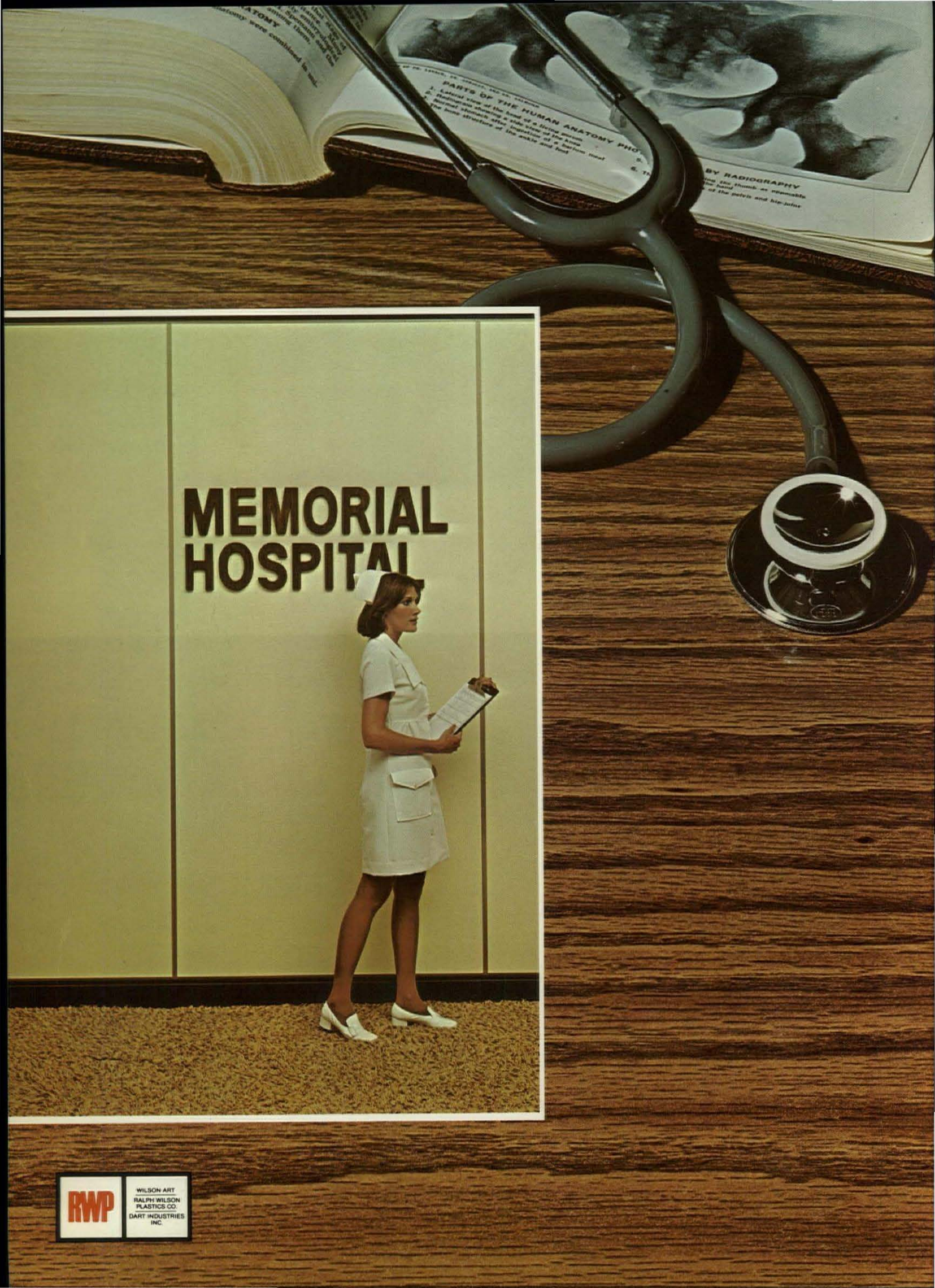


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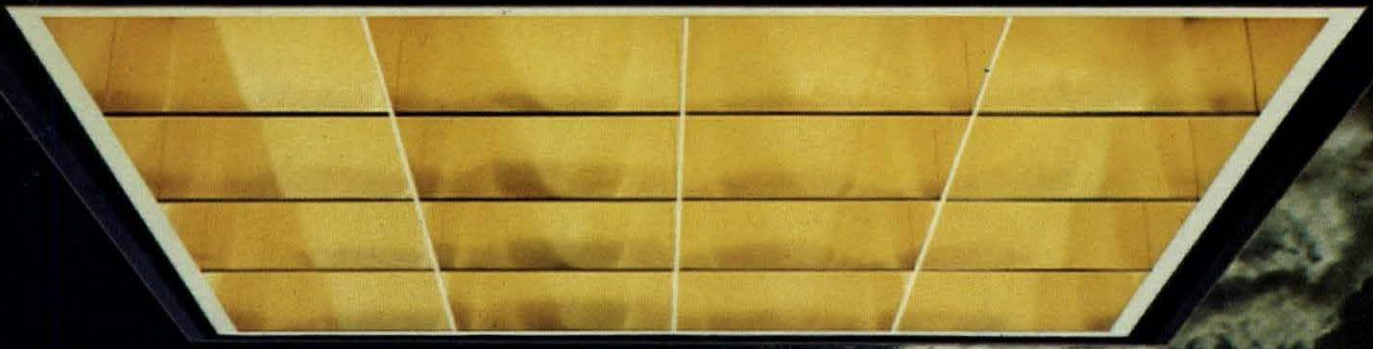
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Published bi-monthly by Informat Publishing Corporation, Richard A. Hashagen, President; Richard W. Shaver, Executive Vice President; Paul M. Wehrin, Vice President; Richard J. Gash, Treasurer. Executive and Editorial offices at 1345 Sixth Avenue, New York, N.Y. 10019. Phone: 212 489-8697. Telex: RCA 224232 CIC-UR.



Worldwide subscription rates: \$18.00/1 year; students (please attach photocopy of student ID card) \$12.00/1 year. Single copies, current volume: \$3.00; back issues: \$5.00. Controlled circulation postage paid at Washington, D.C. and pending at New York, N.Y. United States bookstore distribution by European Publishers Representatives, Inc., 11-03 46th Avenue, Long Island City, N.Y. 11101. International bookstore distribution by Feffer and Simons, Inc., 31 Union Square West, New York, N.Y. 10003. Microform and electro-static copies of back issues available from Xerox University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

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Letters

Architecture by lottery

It was out of sheer anger and frustration that we in the New Orleans Chapter of A.I.A. proposed the lottery system for selecting Architects for State work. Drastic, no argument, but when you plan to change a corrupt system it is prudent to have some room in which to maneuver.

This is just what has happened. When presented with this request by our State chapter in the climate of the Agnew scandal (bless him), our Governor, being a bright, practical politician, realized he was in a no-win position; and being a very bright guy he appointed a committee to make recommendations of Architects for selection. When the committee came back with a recommendation of a Board made up of three Architects, a Contractor and a Representative of the Governor, he countered with a Board made up entirely of Architects.

We here in Louisiana hope that this action will be a model for other Architects who have suffered at the hands of political patronism to follow our lead.

LOYD ROSEN
Secretary, New Orleans Chap. AIA
New Orleans, Louisiana

