc. (Electrical). Landscape Architect: Sasaki, Dawson and Demay. Interior Designer: Arcop Associates, Ford and Earle. Contractors: Tishman Realty and Construction Co., Agents for Port Authority (General); Sand-Courter (Mechanical); Forrest (Electrical). Building area: 13,000,000 sq. ft. Cost: \$750 million (estimated). PHOTOGRAPHS: Nathaniel Lieberman, pages 56, 57, 61; and Todd Watts, pages 58, 59, 60.

GROWTH

Uncontrolled urban expansion
has become an international concern

BY FRAN P. HOSKEN

Growth has become a dirty word. This was dramatically clear among those who attended the U.N. Conference on the Human Environment last June in Stockholm. Besides some 114 official government delegations not including Russia and the Iron Curtain countries, the NGO's (such non-governmental organizations as the Sierra Club, World Scouts, professional and citizens groups) introduced a joint statement into the U.N. record hammered out under the stern leadership of Margaret Mead. The Environment Forum, financed jointly by the U.N. and Sweden, played host to a great number of international groups, unfettered by the strict agenda of the official U.N. meeting.

Growth was the predominant subject—population growth, industrial growth, growth of armaments, growth of GNP, carrying in its wake every kind of pollution.

Although most media in the U.S. had already banned environmental issues from the front pages due to over-exposure, these issues were discussed from quite different points of view in Stockholm, especially in terms of their long-range results. Since the majority of the countries represented were from the developing world, growth proved to be the one issue where some consensus existed.

The most eloquent advocate for drastic change in our growth-prone patterns was Barbara Ward (Lady Jackson), the international economist, who gave a rousing speech introducing the book that she had co-authored with Rene Dubos *Only One Earth—The Care and Maintenance of a Small Planet*. "There

are limits. The biosphere is not infinite. Populations must become stable. So must the demands they make." Yet Barbara Ward quite clearly was caught by the dilemmas of growth which divided the conference, and which divides the world's rich and poor.

The developing countries felt that environment was one more excuse by the rich, powerful nations to withhold aid. To them, growth means survival. Such divisions in the world are much like the divisions in the United States. The ghetto inhabitant, or to those living in forgotten rural areas, are much like the people of the Third World. To them, growth is essential and is concerned with basic needs. Yet the gap between rich and poor grows.

The fundamental questions of growth, "Growth for Whom and most of all How," are too often lost in the noisy debate—but those are the questions we are concerned with here. Because *How* growth is organized may well resolve many of the current problems, including who will benefit as well as what controls may be required. GNP growth has become the measuring stick of success around the world.

Gunnar Myrdal, perhaps the most experienced international economist and sociologist, put it to his Stockholm audience in these words: "GNP growth is a flimsy concept in developed countries and even moreso in underdeveloped countries. For long-term problems focused on the facts of depletion and pollution that are excluded from the calculations together with attitudes, institutions, and political forces, the GNP has to be thrown out as entirely inadequate to reality."

The Stockholm Conference

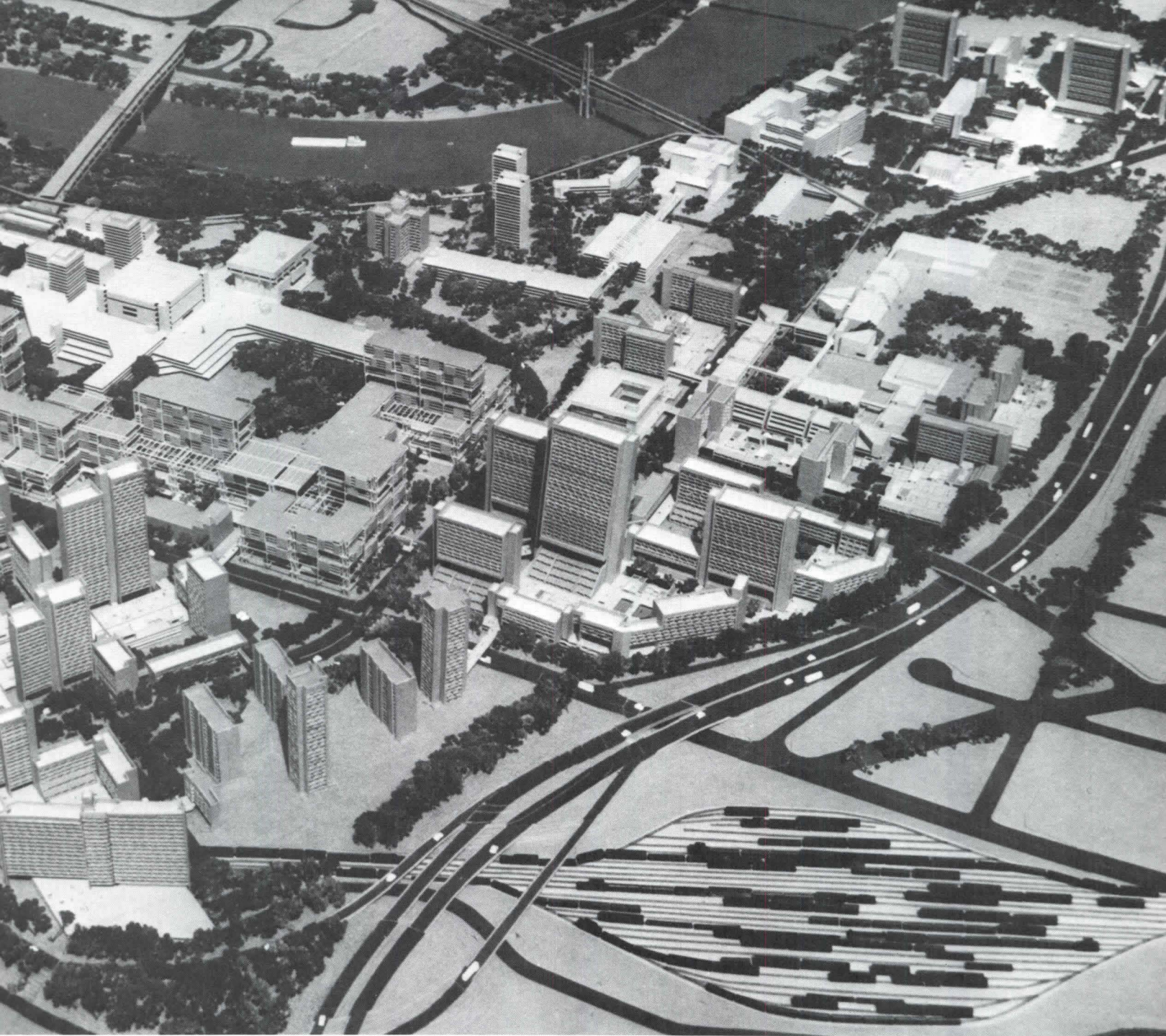


showed that most nations, including the U.S., still fail to make the all-important connections between economic growth and physical development; that is, the planned location and distribution of growth. They fail to support planned, balanced growth at every level. As a result, pollution grows exponentially. From an environmental point of view, the location and physical organization of industrial growth is all-important.

The majority of developing countries have used four or five year national economic development plans, especially the densely populated Asian nations. But

physical development plans have seldom been coordinated with economic ones. Rapid urbanization and enormous haphazard growth has engulfed all cities in developing countries with squatters and immigrants. Decentralization plans have recently been drawn to stem this strangling, polluting growth, especially in the largest cities. But most of them lack the needed economic coordination. Business, industry and trade—that is, jobs—are the important magnets for people. By coordinated planning many adverse effects can be avoided at no extra cost.

The U.S. has not yet learned



the lessons of planned growth versus haphazard pollution of the environment. Though we are only six percent of the world's population, we use forty percent of the world's resources and energy, making the problem especially acute.

Land Use Control

Land is an irreplaceable resource. As Charles Haar said in a recent interview, "Land is what society depends on. Competition for land is what it is all about." In his classic book, *Land-Use Planning*, Haar has defined the critical issues of land use from a legal point of

view, "Land values are created by the investments of government. And government certainly has a right to protect itself and the citizens by a wise land policy to achieve planning goals for the public good." He continues, "In the U.S., the cost of land in recent years has increased annually by about 12 percent. As a result, more people are being priced out of the market."

Public versus private ownership of resources is a fundamental issue that faces every country and society today. "This is a continuing conflict which will be fought in the political

arena," Haar adds. "People want control over their destiny and over the place where they live, over their communities, their territory, their land."

"The most important and only real plan we make in the U.S. is the annual budget," Senator Humphrey said at the A.I.P. Conference last fall, "but the budget is a most secret document prepared by people with a passion for anonymity." Yet the budget has an enormous influence on the quality of life of every citizen who has no way to participate in planning how his tax money is spent.

When the federal budget was

Cedar Riverside in Minneapolis (above) is the first new town in town to receive assistance from the New Communities program of the U.S. Department of Housing and Urban Development. A \$24-million HUD loan will guarantee private bonds. One half of the housing, which will cover over 25 percent of the 340-acre site, will receive some form of government subsidy. Closely knit with the housing will be a variety of institutional, commercial, social and cultural facilities—redeeming a now derelict district. Project Architect: Ralph Rapson & Associates; planning and engineering: Barton-Aschman Associates; environmental design: Sasaki-Walker Associates; economics: Hammer-Greene-Siler Associates; social planning: Dr. David Cooperman.

unveiled a few months ago, the controversy between Congress and the Administration developed into a crisis. State and city budgets are made in similar ways. City and regional plans exist in many parts of the country. But they are ignored in the budget much like the citizens' voice. Only New York State, through the Urban Development Corporation, attempts to coordinate physical, economic and human development.

Growth has always been presented to the public as the greatest good. "Bigger is better" is a fundamental philosophy in the U.S. with the problems and pollution that result from haphazard growth. They are disillusioned by burgeoning taxes. They are taking a second look. A Non-Growth reaction is beginning to sweep many areas, precisely where the greatest growth recently occurred: for instance, in Loudoun and Fairfax County, Virginia and in Montgomery and Howard County, Maryland, also in Florida and other fast-growing areas. Citizens have organized to stop all kinds of development, no matter how favorable the terms. Although larger, highly visible projects have been shelved, innumerable smaller transactions proceed, and they continue to cover the landscape with an unplanned rash of disjointed growth.

Experience shows that a No-Growth Policy is no answer

where great population pressures exist. The fact that the birthrate has stabilized does not mean the population of the metropolitan areas will suddenly stop growing. Demographers predict another population spurt. War babies are forming families now, and another demographic bulge will result. Short of absolute dictatorial power, growth of people and urbanization cannot be stopped. Even Moscow, where definite growth limits have been set several times, has burst beyond its self-imposed boundaries and continues to grow.

Growth can be planned for and controlled by redirection to other areas. It cannot be dealt with as a local issue, although local decision-making, local land use control, must be strengthened for public good. As the President correctly recognized in his call for decentralization, people want to decide their own fate and want control over their own environment, neighborhoods and communities. But to preserve the integrity of each community, joint quality criteria are needed along with a wider metropolitan, regional and national network to coordinate joint means and goals. These include the areas of transportation, communication, education and pollution control.

One alternative is to redirect growth away from the great urban concentrations. People are no longer willing to pay the rising costs, which affect every-

one from those who live in the city ghettos to those living on large suburban lots. The often blind resistance to growth begins to affect all building and also the professions involved.

For a National Growth Policy

The issues surrounding the need for a National Growth Policy were raised at hearings before the subcommittee on Housing of the Commission on Banking and Currency, June, 1972. These hearings were held following the President's Report on National Growth (1972), which has to be filed every two years as required by Title VII of the 1970 Housing Act. The purpose of the Report is to spell out the President's recommendations for developing and carrying out a national growth policy. Congressman Thomas L. Ashley (Ohio), the principal author of the Housing Act, and a chief proponent for formulating viable urban growth strategies, fittingly presided over the hearings. Its advocates hope the result will be legislation to create a national framework to balance growth and support planning in the public interest.

One of the first building blocks towards this objective was the 1969 publication (for Urban America) of *The New City* which presented the report and recommendations of the Committee on Urban Growth Policy, one of them being the creation of 100 new communities averaging 100 thousand

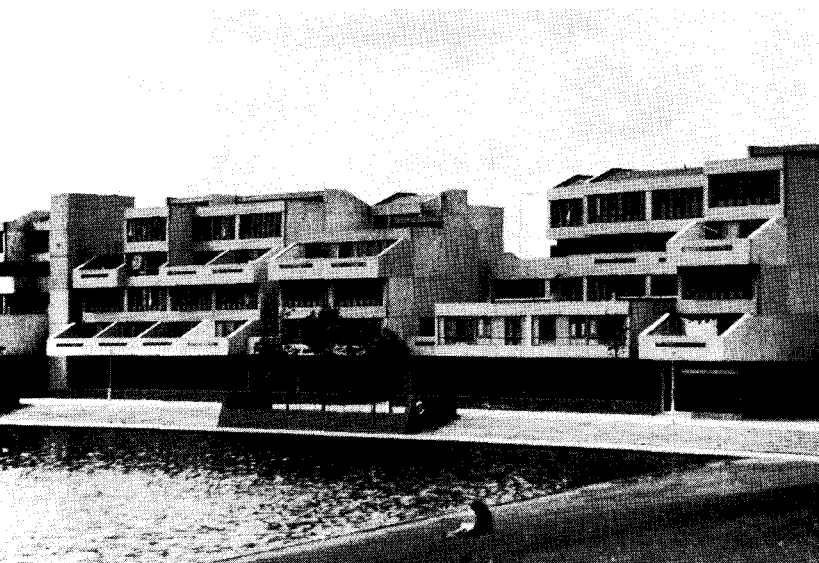
people each, and 10 new communities of at least one million.

The Title VII Urban Growth and New Community Development Act of December, 1970, is another building block. Under the Act, federal loan guarantees were made available to the developers of new communities who meet certain HUD requirements in planning, environmental protection, quality standards, and in providing some middle income housing.

Building blocks aside, an urban growth policy must go well beyond the planning, designing and building of new communities. It must develop strategies to guide the location of new communities. Strong federal leadership is clearly needed for this. Otherwise, growth will attract more growth, as the snowballing of our metropolitan areas has shown.

This question must be asked: is it in the interest of the nation to go on concentrating growth on the coasts, with the Great Lakes the third urban region sucking up people and industry, while many states and towns are losing both population and economic strength?

The National Growth Policy hearings state, "... the United States has been transformed from a country that was 60 percent rural in 1900 to one almost 70 percent urban in 1970. More importantly, the majority of Americans now live in a relatively few giant metropolitan regions along the seaboard and

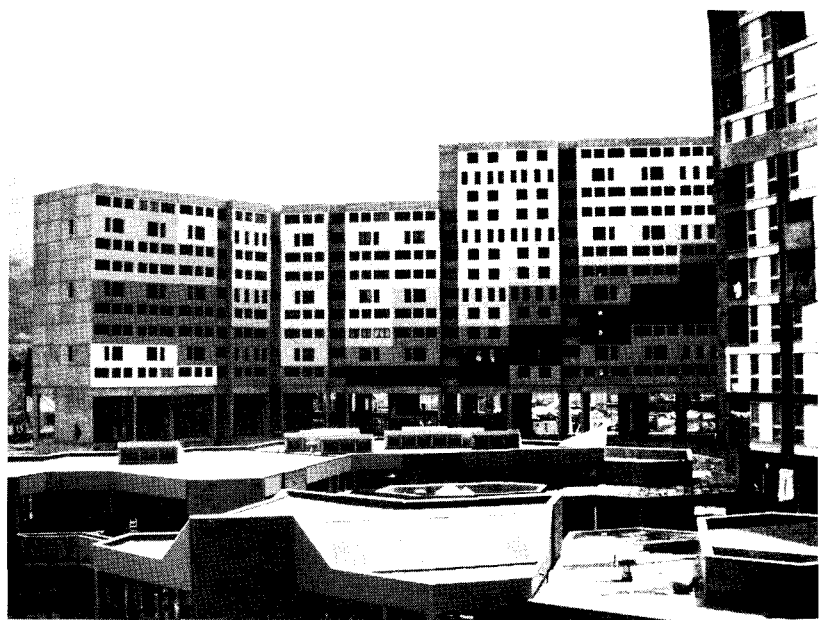


Thamesmead in London keeps the spirit of the Garden City concept, adapting it for intown use. Terraced housing (above) ranges along-side artificial lakes and, elsewhere, greenswards, creating a low-profile landscape of its own.

Thamesmead successfully mixes varied functions, and varied scales, always emphasizing the human dimension. Tucked in among the typical lowrise apartments, vest-pocket playgrounds (above) provide a special texture.



New Grenoble and Echirolles are adjoining new towns. Multi-colored high-rises are subsidized. Development is concentrated. Departments of "animation" coordinates activities, encouraging community orientation. The weekly Farmers Market (above) occurs close by the housing centers.



At new Grenoble, highrise apartment blocks shelter pedestrian streets which are designated as "Intensive Activity Areas." A multi-purpose school and community center (above, foreground) interlocks with housing at short intervals, as do other socially oriented facilities.

the Great Lakes. . . . Having a policy in urban affairs is no more a guarantor of success than having one in foreign affairs. But it is a precondition of success. . . . All too frequently our approach to national growth has consisted of congeries of inadequate, redundant, and sometimes contradictory programs which have aggravated rather than alleviated the pains associated with the metropolitanization of the country."

The demographic context of the hearings was supplied by the *Report of the Commission on Population Growth and the American Future*. The report states ". . . We have taken the position that population growth, size, and distribution are too important to be left to chance in the formation of public policy, and that they require a continuing and conscious effort by government to assess the demographic impacts of alternative policy proposals."

Most of those who testified before the Commission expressed great disappointment in the Administration's "no-policy-policy." In a rather defeatist introduction, the Report states, "The Nation's growth is shaped by countless decisions made by individuals and firms seeking to fulfill their own objectives. Few of these decisions, individually, take on national importance. . . . Thus, it is all but certain that future problems of growth

will be met at these levels, regardless of any attempts to control the growth process by the Federal Government." The Report's recommendations go on to enumerate the Administration's appeals for governmental reorganization. A Department of Community Affairs is recommended as well as revenue sharing, welfare reform (recently dumped by the Administration) and more. Congress is cited for its failure to act on these issues. While the emphasis is clearly on decentralization, and while greater local control is certainly needed, none of the recommendations in the report could possibly be construed as a path towards an urban growth policy.

The A.I.A. Task Force

Archibald Rogers, Vice President of the American Institute of Architects, and Chairman of its National Policy Task Force, was among those who testified at the hearings. "We feel the first report of our National Policy Task Force addresses itself more forcefully and squarely to the issues of growth in this country than the President's National Growth Report. Effective governmental controls are desperately needed to guide the conversion of land—some 18 million acres will be urbanized in the next 30 years—from rural to urban use."

The key feature of the report is the "Growth Unit to build

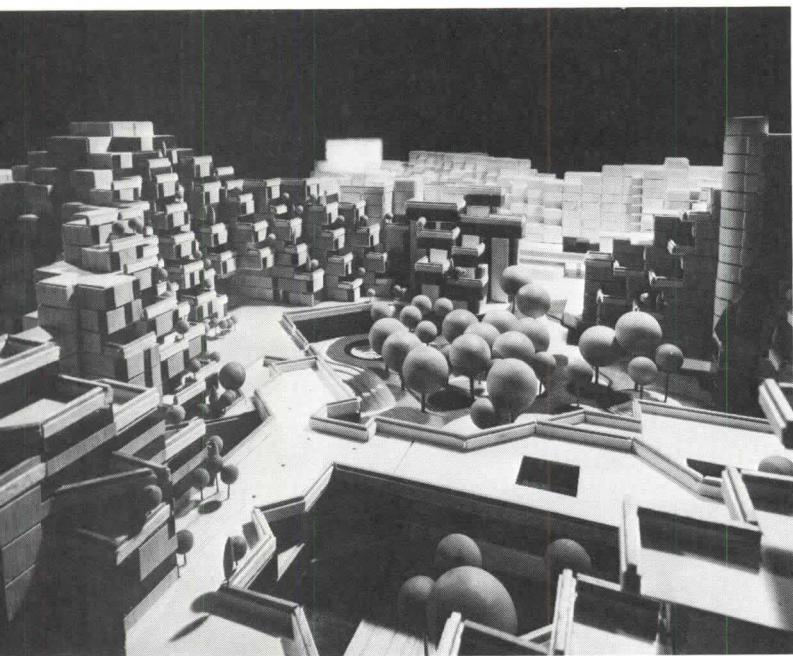
and rebuild at neighborhood scale." This, Rogers explained, was done to present a package to the small developer who, multiplied by many thousands, is busy in every community. The Growth Unit shows what quality standards and criteria are needed to improve development on the local level and to achieve the balanced environment each family needs.

"Building a few such units, each one different, will persuasively demonstrate that it is possible to build new balanced developments that enhance rather than upset existing communities. At the same time this will establish ground rules for sound development and eliminate the sort of haphazard growth that people have begun to fear. Of course the individual Growth Units must be coordinated on the metropolitan level and by regional or state planning," Rogers explained in a recent conversation.

The AIA Task Force Report states, "There is no one specific mechanism for controlling and directing urban growth and rebuilding, but the principle of public determination of where such development takes place is essential."

The AIA is now preparing the Second Task Force Report. A number of organizations impressed by the first report, have approached the AIA to join this effort; others have been invited.

Rogers continued: "Seventeen different organizations have joined us, and we are waiting for replies from many more. Among those joining us are the National Association of Home Builders, the Urban Land Institute, the AIP, the U.S. Chamber of Commerce, the League of Women Voters, the National Urban League, the National Association for the Advancement of Colored People, the U.S. Conference of Mayors, the Conservation Foundation, the International City Management Association, and many more. The second Report will be finished in time for the AIA board meeting before the National Conference in May. Once it is accepted we hope to publish a joint statement with the other organizations by midsummer and finally set up a lobbying coalition for the entire group." In other words, this effort won't remain a report, but will become a blueprint for action. Due to the moratorium on federal support for housing and urban programs, including New Community funds, and the proposed elimination of scores of social programs, a stock taking and reformulation of goals and objectives is urgently needed. The AIA's effort, joined by many like-minded organizations, is becoming the most important single undertaking in this area. Priorities must be reordered to put people-needs first; profit-



Evry is one of the new towns in the Paris Region, just beyond Orly airport. The models shown here are of the winning competition design for 6,000 housing units which cluster, in pyramid-like clusters, along an infrastructure of commercial and institutional facilities. This design, the second stage of Evry, is now being developed for construction.



oriented economic growth must be made to serve those needs.

The AIA's and Archibald Rogers' leadership, commitment and enthusiasm are especially important due to the absence of leadership by the Administration. The balanced Growth Unit must be supported by a balanced National Growth Policy, and vice versa. Both are essential to take hold of our future.

New Town Experience

There are other related efforts concerned with growth, environment and land use that should be noted here. The above mentioned report of the Commission of Population Growth and the American Future is such a document. The hearings on National Growth Policy (June 1972) include not only this report but testimony and reports of many different individuals and organizations active in that area. They also include a survey of urban growth policies of six European countries undertaken in August-September 1972 by an Urban Growth Policy Study group under the chairmanship of Congressman Ashley.

A Task Force on Land Utilization and Urban Growth set up by the Citizens Advisory Committee on Environmental Quality (Chairman Lawrence S. Rockefeller), has been meeting monthly since September 1972, and will publish a report in April 1973. William Reilly, the staff director, says the report will go into considerable detail on private property; which means land ownership rights. Planning and growth policies are discussed on the local, state, and federal levels.

Another report specifically concerned with organizing new communities is "Man and His Urban Environment" by Fred Smith, with an introduction by Lawrence S. Rockefeller. It was released in late 1972 and presents a prototypical new community. "The biggest single problem we face is the total lack of land use control; anyone can build anything just about anywhere." Smith emphasized "Public ownership of land is the *sine qua non* for a balanced new community."

The critical issues are control, use and ownership of land. A new Ph.D. study by Peter L. Bass and Edward M. Kirshner,

"Household Entrance Incomes to New Towns Developed Under Profit and Non-Profit Sponsorship Modes," shows that cooperative land ownership of a new town, including cooperative ownership of all the land used by commercial facilities and industry, makes it possible to greatly reduce housing costs. This enables many more people, now excluded by high costs, to live in cooperatively owned new communities because the income from the land leased to commercial and industrial facilities is used to reduce the cost of housing and services.

At present, privately sponsored new towns like Reston, Columbia, Irvine, Valencia, Jonathan, Park Forest South, several new towns in Texas, are limited mostly to upper middle income groups. Practically all are in the suburbs, or are satellite communities, except Cedar Riverside in Minneapolis, the only successful new town intown. Cedar Riverside, besides having a HUD loan guarantee, also has a strong social and urban commitment. It was started under the leadership of Gloria Segal, with social as well as physical rehabilitation of a completely run-down area. Cedar Riverside promises to be a unique community in a visual sense (photo, page 63), due to the talents of Architect Ralph Rapson. Soul City, sponsored by McKissick Enterprises, breaks the suburban pattern in that it is located in a rural area in North Carolina to upgrade the life of the local inhabitants. It is the only freestanding community and has recently received a HUD loan guarantee.

But even where subsidized housing is built these new towns cannot reach the income groups who presently reside in the British New Towns. The new towns planned and sponsored by the New York State Urban Development Corporation (Welfare Island, Amherst, Lysander) will house only a small fraction of lower middle income people; most grievously, they will house no low income groups.

Planned new communities, such as the ones mentioned above, are a contribution in terms of organizing and structuring growth in balanced, viable ways. The thing is, they segregate people economically, like the rest of suburbia. Eco-

nomics also dictate that a privately sponsored new community must be located where the greatest growth is expected, if it is to succeed. As a result, they tend to further concentrate growth, acting as magnets, instead of diverting and decentralizing growth, as in France and Great Britain.

In most privately sponsored new communities in the U.S., the developer retains the land for commercial and industrial facilities from which the largest profit is derived. The economic model developed by Bass and Kirshner shows that a much larger segment of the population could participate in new community building (as well as rebuilding existing ones) through cooperative ownership of land.

The Center for Community Economic Development in Cambridge, Mass., has sponsored more research in the area of community-based land ownership. "The Community Land Trust" idea was further developed and presented in a publication of that name by the International Independence Institute which is also putting these ideas into practice in a new rural community in Georgia, owned by the inhabitants.

In this case, communal land ownership offers an important base for restructuring growth and development under direct community control. This is quite a different approach from the much-admired British New Town Corporation, a public body controlling the land, acting through a bureaucracy with relatively little citizen participation. Due to land ownership and complete land control, however, the first generation British New Towns, after some 20 years, are economically solvent enterprises, though most of their inhabitants' housing is subsidized.

New Communities and Growth Policies: The European Experience.

New Town building with a framework of metropolitan, regional and national growth policies is far ahead in Europe, compared with the U.S.

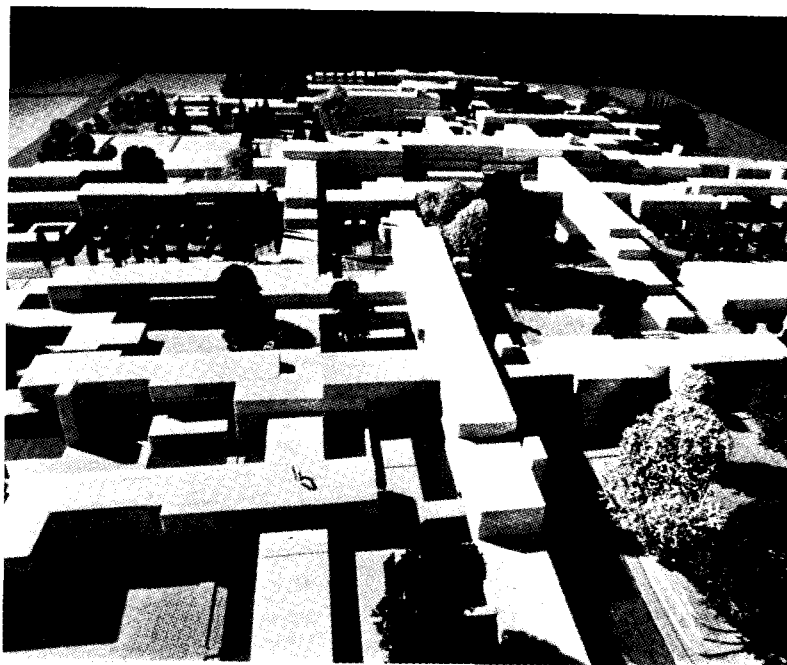
Many countries in Europe recently developed and adopted new legislation to direct growth nationally for instance, Sweden, the Netherlands, France and Italy.

Great Britain's well known

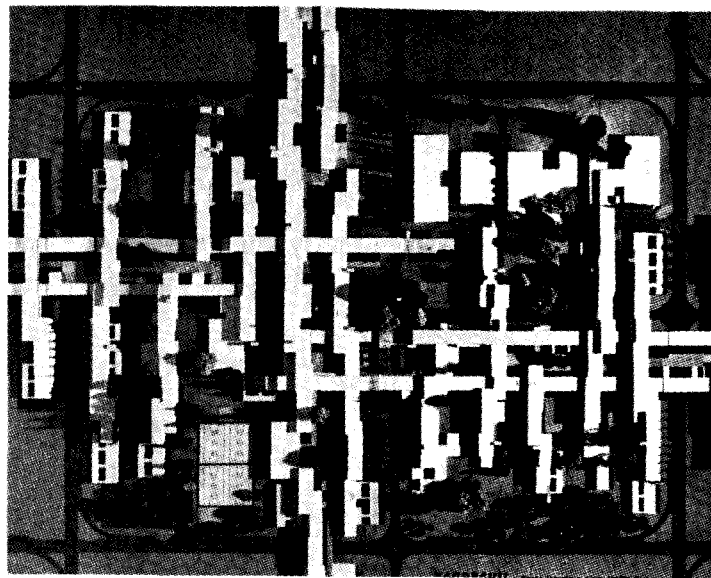
New Town program is regionally organized; the new towns around London such as Thamesmead (photo, page 64) serve to decentralize the city. Similarly, communities are being built in Scotland to move people out of the slums of Glasgow, which are to be replanned and rebuilt. Recently, regional development programs have been started in Lancashire, in the Manchester area, to organize growth into cohesive patterns connected by transportation and to upgrade the life of the people.

By far the most comprehensive reorganization of growth is going on in France—amply supported by legislation which goes back to De Gaulle. One purpose is to save Paris—which otherwise would be totally strangled, polluted and demeaned. In essence, the country is divided into eight geographic regions, each with an urban focus or mode—an existing city or cities which serve as growth poles. Varying incentives (from cash payments per job created to reduced taxes) are available to persuade business and industry to move into these areas scheduled for more development. Government offices and public enterprises are moved into the area and public investments support their development to create more jobs. New Communities are built in the area to accommodate new inhabitants. No incentives are offered in the Paris region. And in the City of Paris itself, business is not permitted to expand and is encouraged to move out. In the Paris region, five new towns are in construction. Connected by a transportation system, they are located away from areas to be kept free of development; for instance, the Seine river valley.

Some of these new communities—all publicly sponsored and planned, but privately built by large conglomerates—are now becoming visible. The architectural expression in some instances is most exciting, foreshadowing some really innovative new communities—both in terms of content (for instance, education, health care, administration, etc.) as well as in form. The pictures shown on page 66 are from a competition for 6,000 dwelling units, plus an infrastructure for the commercial and institutional development for Evry, one of the new towns in the Paris region, just beyond the



Vaudreuil, a new town outside Rouen, is conceived to minimize pollution. These models show a "rules of the game" study by Architects Riboulet, Thurnauer, Veret which incorporates government pollution criteria. OTAM, a large conglomerate, won a competition for the "germe de ville," or the center of Vaudreuil. Design development, in line with the early study, is now underway.





Rotterdam (above) shows little of the devastation which it suffered during the Second World War. Harbor and industrial facilities have steadily edged its boundaries outward. Growth controls are now being enacted.

Only airport, which is already under construction. The models show the finalists' second stage proposals. The winning entry is presently being developed for construction. This is for the second section of Evry; the first section is already partially built and inhabited but far less interesting architecturally.

One of the fastest growing areas of France is Grenoble, site of the 1968 Olympics. The Olympic village is now a new community on the outskirts of the old city. New Grenoble and Echirolles, adjoining new communities, are under construction. The Y-shaped new highrise buildings (photos, page 65) are subsidized and most of the new developments are for workers in the proliferating electronics and computer industries in the area. Based on polls, and on suggestions of the inhabitants of the Olympic village community which consists mainly of walk-up apartments linked by greenery and pedestrian courts, the new developments are much more concentrated. One chief complaint of the inhabitants was they never saw each other and lived "too dispersed." A department of "animation" with the help of sociologists has developed zones of intensive concentrated activity where people will meet. A pedestrian covered street extends the length of the brilliant-

ly colored highrise apartments flanked by shops, playgrounds, and schools which are open to everyone and have a double function as community centers.

Vaudreuil is a new town outside of Rouen, designed to minimize pollution. The predicted growth of the area will be structured into an experimental new town, preserving the lovely countryside. Government departments have contributed studies about water recycling, waste disposal techniques, reduction of noise, air and every other kind of pollution. The model shown on page 67 is of a theoretical study to develop the "Rules of the Game," that is a design program which will satisfy the minimum pollution requirements and incorporate all the above mentioned government recommendations. These rules were developed by the architectural office of Riboulet, Thurnauer, Veret, and are serving as a measuring stick for the design chosen by competition. OTAM, a large French conglomerate, won the competition for the "germ" of the new town and are currently working on the final drawings under the guidance of the planners and the "rules of the game."

A totally new approach to community development is being charted here which is completely flexible and follows no set plan. Rather, it sets some rules

to achieve certain objectives (to create a minimum polluted environment). But from the beginning the inhabitants in the area and the new town inhabitants, as soon as they arrive on the scene, will be the decision makers.

The Netherlands is one of the most densely settled and highly urbanized countries. Rotterdam is the largest harbor in the world and is constantly growing. Many oil refineries have moved there from the Near East. From the top of the Europa Tower in Rotterdam (photo, left) one can see seemingly continuous industrial development in every direction. Many environmental groups are protesting the growth of Rotterdam's harbor which serves much of the European continent.

The Netherlands engaged in one of the largest land reclamation projects ever undertaken anywhere, that of the Zuidersee. A new town, Lelystad, is under construction one hour's busride from Amsterdam, all of it on "made" land (opposite page, below). Special economic incentives are offered to industry and people moving into the new town.

The delightfully bucolic country with farms, well tended fields, canals and small red brick settlements between the handsome historic towns seems anything but crowded. Yet every piece of land is planned and controlled. The Netherlands would be unliveable, completely polluted and agricultural production nil without these controls. Cities like Amsterdam and Rotterdam have a long planning history and have built several new housing communities outside the towns to decongest the old city centers.

The Netherlands has a complete planning network from the local to the provincial level which is coordinated nationally. But it works the opposite from the French system; that is, all planning starts at the local municipal level by local communities with citizen participation. In 1965 an act was passed requiring all communities to plan; both built-up and open areas are included. Provincial governments (there are 11) coordinate efforts and have to approve local plans. The State Physical Planning Agency develops long range forecasts and must make sure that local and regional plans do not conflict

with the national guidelines.

Due to the continuous struggle for land and the need to make more of it, there is a high degree of consciousness about the importance of land. This has had a great effect on physical planning policies on every level. The very sophisticated planning system of the Netherlands offers many useful ideas. Because the country is highly industrialized, much can be learned from its experience.

The "Lijnbaan" at the center of Rotterdam was the first all-pedestrian shopping and town center built anywhere after the total destruction of the war (only 2 old buildings were left). Today it is a thriving, vital enterprise and has become more handsome with time and use (opposite page, center).

Sweden's growth policy has only recently been translated into legislation. The metropolitan development of Stockholm and its coordinated satellite towns is well known and goes back quite a few years. But the continued growth of Stockholm has depleted other areas. The recent legislation is designed to divert further growth from Stockholm and to create a balance by means of such incentives, especially as jobs, training, credit and housing. These incentives are being directed especially to the north of Sweden. Government offices are being relocated from Stockholm, reducing transportation costs. Yet the metropolitan area of Stockholm is growing and new communities are being built continuously (far less attractive than the older ones). In Stockholm itself a great deal of urban renewal and new construction is taking place. Sweden certainly is the country where social policy, physical planning and economic growth are most thoroughly integrated.

The Italian policy, giving tax incentives to all business and industry locating south of Rome, goes back many years and has not been as successful as the Swedish experience. Recently, a regional policy has been devised, organizing the country into different areas for the purpose of achieving more balanced growth.

Czechoslovakia has a national planning agency (FORUM December '73) that has successfully coordinated economic growth with new community planning.

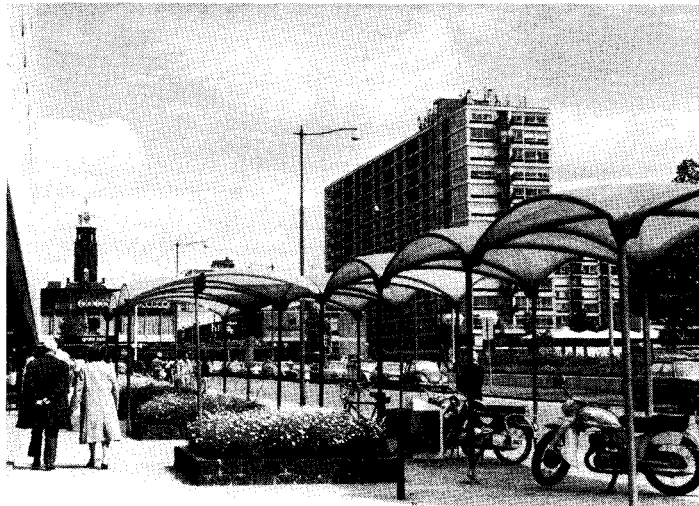
All industry and housing is under complete state control, and the architectural results of this central planning are anything but fortunate.

The pursuit of balanced growth policies is not limited to Europe. In many developing countries, decentralization programs, especially those pertaining to the capital cities, are being developed or are in force. Trouble is, most of them lack teeth and are less than effective. Take Teheran, Seoul, Calcutta, New Delhi, Madras, Cairo, Singapore, Hong Kong, Rangoon, Bogota. These and many others have metropolitan and regional development plans. They are enlarging or building satellite towns and decentralizing industry to control growth.

What then can we learn from all this? There are many different growth-control models. Some have years of experience, offering ideas and results that should be studied and possibly adapted. The failures usually result from a lack of determination and insufficient power to implement planning measures. Effective national growth policies obviously require national leadership. State leadership—considering the size of the U.S.—is of primary importance. But the *sine qua non* is local control of land, citizen understanding, and most of all citizen action.

Although the Stockholm conference has been much maligned, it was possible for the governments of some 114 countries to get together and at least begin a course to deal with environmental problems on a cooperative basis. One reason the Stockholm Conference was called and came off with a measure of success is heightened citizen awareness. All over the world, certainly in the U.S., this awareness is being translated into often effective citizen pressure.

The professional groups directly involved have an additional obligation. They must not only inform the planning process but also inform public opinion, educating others while providing leadership. The A.I.A. Task Force is doing just that, but to be really effective it needs everyone's support. Helping shape the lay of America's landscape, the design professions will, in no small measure, grow—grow in importance and, most important, credibility.



Rotterdam's Town Hall (above) is one of two buildings which survived the War. Today it is the focus of the spacious "Lijnbaan," the first post-war pedestrian mall and town center (left). The new town of Lelystad is now in construction, an hour's ride from Amsterdam, where economic incentives to move there were part of the planning program. Built on "made" land, reclaimed from the sea, Lelystad is marked by simple houses, well-tended landscaping and quiet streets (below).

PHOTOGRAPHS: Fran P. Hosken (except page 63 from Cedar Riverside Assoc., and pages 66, 67, courtesy of the French Ministry of Regional Planning).

FACETS

(continued from page 20)

waterfront from 43rd to 47th Streets and extending to 11th Avenue between 45th and 47th Streets.

Architects for the 2,300,000 sq. ft. complex are Skidmore Owings and Merrill, with Gordon Bunshaft and Walter Severinhaus partners in charge. Bunshaft has proposed a "low-profile" horizontal slab four levels high that big heartedly boasts a 560,000 sq. ft. exhibition hall on the second floor—enough space for ten football fields. Exhibition space will normally be di-

vided into two halls of cozier dimensions—one 360,000 sq. ft., the other 200,000 sq. ft. The roof of the structure will accommodate 18 acres of recreation and park space including 14 tennis courts that convert to an ice skating rink in the winter. The roof is planned for use by neighborhood residents and accessible from the street via ramps and escalators.

Structure for the center is steel frame with 150 ft. by 180 ft. spans in the large exhibition hall and 60 by 90 ft. spans in the smaller one. Exterior facing will be brick.

Architecturally, the anonymity of the design scheme hasn't stirred much protest, although one could probably criticize it for its heavy-handed innocuousness—and minimal views of

the river from within the center. Sports enthusiasts might also find the open rooftop a little windy, especially in the winter. But the issues and controversies that hang thickly over the center pertain more to the nearby Clinton Hill community rather than to architecture. The neighborhood residents are arguing against the zoning change that would create the special Convention Center Planning District on the ground that construction of the center would introduce traffic and inflate land values.

Tom Galvin, architect and Executive Vice President of the New York City Convention and Exhibition Center Corporation, claims the organization has analyzed traffic patterns and plans to employ charter buses

from hotels to carry most conventioners on well-traveled routes, such as 42nd Street.

As for the inflated land value argument, Galvin states he would like to see the development occur on the waterfront only. The Clinton Hill community (mostly between Eighth and Tenth Avenues) would be preserved by various measures, such as a moratorium on upgrading existing zoning. Too bad Galvin doesn't make those decisions.

The auto industry is getting all shook up, and it's not by pot-holes. The environment and the law are catching up with it.

Recently, Ford Motor Company confessed to irregularities in its emission control testing which led to government charges of 350 violations of the Clean Air Act and a \$7-million fine. The company is feeling the pressure on the emission control issue so intensely that its testing department will now report directly to the president.

Automakers—riding along on tail fins, decorator colors and profits—are pleading for an extension of the 1975 deadline for meeting Environmental Protection Agency emission standards. But they face a major threat. They may have to tear the guts out of their cars, and install new kinds of engines, instead of tacking on platinum and palladium catalytic devices for emission control which disintegrate without lead-free gas. These devices would add about \$300 to the price of a car, cut fuel economy as much as 30 percent, and worsen the nation's balance of payments, as well as the energy crisis.

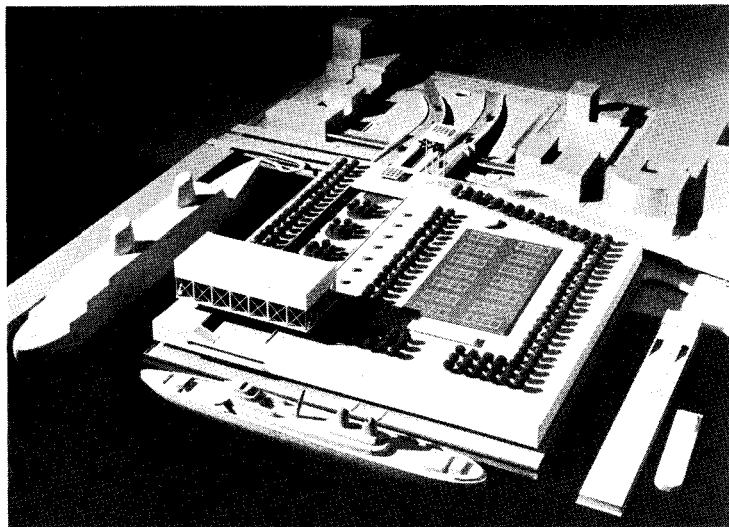
A National Academy of Sciences report to Congress and the EPA, faulting the catalytic devices for the above reasons, expresses concern that the auto industry's misguided concentration on the most expensive and least satisfactory emission controls may delay a better solution for years, costing billions.

The report cites four engine types which meet the 1975 emission criteria and could be produced in sufficient quantity for the 1975 demand. They are: the carbureted stratified charge engine, a modified conventional engine with an oxidation catalyst; the Wankel or rotary engine with an exhaust thermal reactor; and a modified diesel engine.

On the basis of subsequently verified claims about Mazda's rotary engine, EPA Administrator William Ruckelshaus refused last spring to give Detroit an extension on meeting the 1975 standards. But, as could have been expected, Detroit has won a federal court order for the EPA to hold new hearings on the extension. A new ruling is due April 11.

It appears that Detroit isn't about to exhaust this subject. Old engine dies die hard.

Forget incinerators, landfill or compaction. Maceration has ar-



Model, New York City Convention and Exhibition Center.

ived. A new system of garbage and trash disposal, called the System of Maceration and Transportation has been installed in Chicago's CNA Center. SOMAT will collect and grind up approximately 38 cycles of nonmetal waste and seven cycles of food waste daily.

The waste, in its chewed up state, is mixed with water, a biocide and disinfectant, then the water is extracted, leaving a pulp with the texture of sawdust. This refuse, now reduced 80 percent in volume, might be recycled for paper or, if necessary, be used for landfill since it decomposes in 90 days. Eventually the pulp could even be disposed in a closed incinerator where it would burn cleanly because of constant particle size and moisture content.

THUNKING IT OVER

New York City has unwittingly introduced its own method for curbing auto traffic (and thereby pollution): potholes. The pothole problem has increased so much in the last few years that Alfa Romeo makers urge prospective buyers to drive the low-slung sportscar with great care through the craggy streets. Part of the problem has been use of hot rather than cold asphalt, which doesn't wear well. But this was easily remedied. Now the major reason for the bad condition of the streets—and the reason for traffic jams—relates to New York's infrastructure. Con Edison and New York Telephone have been so busy installing new lines that a recent highway department study showed a utility cut existed on every street between 34th and 50th Sts. Each time a new office building is constructed, utility lines need upgrading. Since 25% of all new office space in the U.S. in 1971 occurred between 59th Street and Battery Park, no wonder the paths of progress are rocky these days.

TRANSPORT

LOST ON THE PRT

While President Nixon on one hand is calling for doubled Federal funding for mass transit capital grants (from \$3 billion to \$6 billion), the Administration has begun to hint at a re-

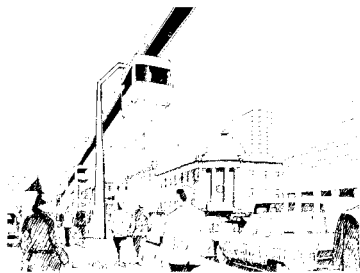
ENVIRONMENT

SPEW . . .

The auto industry is getting all shook up, and it's not by pot-holes. The environment and the law are catching up with it.

CHEW . . .

Forget incinerators, landfill or compaction. Maceration has ar-



Suspended vetrision, PRT. Denver.

duction in "demonstration" systems using advanced transit concepts for cities. One of the Department of Transportation projects to be affected by this speculated retrenchment will probably be the Denver Personal Rapid Transit program. Announced last fall by former Secretary of Transportation John Volpe, the Denver PRT was to have been the first system projected for a major city. While a PRT system is currently being tested in Morgantown, West Virginia, its users are principally university students in a non-urban context.

As previously planned, the Denver PRT would be built in increments, eventually running about 75 miles. The first stage, only one mile long, was budgeted at \$11 million. For the second stage, an additional four miles costing an estimated \$50 million, approval by voters would be required on a referendum stating that the local government foot one-third of the bill, and the federal government, the rest.

Unfortunately, the unexpected cost of the Morgantown experiment made the Nixon administration nervous. Morgantown was initially expected to cost \$13 million for 2¼ miles (2-way), but now the final cost will be closer to \$55 million. As a result, unofficial reports indicate the Federal government may reduce funding for Denver to half a million dollars instead of \$11 million.

The design development scheme for Denver resulted from a DOT-sponsored competition. Winners of the competition were Ecodesign of Cambridge, Massachusetts (headed by young architects Sherrie and Lawrence Cutler); and engineers Nelson, Haley, Patterson and Quirk of Greeley, Colorado. The team's transportation study also won the Colorado Consulting Engineer's Council 1973 Engineering Excellence Award competition.

RIGHTS

BETWEEN THE SEXES

New York's Alliance for Women in Architecture recently released results of a salary survey conducted last fall in the metropolitan area. The sampling was small—162 male respondents and 67 females—but the following statistics yield some interesting comparisons:

Of the males answering, the average (mean) income was \$15,800. For the females, the average income was \$13,200. When cross-correlated for income, experience, and sex, it was found that the "normal" male would begin work at \$10,470 a year, out of college. Each year thereafter his salary would increase \$700. The normative female would begin at \$8,740 a year, and have a salary increase each year of \$573.

The sample generally indicated little difference between the sexes on education and registration. Of the respondents, 78.4 percent of the males and 83.6 percent of the females had earned a B. Arch. Twenty-one percent of the males and 20.9 percent of the females had gone for a M. Arch. More of the male respondents (43.8 percent) were registered than females (35.8 percent).

The Alliance for Women in Architecture was established in 1972 to investigate such issues as job discrimination and educational opportunities for women professionals. Women members felt the A.I.A. was not truly representative, since only 30 of its 24,000 members are female. The A.W.A. is involved in such varied programs as: a salary and job opportunity survey; a guide to New York architectural firms; and a campaign to oppose sexist advertising in building products.

EXHIBITIONS

VISIONARY BRIDGE

A visionary artist-architect has developed a proposal for Harvard Bridge, that links Boston to Cambridge. Friedrich St. Florian, a fellow at MIT's Center for Advanced Visual Studies, has designed a 2000-ft. long steel bridge that contains bookstalls, day-care centers, a restaurant, interior and exterior walkways

and a vehicular passage. This scheme, "a place of encounter" and other St. Florian art projects, broke attendance records at MIT's Hayden Gallery last month. The multi-leveled bridge was designed with graduate student Jeffrey Owen Brosk.

The design calls for cars on the top level, malls, shops, theaters, cafes at second level, and could accommodate subway trains underneath the bridge. Mounted on the bridge's top edges are concave mirrors with diffraction gratings to reflect the river by day so that pedestrians would have the illusion of water above and below. By night, the mirrors would refract beams of light emanating from the center of the bridge onto the water's surface below.

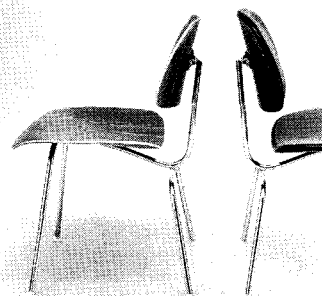
Other works exhibited in the show were many of St. Florian's holograms, which illustrate the unique spatial configurations possible with the interplay of laser beams.

EAMES AT HOME

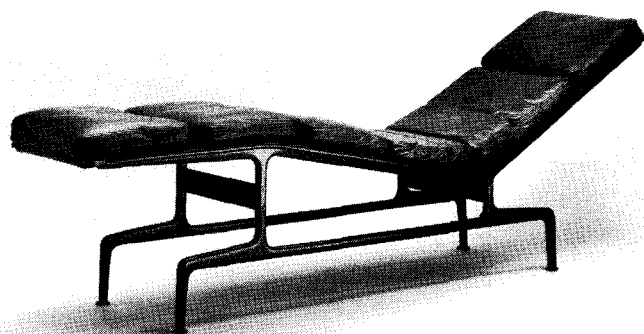
Back in the early 40's when the Museum of Modern Art helped launch modern design in America through its "Organic Design" exhibitions, Charles Eames played a seminal role. Now Arthur Drexler, Director of the Department of Architecture and Design, is bringing him

pulled from the Museum's collection, including pieces the Department has acquired for this particular show. Several acquisitions are prototypes Eames himself has donated to the Museum. Also presented in the exhibition are photographs of the famous Santa Monica house Eames and his wife, Ray Kaiser, built for themselves in 1949 out of catalogue parts.

Eames appeared as an innovative force in design when he entered a molded plywood chair with collaborator Eero Saarinen in the Organic Design Competition held at the Modern in 1940. During the War, aircraft manufacturers had begun to revolutionize plywood molding techniques, making it possible to shape plywood into three-dimensional forms that fit the human body. Eames and Saarinen used



Molded plywood chair, 1946, and plastic side chair, 1969.



Chaise with nylon coated aluminum frame and leather cushions, 1968.

back in mid-April for Eames' first one-man show there since 1946.

The focus of the show will still be on the furniture Eames has designed, even though he has gotten heavily involved in films and exhibition design in the last two decades. (As recognition of this direction, the Modern has scheduled several screenings of Eames' films.)

All of the furniture will be

these advances in their submission to create a molded plywood chair in which the seat, arms and back were one piece. Thus the full integration of frame and seat could be seen as a possibility (although the chair's base was still separate).

Eames' designs were again exhibited the following year in the Organic Design show, but he was unable to convince a manufacturer to produce the

FACETS

plywood chairs because of the high cost of the molding process. Nevertheless Eames continued to experiment in plywood, and a range of his designs were exhibited at the Museum in 1946. About this time he found a manufacturer—Herman Miller, a firm that still produces Eames designs to this day (and is one of the financial backers for the show).

Over the years Eames has continued to explore technical advances and their possibilities for furniture design such as molded plastic, reinforced fiber glass, aluminum, and recently foam-in-place integral padding. Those who either have forgotten Eames' significant contribution in the area, or are unaware of his recent experiments, should find the show enlightening.

AIA

The awards and citations to be presented at the A.I.A. San Francisco convention in May are:

- Photography Medal to Robert C. Lautman.
- Research Medal to Harold B. Gores, President of Educational Facilities Laboratories.
- Award for Collaborative Achievement in Architecture to BART (for more on BART, see page 44).
- Architecture Critics' Medal to Australia's Robin Boyd (posthumously).
- Allied Professions Medal to Hideo Sasaki, landscape architect and planner.
- Craftsmanship Medal to Helena Hermmarck, textile artist.
- Architecture Critics' Citation to Alan Dunn, cartoonist.
- Architectural Firm Award to Shepley Bulfinch Richardson and Abbott.
- Citation of an Organization to the San Francisco Planning Commission for its Urban Design Plan.
- The Whitney M. Young Jr. Citation to The Architects Workshop of Philadelphia, a group of volunteer professionals

dedicated to aiding communications between inner city groups and rehabilitation or renewal agencies.

- Fine Arts Medal to designer Harry Bertoia.
- Industrial Arts Medal to Lella and Massimo Vignelli whose firm designs corporate graphics, signalization, street furniture, packaging, exhibitions, interiors, furniture and products.

TECHNOLOGY

PLYWOOD CURTAIN WALL

Aeolus, the Greek god of wind, seems to hover over highrises. A case in point is Boston's Hancock Tower by I.M. Pei and Associates. Over 350 panes of glass in the 60-story building for John Hancock Mutual Life Insurance have been cracked or broken, out of a total of 10,348 panes.

The problem is currently being studied by civil engineers Hansen, Halley, Biggs and M.I.T. aeronautics engineers at M.I.T.'s Wright Brothers Wind Tunnel (in the Department of Aeronautics and Astrophysics). The research crew, led by Robert Hansen and Frank Durgin, have been analyzing wind pressure and amount of motion of selected panes wired to recording



John Hancock tower, Boston.

devices. So far their testings have not revealed any specific cause—except wind. The actual reasons are extremely complex, but Durgin explains that Boston is no windier than other cities, and this problem is not unique. Pei's office adds that installation of glazing beading on the exterior is not yet complete.

In fact wind problems are se-

vere enough with high-rises that Durgin asserts that any architectural firm designing a tower should resort to wind-tunnel testing. Wind tunnel testing itself must be programmed in a comprehensive manner, he adds (a factor that might explain why Purdue University and Pei's office 18 month wind study conducted when the Hancock tower was being designed wasn't enough).

And wind problems, as any pedestrian knows, are not limited to broken panes of glass. Any tower in any type of open space situation, Durgin points out, will cause an increase of wind at ground level. Architects and city planners must realize the individual implications of each building's site when determining configurations of buildings through their designs or through zoning specifications.

ACADEME

The Massachusetts Institute of Technology has announced a special summer program, Technological Innovations Within the Urban Context, August 6-10. Faculty and distinguished visiting lecturers will discuss urban transportation systems, technology transfer, innovative building technology. For further information write: Director of the Summer Session, Room E10-356, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, Massachusetts 02139.

PEOPLE

• This May, Dr. Lynn S. Beedle will receive the 1973 T. R. Higgins Lectureship Award from the American Institute of Steel Construction. He is being recognized for his contribution to engineering during his work as professor of civil engineering and director of the Fritz Engineering Laboratory at Lehigh University. Dr. Beedle will give six lectures in 1973 entitled "Recent Developments in Steel Design."

• The Royal Gold Medal for Architecture is going to Sir Leslie Martin who retired from the Chair in Architecture at Cambridge at the end of 1972. He had been head of the department since 1956 and estab-

lished the powerful Centre for Land Use and Built Form Studies an internationally known research operation.

• For the first time, there are two recipients of the Alice Davis Hitchcock Book Award given by the Society of Architectural Historians for the most distinguished work of scholarship in the history of architecture published in 1971 and 1972 by North American scholars. H. Allen Brooks, Professor of Fine Arts at the University of Toronto since 1958, received the award for *The Prairie School*, University of Toronto Press, (FORUM, Dec. '73). Thomas F. Mathews, Associate Professor in Art History at Brooklyn College, received the award for *The Early Churches of Constantinople: Architecture and Liturgy*, Pennsylvania State University Press.

• Another SAH award, the Founders' Award for the best article on architectural history by younger scholars published in the SAH Journal in 1971, has gone to David S. and Laurel Blank Andrew for *The Four Mormon Temples In Utah*.

• John E. Zuccotti has been appointed Chairman of the New York City Planning Commission to succeed Donald Elliott who is returning to the practice of law. Mr. Zuccotti has a B.A. from Princeton, a law degree from Yale, and as Special Counsel to the Housing Subcommittee of the House of Representatives Banking and Currency Committee helped to draw up the Model Cities proposal. Jaquelin Robertson, formerly director of the city's Office of Midtown Planning and Development, will fill Mr. Zuccotti's seat on the Planning Commission.

ADDENDUM

We thank the editors of *House Beautiful* for their courtesy in loaning us the William Maris photographs on page 24 of our December 1972 issue and apologize for the omission of the proper credit which should have read: Reprinted from *House Beautiful* Copyright, The Hearst Corporation, 1973.

PHOTOGRAPHS: Louis Checkman, page 16; Stan Reis, page 71 (middle and bottom); World Wide Photos, page 72.

PRODUCTS



MAGIC CARPET

"KinderKarpel" is the brilliant new carpet concept introduced by the Allied Chemical Corporation and Sears, Roebuck and Co. The learning system incorporates graphic patterns and learning symbols printed on carpet in a variety of forms intended to add greater scope to instructional techniques. The carpet is tightly tufted and level-looped in Anso nylon fiber and comes in designs such as checkboards, letters and numbers,

the alphabet, semi-circle, maze, measurement grid, triangles, squares, and rectangles. The designs are printed on insert segments which can be arranged to fit the allotted space. In open space planning, carpeted floors enhance sound control and allow for flexible open areas. A guideline manual for teachers comes with the carpet to better instruct children in potential uses for the carpet.

On Reader Service Card, circle 101.

KID STUFF

It looks as if kids are finally getting play equipment that's challenging. Play-Learn Products has introduced "Puzzle Stones" for preschool age children. The stones can be placed on any surface in letter, number or geometric shapes. They are light enough so that the kids can arrange them by themselves, thus adding a further sense of involvement in the play activity. The stones are available in sets with as many as 25 of the cast aluminum plates in each set. The hexagonal plates are 12" wide and feature non-slip diamond pattern surfaces which are not supposed to split, splinter,



peel or wear. It's certainly a step and a jump above other toys we've seen.

On Reader Service Card, circle 102.

REDWOOD PANELS

Forms & Surfaces has introduced a multi-functional redwood panel covering. Simple moulding profiles are carved in modular panels which can be assembled to create walls, doors and furniture. Designs 9" wide are 1" thick, 11 1/4" wide designs are 3/4" thick. They are carved in various lengths ranging from 26" to 120". All panels have a tongue and groove detail and are available in unfinished redwood, natural or dark brown, or in a dark walnut oil finish.

On Reader Service Card, circle 103.

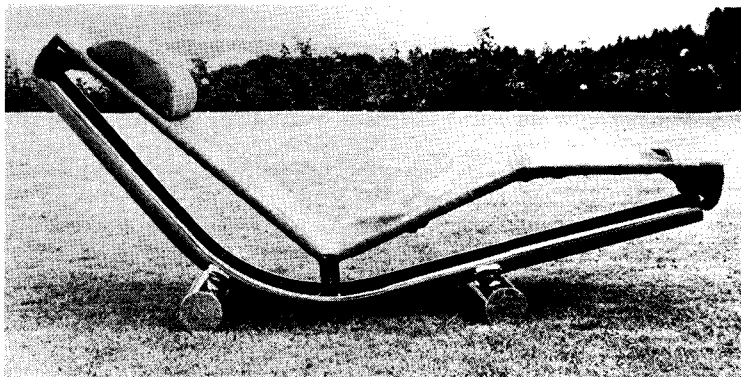


CHARIOT

Designed by Paul Tuttle, for the Straessle Intercollection of Switzerland and offered under license in the U.S. by Thonet, the "Chariot" chaise is a visual tour de force. The curve of the understructure is of chrome plated tubular steel. Genuine suede, in a tawny caramel color,

is stretched across a framework of tubular steel finished in black epoxy. The chaise is 71" in overall length, 28 1/2" in overall height, and 23 3/4" wide, and if it is half as comfortable as it looks, it will be a welcomed addition to conventional lounging.

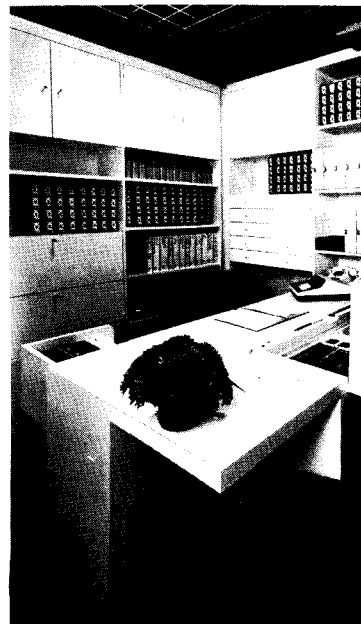
On Reader Service Card, circle 104.



INTERLUBKE

International Contract Furnishings Inc. has introduced the "Interlubke Office Planning System" which is a flexible space solution said to provide acoustical privacy as well as visual privacy and security. The system goes from floor to ceiling and includes walk-thru doors that lock. It is a storage wall system built on modules either 2 or 3 feet wide, with walls either 15 or 24 inches deep. The units can be interconnected indefinitely and can go around corners. Electrical outlets and telephone jacks can be installed. The system is finished with eight oven-baked coats of white liquid polyester which means that it has the scratch and chip-resistance of plastic laminates but without messy seams.

On Reader Service Card, circle 105.



(continued on page 77)

The 1973 International Design Conference in Aspen, June 17th through June 22nd

The Idea

A week-long series of performances exploring "Performance" will serve as content and format for this year's International Design Conference in Aspen.

From the great to the sublime, performance characterizes man's striving for achievement, recognition, identity and immortality. For the designer it is at the core of his work. Designing a building, an object, a poster or an event is itself a performance. What makes a great performance? What motivates the performer to pursue quality, perfection or self-fulfillment through his work? What forces in our society shape mediocrity in performance? What aspects of performing does the designer share with the artist, the writer, the musician, actor, scientist?

Performing, and viewing performances, puts the design process in new perspective and ultimately provides the best insight into the intricacies of design performance.

Performances:

- ☐ To illuminate the confrontation between the designer's expectations as encouraged by his education, and the realities of the social realm and corporate economic system.
- ☐ To reveal the underlying impetus of our own performance as revenge, the search for power, the confirmation of our identity, or as gesture expressing sexuality, guilt, remorse, etc.
- ☐ To provoke some thoughts on the audience (broadly defined as the spectator, the user, the consumer, anyone who experiences any kind of performance), and the presumed mediocrity ushered in by the passivity of spectatorship in post technological society.

In short, the exploration of performance through performances—direct, experiential, participatory and introspective. Co-designers and directors of the conference are Milton Glaser and Jivan Tabibian.

The Performances

Therapist George De Leon will explore the erosion of self from school to work by probing the feelings of a group of practicing designers.

Illustrated presentations on the decline of audiences in theater and film will be given by John Simon.

Anti-human architecture will be analyzed by Reyner Banham.

Robert Rauchenberg will plan a major art work and execute it in full view of the conference in team performance with 50 or 100 Aspen conferees.

The Julliard Brass Ensemble will hold public rehearsals every afternoon and a full-length concert on the last conference day.

J. Paul Friedberg will design a garden to be landscaped by all conferees for their own use.

Miralda will direct a food event, infusing color and pattern into thousands of dishes of rice.

Marie Cosindas will extend the limits of instant color photography, performing with a Polaroid.

Bob Benton will screen *Bonnie and Clyde* and *Bad Company* and discuss his role in creating them.

Brendan Gill will show and discuss films and sequences from his extraordinary collection of blue movies.

J. R. Worsley will take pulse readings of conferees.

Posters from an international competition encouraging people to perform for their own well-being will be exhibited.

Gerald Sykes will explore the positive contributions technology can bring to people seeking more individual control over their lives.

Tai' Chi Master Marshall Ho' will tune the minds and bodies of the conferees.

Films from Columbia University's film festival on "The Built Environment" will be shown.

Richard Goldstein will focus on performance in journalism.

We will all perform at our own dances on three evenings.

The Cast

Everyone attending the conference.

Robert Rauchenberg, called the artist who in this century has invented the most since Picasso.

Bob Benton, co-author of *Bonnie and Clyde* and *What's Up Doc*, and director and author of *Bad Company*.

George De Leon, therapist at New York City's Phoenix House.

Gerald Sykes, author and Professor of Interdisciplinary Studies at the New School for Social Research.

Miralda, artist and culinary esthetician.

Marie Cosindas, photographer
M. Paul Friedberg, landscape architect.

Brendan Gill, theater critic for the *New Yorker*.

Reyner Banham, architectural critic, historian, and educator.

The Julliard Brass Ensemble.
Professor J. R. Worsley, Master and Doctor of Acupuncture M. Ac., DR Ac., F.C.C. Ac. (China), F.R. Ac. President: College Chinese Acupuncture (U.K.).

Milton Glaser, graphics designer; co-founder of Push Pin Studios, design director of *New York* magazine, faculty member of the School of Visual Arts.

Jivan Tabibian, social planner and social scientist; lecturer in social psychiatry at UCLA, urban and regional planning at the University of Southern California, and design at California Institute of the Arts.

Marshall Ho', Tai chi master; Chairman of the National Tai' Chi Chuan Association, President of the National Acupuncture Association.

John Simon, drama critic of *New York* magazine and *The Hudson Review* and film critic of *The New Leader*.

Richard Goldstein, writer on new politics and popular arts, former pop/rock critic for the *Village Voice*.

Robert Simon, planner and developer of Reston, Va.

Aspen Notes

Aspen, Colorado, scene of the annual International Design Conference since 1951, is located in a beautiful valley high in the Rocky Mountains. It has an abundance of excellent hotels and lodges with a wide range of summer rates. There are generous camping facilities as well.

Aspen is renowned as an outdoor sports center, and boasts such cultural resources as the Aspen Music Festival and Music School, the Physics Institute, and the Institute for Humanistic Studies. These facilities combine to make Aspen an ideal setting for the 23rd International Design Conference.

Daytime temperatures range from pleasantly cool to warm. Because of the mountain setting and high altitude (7908 feet above sea level), Aspen's evenings are often quite chilly. Heavy sweaters and jackets are recommended. Otherwise, dress is informal and casual throughout the week.

REGISTRATION

Reservations by mail only. Deadline is May 28 or cutoff number, whichever comes first. Your check will be your receipt.

Due to limitations of conference facilities, all conferees *must be* pre-registered, or they cannot be admitted.

Registration fee, \$100
Companion, \$50
Student (school registration proof required), \$35

Make your check payable to IDCA and send it with this coupon to:

IDCA
P.O. Box 664
Aspen, Colorado 81611 USA

The Coupon

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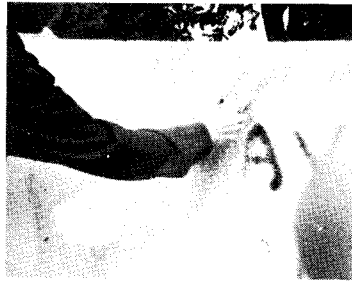
PERFORMANCE

PRODUCTS

(continued from page 75)



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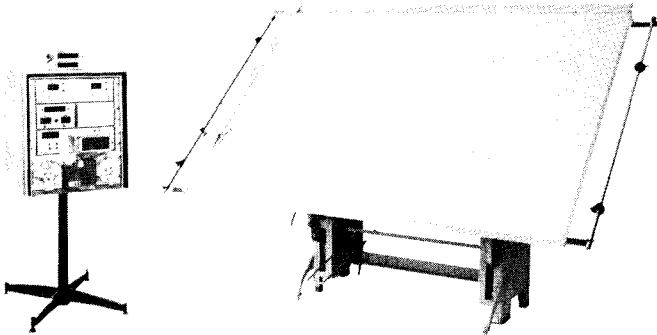


RIGHT OFF

"Barrier," a mixture of polyester resins, is manufactured by Barrier National Industries Corp. It is a water-proofing material used against the attack of air pollutant acids. Its elastomeric film bonds into and onto concrete, masonry, brick, stone, marble, wood and metal. Because of its clear, tough and non-yellowing surface, it is said

to be effective in foiling graffiti artists. Graffiti is easily removed by simple solvents with little or no effect on the protective surface. It is used to eliminate dusting, spalling and cracking of concrete and asphalt because it fills surface micropores with 35% solid resins. "Barrier" is a one-part, one-coat material which is easy to apply.

On Reader Service Card, circle 106.



DIGITALLY

A high-speed digitizing system called Model 55-R is available from Broomall Industries, Inc. The system consists of a control unit and a standard digitizing table which measures and records sequentially numbered points of X-Y coordinate data. It features fully integrated circuit construction, remote dis-

plays and absolute and incremental output. Applications of this system include engineering drawings, circuit layouts, road mapping, contouring, property layouts and architectural drawings. Data is recordable on punched cards or tape, magnetic tape, and electric typewriters.

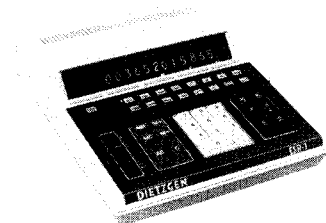
On Reader Service Card, circle 107.

PUSH-BUTTON

Technology is making the work world easier. A case in point is the introduction by Dietzgen Corporation, of an electronic slide rule. Model ESR-I offers 12-digit display, automatic cube root and hyperbolic functions in addition to all transcendental and trigonometric functions. In all, there are 16 functions, some more of which include direct conversion of radians to degrees and degrees to radians, as well as degrees, minutes and seconds to decimal equivalents. One

only wonders whether it will be more difficult to figure out how it works than the conventional slide rule.

On Reader Service Card, circle 108.

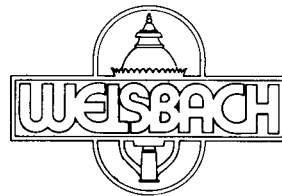


Welsbach gets switched on. With electricity.



Welsbach fixtures are of high quality cast aluminum or soldered copper fabrication.

Electric lights are not so new-unless you have only manufactured gaslights since 1877. Welsbach gaslights lined the streets of New York, Philadelphia, Baltimore, San Francisco, and many smaller towns. Now these same fixture and post designs are also available from our Historic Recreations line with incandescent or mercury vapor light sources. Whatever your architectural street lighting needs, Welsbach is still the quality name to remember.



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Products Company, Inc.**
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Baltimore
Maryland 21205

- ☐ I have an idea. Contact me for a design consultation.
- ☐ Please send me the new illustrated Welsbach catalog.

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Firm _____

Address _____

City _____ State _____ Zip _____

Agent Inquiries Invited. Territories Available.

On Reader Service Card, Circle 313

PRODUCT LITERATURE

To order any of the literature described, circle the indicated number on the self-addressed Reader Service Card on page 73.

FOOD SERVICE SYSTEM

A four-page brochure is offered by Serv-O-Lift and describes their 500 Series. This system permits users to roll it out, break it in place, and latch each unit in sequence, or leave it free standing; therefore the food service line is where you want it, arranged in the best way for today's menu. Various individual units are described and two examples of how a line is set up are also shown. On Reader Service Card, circle 200.

FIXED SEATING SYSTEMS

Heywood-Wakefield offers a 20-page catalog on their new fixed seating systems. The distinctive fixed position seating for high traffic lecture halls and schools is fully described. They also offer the newest type of cantilevered seating designed for multimedia instruction. Both types of seating are built to last as they take punishment for many years. Because of the type of construction, maintenance is held to a minimum. Comfort and attractiveness are featured. A wide range of colors is available. On Reader Service Card, circle 201.

WOOD SIDINGS

An eight-page brochure from Simpson Timber Company shows their RUF-SAWN redwood and RUF-SAWN 316 plywood sidings. Pattern illustrations in full color with panel characteristics and other technical data are shown. Many photos of buildings utilizing rough-sawn redwood plywood, including apartments, schools, and banks are also in full color. One section is devoted to Simpson's new RUF-SAWN 316, a textured, wood-grained, medium density, overlay plywood siding. Its resin impregnated fiber surface makes it ideally suited for painting or staining. Finishing recommendations for both RUF-SAWN redwood and the RUF-SAWN 316 panels are listed along with application instructions. On Reader Service Card, circle 202.

ART PROJECTOR

A new art projector has high-speed lens, wide-range and scaling guide, and it is wall-mounted requiring no floor space. The 800C unit is designed to speed up graphic art and design production. It projects opaque copy such as photos, type or drawings direct on to illustration board, layout paper, canvas, or other surface. Color transparencies from 2 x 2 to 5 x 7 are projected with the illuminator accessory. Specifications information and brochures available from Art-O-Graph Inc. On Reader Service Card, circle 203.

FIRE PROTECTION

The first fully approved on-off sprinkler is offered in a brochure by Grinnell Fire Protection Systems Co. Inc. Aquamatic is the first fully approved

on-off sprinkler that has UL listing and factory mutual approval. Each sprinkler puts all the water where it is needed—on the fire itself. Since each head is fully automatic, it discharges the water only when and only for as long as it is needed. The Aquamatic Sprinkler is completely interchangeable with other sprinklers and for replacing or upgrading an existing system or for selective use in new construction. On Reader Service Card, circle 204.

WIRING DEVICES

A four-page brochure designed to simplify the selection of wiring devices for OSHA appliances is available from General Electric Company's Wiring Device Business Department. OSHA standards emphasize the importance of wiring devices that are listed by Underwriters' Laboratories or other recognized testing laboratories and installed in compliance with the National Electrical Code. The brochure is designed as a hangup piece or file folder and lists descriptions, catalog numbers, ratings and available colors for such products as dimmers, remote control units, switches, and wall plates. Also listed are both straight blade and locking receptacles, plugs, connectors, flanged inlets, and flanged receptacles. On Reader Service Card, circle 205.

FLY AND MOSQUITO CONTROL

White heat plus odor act as insect attractants. Bug-infested areas up to a 1/2 acre can be cleared of flies, mosquitos, moths, etc. A lantern-shaped electronic bug killer incorporates a high voltage, insect-killing grid which is protected from human touch and birds and butterflies by two outer safety screens. Insects, particularly flies and mosquitos, are attracted to the killing grid by a combination of the light, heat and odor. All units are UL listed, weather-proof, and safe around pools, marinas, and riding stables. The bug killers have no moving parts, cause no TV interference, and are harmless to human eyes. Brochure information is available from Flowtron Inc. On Reader Service Card, circle 206.

TILE

American Olean Tile Company offers a 36 page brochure illustrating their complete line of glazed, quarry, and ceramic mosaic tile. Featured are the silicone rubber factory-graded ready set ceramic tile systems for tub-surrounds, showers, walls, and floors; and Redi-Set 200 ceramic mosaic sheets with color coordinated polyurethane grout. This brochure describes color coordination, mural and swimming pool design service, and gives architectural specifications. Lists of distribution centers and sales representatives are also included. On Reader Service Card, circle 207.

SEATING

A 160 page color catalog featuring "years ahead styling" seating is available from Shelby Williams Industries. The catalog features the company's complete line of furniture for hotels, motels, restaurants and schools with a special section devoted to the Shelby Williams line of die-cast aluminum stacked chairs. Color photographs are included of major installations. On Reader Service Card, circle 208.

INSULATION

A new brochure describing ZONO-LITE® insulations is being offered by the Construction Products Division, W. R. Grace & Company. In addition to glassfibre and loose-fill vermiculite attic insulation, the brochure cites use of styrene foam and masonry wall insulations. Fire-resistance data, installation costs, savings, and "U" value charts are included. On Reader Service Card, circle 209.

THERMAL WINDOWS

Season-All Industries Inc. has a new literature package available on their THERMAL-GARD Window. The Thermal-Gard windows are engineered to combine all the desirable qualities of aluminum, vinyl, and wood with none of the drawbacks. Thermal-Gard takes heavy gauge aluminum extrusions and encases them in pure white or bronze rigid vinyl extrusions. Both inserts are glazed with inch thick insulating glass units to reduce intrusion of outside noise and cut costs of winter heating and summer cooling. These windows are custom built for every opening, allowing the designer freedom to design new construction and have significant savings of time and money in rehabilitation. On Reader Service Card, circle 210.

WATER COOLER

A new water cooler for persons in wheel chairs has been introduced by the Haws Drinking Faucet Company. It fulfills Public Law 90-480 which requires that buildings constructed, leased, or financed by the Federal government assure ready access and use of its facilities to all people including the physically handicapped. The cooler mounts on a wall at drinking height comfortable for wheelchair users. It is easily installed and requires no wall access. On Reader Service Card, circle 211.

SKY ROOF SYSTEM

A new full-color, four-page brochure shows unique ways the patented Kalwall® Translucent Panel System has been used as skylights in sky roofs. It tells about the unusual ways this unique product can be used plus some of its important advantages. In addition the brochure provides the designer with technical data, detailed drawings, and short form specifications. Kalwall Corporation. On Reader Service Card, circle 212.

WATERPROOFING

The Tremco Manufacturing Company has a new four-page illustrated brochure on TREMPROOF® waterproofing systems for variety of below, on, and above grade construction applications. The brochure describes how to obtain optimum waterproofing security at minimum cost through Tremco's combination of technical service with integral waterproofing systems for

occupied areas such as plaza decks, roof terraces, promenade decks, etc. On Reader Service Card, circle 213.

EMERGENCY OPENING DEVICE

North American Door Company offers a catalog on the panic emergency opening device for rolling grills, a combination rolling grill and door for receiving docks and a new concept for rolling grill installations. The panic emergency device for rolling grills will quickly open the rolling grill even when electrical power is lost. A combination rolling grill and door at one opening permits ventilation with security with the grill closed but the door open. Independent installation is a system of installing rolling grills with only the floor and roof slabs in place without dependence on other construction or trades. On Reader Service Card, circle 214.

DORMITORY FURNITURE

The Johnson Furniture Company announces the publication of an illustrated brochure featuring dormitory furniture. Sample installations in leading colleges and universities are included. Also featured is the patented locking device, a unique construction feature which makes it possible for Johnson Furniture to construct custom designed furniture at low cost. On Reader Service Card, circle 215.

PLAQUES AND TABLETS

Armento Architectural Arts is offering a four-page brochure describing its complete line of products. Featured are the tablets and plaques that are available for installation on buildings. Key installations are illustrated in the brochure along with technical data. On Reader Service Card, circle 216.

PANEL SYSTEMS

A four - page bulletin featuring VARISPAN PANEL SYSTEMS has been announced by Elwin G. Smith Division, Cyclops Corporation. This panel system is a new metal wall system offering greater strength, longer spanning ability, and versatility. They are available with a choice of three depths of linear panel and varispan can cover a single span in excess of 30 feet. The bulletin gives features, dimensions and technical data, including loadspan tables, and architectural specifications. Illustrations show the varispan as the insulated panel system with vertical treatment on the interior and exterior faces with a horizontal treatment on the interior, and vertical on the exterior; and as an exterior insulation system, a wide variety of exterior profiles are available. On Reader Service Card, circle 217.

SOUND ABSORPTION

A new sheet on sound blocks units with facing of fiberglass and perforated metal providing a new dimension in sound absorptive treatment for walls describes this unique system that is now available for use when durable, incombustible walls with exceptional sound absorption are needed. Only two inches of space is used beyond the sound blocks walls which are structural as well as acoustical. Sound blocks units derive their exceptional sound absorption by use of the tune resonative principle. The sheet is offered by the Proudfoot Co. On Reader Service Card, circle 218.

BOOKS OF INTEREST TO THE DESIGNER

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LETTERING FOR REPRODUCTION by David Gates. Detailed study of lettering history, tools, materials, equipment. Step-by-step techniques. 192 pp. 8½ x 11. 98 illus. lettering samples. Index. Spiral \$10.00

DIAGRAMS by Arthur Lockwood. "This book, the first of its kind, is a splendid survey of the range and usefulness of diagramming." — *The Last Whole Earth Catalog*. 254 pp. 8 3/8 x 10 3/4. 254 illus. 35 two-color, 5 four-color plates. Index. \$15.00

WATERCOLOR by John Pike. A step-by-step handbook demonstrating such techniques as wash, wet-in-wet, dry brush. Includes practice problems, brush drills, step-by-step demonstrations. 176 pp. 8½x11. 130 illus. 20 color plates. Index. \$12.95

POTTERY: THE TECHNIQUE OF THROWING by John Colbeck. "Authoritative and scrupulously organized with concise explanations accompanied by 200 lucid photos. *Pottery* presents an exceptional technique of throwing."—*The Last Whole Earth Catalog*. 144 pp. 7½x10. 200 photos. \$10.00

LANDSCAPE PAINTING IN WATERCOLOR by Zoltan Zsabo. Step-by-step demonstrations show how to paint skies, trees, forests, rocks, fences, sand and soil, still and moving water, reflections, rain, textures, patterns, and buildings. 176 pp. 8¼x11. Over 300 B&W illus. 24 pp. color. Index. \$15.00

COMPLETE GUIDE TO ACRYLIC PAINTING by Wendon Blake. A comprehensive survey of acrylic painting methods and materials. Includes step-by-step demonstrations by famed painters illustrating the techniques described. 208 pp. 8¼x11. 32 pp. color. 125 halftones. Bibl. Index. \$15.00

COMMERCIAL ARTIST'S HANDBOOK by John Snyder. Complete, authoritative reference book of materials and how to use them, for anyone who must prepare artwork for reproduction for a printer. Full descriptions of over 400 materials in convenient alphabetical order. 264 pp. 7 x 10. 133 line illus. \$10.95

THE TECHNIQUE OF DRAWING BUILDINGS by Richard Welling. This book shows how to draw buildings and other urban subjects — bridges, docks, boats, etc. Materials and tools, techniques and projects. 160 pp. 8¼ x 11. 123 B&W illus. 9 color plates. Index. \$10.95

THE ART OF PENCIL DRAWING by Ernest W. Watson. Provides clear, practical instruction and inspiration, richly illustrated with landscapes, townscapes, architecture, interiors and still lifes. 160 pp. 8¼ x 11. 113 illus. Index. \$10.00

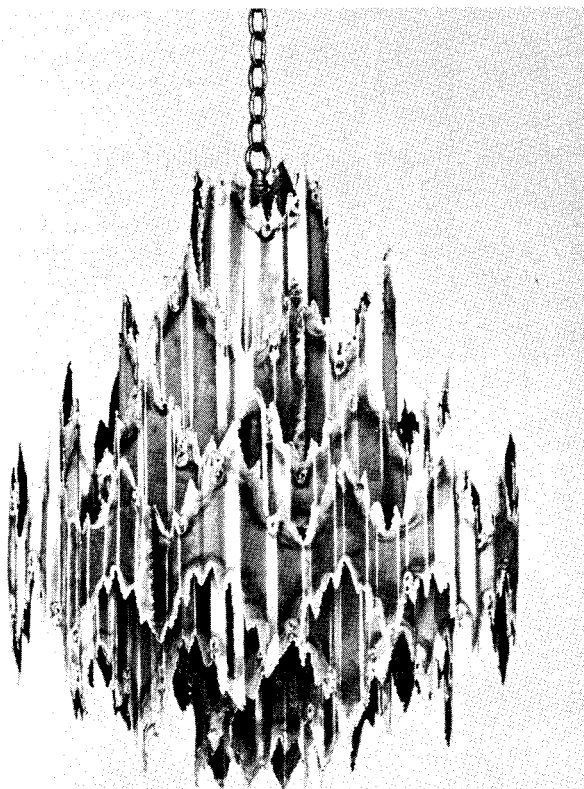
HOW TO MAKE YOUR OWN PICTURE FRAMES, New, Rev. Ed., by Ed Reinhardt and Hal Rogers. Numerous, easy-to-follow photos demonstrate frame construction, mixing patinas, texturing, toning, gilding, mounting prints, cutting mats, antique frame restoration, etc. 128 pp. 9 x 12. Index. Photos. \$8.95

PERSPECTIVE: A Guide for Artists, Architects, and Designers by Gwen White. Exercises of increasing complexity lead reader from fundamentals to mastery of perspective. 96 pp. 8 1/4 x 11 5/8. 300 B&W illus. Index. \$8.95

PLASTICS for Artists and Craftsmen by Harry B. Hollander. Practical introduction to newest most innovative art and craft medium. The reader is shown step-by-step how to mix, prepare, and use a wide variety of plastics systems. 232 pp. 8¼ x 11. Over 260 B&W illus. 18 color plates. Appendix. Suppliers. Gloss. \$14.95

RESTORING AND PRESERVING ANTIQUES by Frederic Taubes. An authoritative guide to restoring, protecting and maintaining all objects of art. Easy, effective techniques using modern acrylic materials to produce handsome, enduring results. 160 pp. 7 x 10. 125 illus. 16 color plates. Suppliers. Index. \$8.95

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PRODUCT LITERATURE

(continued from page 78)

ELEVATORS

Otis Elevator has a publication on their economical pre-engineered, pre-manufactured, electric passenger elevator which rises up to 30 stories. These completely automatic elevators carry as many as 16 passengers at speeds of up to 200 feet per minute for rises up to 16 stories and 300 feet per minute to 30 stories. Two and three car groups are automatically coordinated for prompt response to passenger calls without unnecessary elevator travel. Car enclosures of innovative chassis construction reduce hoist weigh masses for initial and operating cost economies. Removable panels permit changing interior decor with one or more panels hinged for side emergency exit in two and three car installations. On Reader Service Card, circle 219.

WEATHER SEALING

The Schlegel Manufacturing Company offers a four-page folder on the company's door, weather sealing system which illustrates how the system works on steel, wood, and composition doors and frames. It also lists product features, gives air and water leakage test data and design data and installation requirements. On Reader Service Card, circle 220.

SUSPENSION CEILING SYSTEMS

Eastern Products Corporation announces new and updated literature on its line of suspension ceiling systems in demountable wall systems. They are fully illustrated with detailed specifications. The information can also be had in the form of catalogs for a quick, easy reference or as individual pieces for incorporation into bidding and planning proposals. On Reader Service Card, circle 221.

CONCRETE INSULATION

The Perlite Institute has announced publication of a new four-page data sheet covering Perlite Insulating Concrete. In addition to discussing the properties of perlite insulating concrete for roof decks such as insulating value, lightweight, nailability, and ease of placement, fire-resistive ratings for roof deck systems are detailed. Contained are tables showing new values for different thickness slabs, thermo conductivity, and compressor straight as well as comparisons with other concretes including expanded slag, shale, or clay and sand and gravel. On Reader Service Card, circle 222.

MODULAR SEATING SYSTEM

Poly-Blox, a modular seating system, has been introduced to the contract market by Ward & Company. It's a casual look in furniture that may be put together or taken apart to form or conform to any environment. Each unit is constructed of polyurethane foam in varying densities in the seat and back for exceptional comfort in any sitting position. Poly-Blox' moduls have tubular chrome plated

bases which may be connected or disconnected to each other to make a sofa or chair. The system can be used to make an unlimited number of seating arrangements. Upholstered occasional square tables add to the appeal of Poly-Blox' seating system. On Reader Service Card, circle 223.

WASHROOM FIXTURES

Bradley Corporation introduces their 1973 catalog on their washroom fixtures. Following cost comparisons of lavatories versus wash fountains, each product group within the line is presented within a blocked area for clear definition. Color selections and specifications and layout drawings are included. On Reader Service Card, circle 224.

DRY WALL FRAMES

A new brochure shows how one man can install a dry wall frame in minutes with illustrated step-by-step procedures. Frames have exclusive Grip-Lok® anchors which allow for rigid permanent installation by simply adjusting anchor screws. Pioneer Industries. On Reader Service Card, circle 225.

INDOOR LIGHTING

New literature is available from the Art Metal Operation, ITT Lighting Fixture Div., which includes characteristics, detailed specifications and dimensional drawings of their new line of indoor lighting fixtures. Featured are the 2X2 250 W and 400 W Recessed Square and the 1000 W Recessed Square offering floating door construction for general lighting uses in malls, stores, convention facilities, gyms and banks. On Reader Service Card circle 226.

AIR CONDITIONING

American Air Filter Co. has a brochure on the "Mark 13" roof-mounted multizone system. Featured are design descriptions and photos of various components. Also included is a cutaway view of the architectural facade frame. There are dimensional drawings, physical data tables and specifications. On Reader Service Card, circle 227.

EXPANSION JOINT COVER

An extruded monolithic roof expansion joint cover which accommodates movement in three directions is described in a new bulletin published by the Building Products Div. of Grefco, Inc. Metalistic March II is composed of vinyl, with PVC foam billows insulation and a continuous nailing strip. The catalog includes complete technical data, specifications and construction details. On Reader Service Card, circle 228.

BANK WORK STATIONS

With clear, bullet-resistant glass above the counters, cash and small valuables can be passed from customer to teller through a recessed tray without impairing visual or voice communications. Mosler Protected Work Stations are available in a wide

choice of counter designs and color combinations. On Reader Service Card Circle 229.

CARPET FOUNDATION

Olin Corp.'s OMALON™ is a versatile flame retardant carpet foundation. The cellular structure is different from conventional foam. Every OMALON carpet foundation is guaranteed to meet performance claims or be replaced free of charge including labor. On Reader Service Card, circle 230.

SPECIAL PUBLICATIONS

The United States Government Printing Office has available the 1971 Annual Report from Housing and Urban Development, HUD 329-U Catalog No. HH 1.1:971. Cost is \$.40. The National Fire Protection Assoc. announces publication of the 1972 edition of "Standard for the Installation of Oil Burning Equipment" \$1.75. On Reader Service Card, circle 231.

GLASS FRAMING

A new four-page color brochure is available from Kawneer Company which describes Core-Wall, high performance, aluminum glass framing for one to three story buildings. The brochure illustrates how the shallow exterior metal face reveals complements glass appearance especially with tinted or reflective glasses. Economical, straight-in glazing uses face and gutter mullion assemblies is discussed. On Reader Service Card, circle 232.

REMODELING DOOR UNITS

A new 8-page brochure on the new foam core steel remodeling door units for professional builders is available from Ever/Strait Div., Pease Company. This informative brochure provides the reader with thorough background information on the remodeling door units and their installation. It includes a series of "before-after" photos and detailed, easy-to-follow installation instructions and photographs. Ever/Strait warp-free remodeling door units come factory complete with threshold, frame system, and the screws. On Reader Service Card, circle 233.

WATER COOLERS

More than 45 different models of pressure and bottled water coolers are described in the 1973 Oasis water cooler catalog released by Ebco Manufacturing. Of particular interest is Oasis' popular "Selector Guide" that allows specifiers to identify the correct cooler for virtually any need. On Reader Service Card, circle 234.

ROOF DRAINAGE SYSTEM

An 8-page brochure describes a revolutionary roof drainage system by Finnovationoy. This is reported to be the only system which allows no air to pass through the drainage pipes, and therefore greatly increases the flow of water through the system. The UV Nomogram in the brochure makes it possible to get an exact calculation of the flow of water and the required number and diameter of pipes. Technical

details are explained in the brochure. On Reader Service Card, circle 235.

FLOOR SURFACER

Stonhard Company has made available a new six-page brochure which describes and illustrates the use of Stonclad floor surfer in meat rooms. This brochure draws particular emphasis on the application in supermarket meat rooms. Stonclad, a special blend of high-performance polymer resins and hardeners, is formulated to harden quickly to form a durable, seamless floor surface. It meets the sanitary and safety requirements including Federal and State health and safety standards. A Stonclad floor is extremely resistant to damage from acidic food spillages as well as harsh cleaners. On Reader Service Card, circle 236

BUILT-UP ROOFS

A revised specification manual for built-up roofing and roof insulation has been prepared by Johns-Manville, to assist the architect and engineer in selecting the appropriate materials for a total roofing system. The 194-page loose-leaf manual covers a wide range of bondable roofs for many different roof inclines and many different types of roof deck such as steel, concrete, wood, gypsum, etc. Specifications are also included for certain limited-service roofs and for special-service roofs which are not bondable. Application tables and charts complete the recommendation. On Reader Service Card, circle 237.

CEILING SYSTEMS

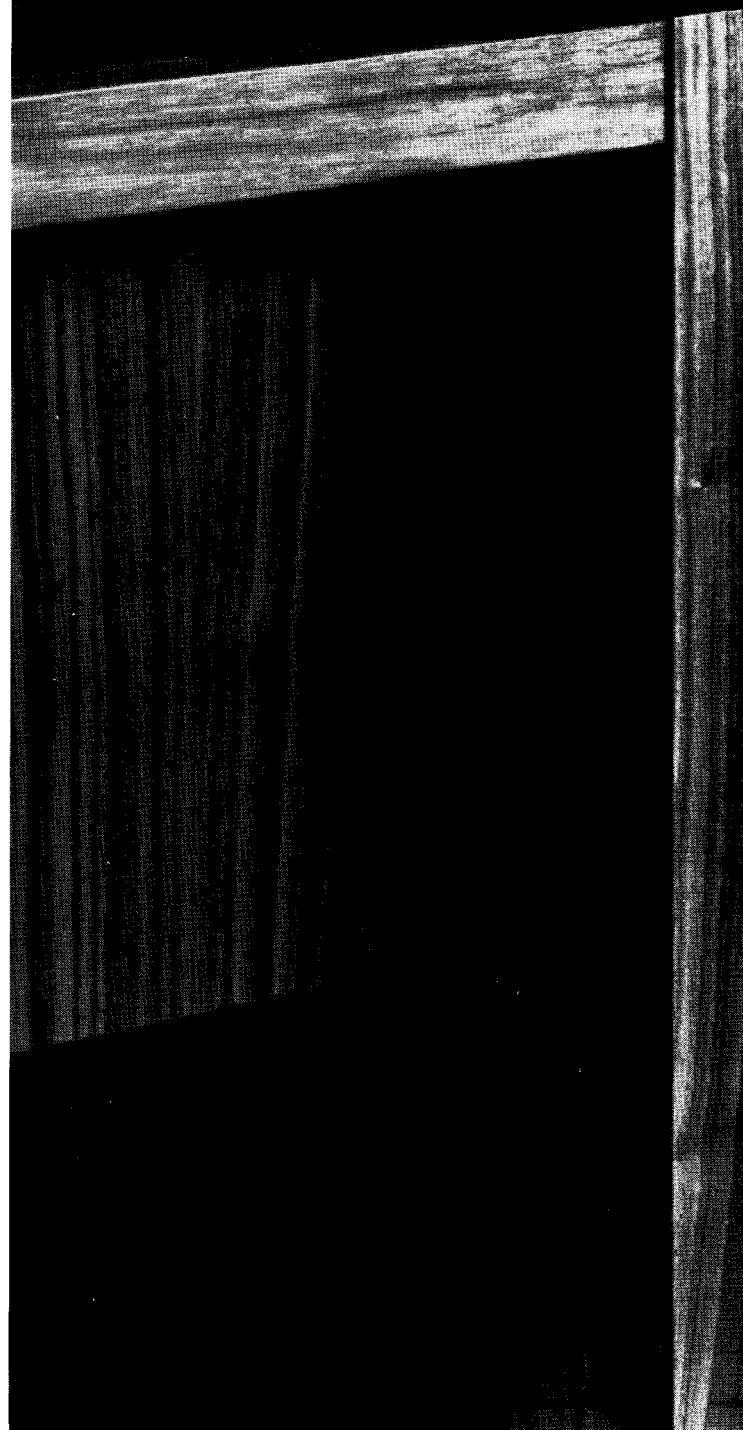
A new 4-color catalog outlining a complete line of integrated ceiling systems is available from National Ceiling Systems. The catalog shows photographs of installations and isometric drawings of the various ceiling systems available. The brochure illustrates five different systems: the 1000 through 5000 series. Some systems use vaulted modules with mineral board and some have vaulted modules with perforated metal coffers. The various systems provide extreme design and installation flexibility. On Reader Service Card, circle 238.

GLASS

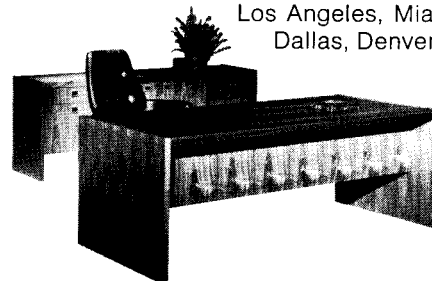
CE Glass has a 16-page brochure which describes their various glass products. Included in this brochure are characteristics and technical data on the various products. Descriptive photographs are also included. There is also a special section for the Mississippi patterns. On Reader Service Card, circle 239.

INSULATIONS

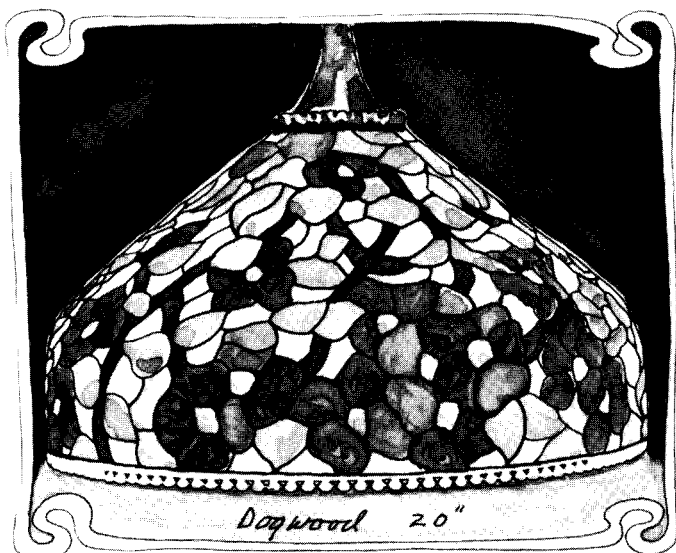
W.R. Grace Construction Product Division has issued an 8-page brochure describing Zonolite insulations, masonry fill, polystyrene foam, and thermostud system. In addition to photographs, the brochure includes various technical and specification product data. On Reader Service Card, circle 240.



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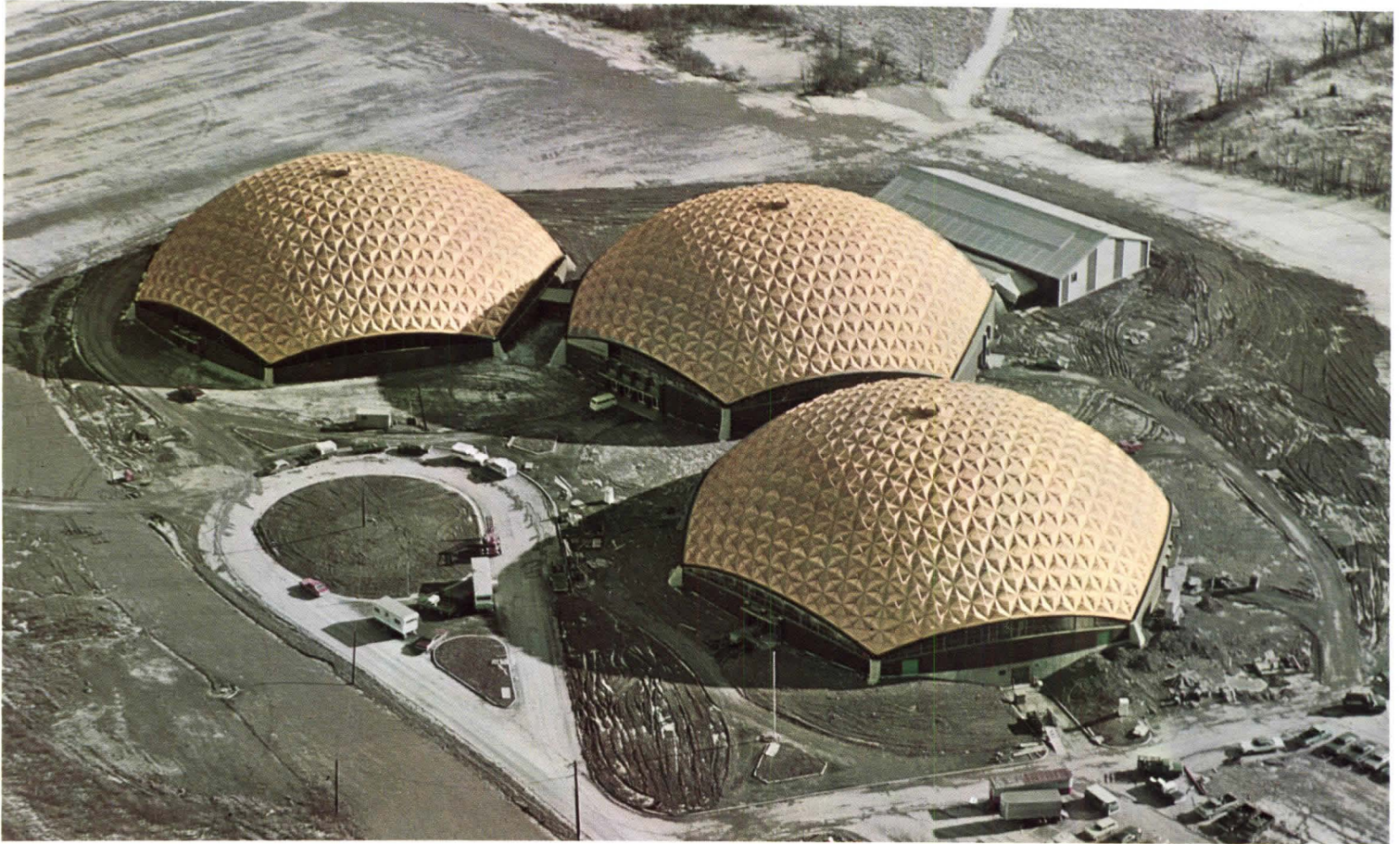
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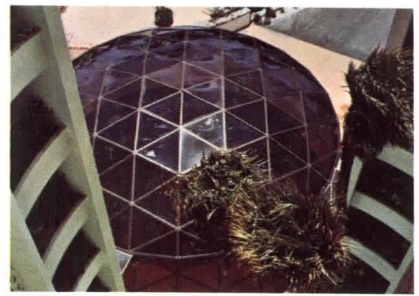
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