In the March/April 1974 edition of PLUS you provide editorial comment on recent actions taken by the New Orleans Chapter of the American Institute of Architects. It is true that our Chapter did, by a one vote margin last November, pass a random selection (or lottery system); but more importantly two companion resolutions to this plan on how to select architects for public work. The first called for a full investigation of alleged practices of payoffs—whether kickforwards or kickbacks. The second sought broad construction industry support in reforms dealing with political campaign contributions, conflicts of interest and new licensing laws for architects with investigatory power and sufficient legal definition for delicensing in the case of unethical practice. . . .

The Louisiana Plan may not solve anyone else's problems; but

(and I have to agree with you) it will make the challenge of practicing architecture in Louisiana bearable.

WILLIAM K. TURNER
Dean, School of Architecture
Tulane University
New Orleans, Louisiana

Soul Searching

We are opening our subscription to Architecture PLUS after an enjoyable and instructive year 'on the house'—for which, our thanks. Letters to the Editor are part of this and we are amused at the beration heaped on your head following recent political satire.

How about issues on the American Ugliness (created by recent practitioners) and the little American Architect (little triers). This goes for Australia too.

Perhaps if you point the bone now and again (a monthly bottom of the barrel award?) you may induce more Architects and Designers to earn their dollar with greater professional integrity and to spend the clients' dollar with more thought and competence. We hope to continue to read of the thinkers, the trendies and the triers and wish you continued satisfaction (and soul searching) for another "plus" year.

BRIAN D. JESSEP
Architect, Pymble, Australia

Berlin Free University

Shadrach Woods' analysis of the educational process at Berlin Free University (Jan/Feb issue), of interaction, change and architectural response held great promise for other architects involved in educational facilities planning. Here was a significant educational commission in the hands of an architect who felt obligated to study, to question, to synthesize and thus bring both new vocabulary and new form to architecture for education.

The decade which began as design work commenced on BFU has resulted in the construction of more space for education in this country than for any similar period in the past. This period has seen the advent of informal learning

and the open plan, the explosive growth of public supported higher education, a continued definition and redefinition of educational philosophy and finally the attack by students and sympathetic faculty on the basic nature and relevance of higher education as it has evolved in the latter part of this century.

There is clearly a need for change. However, the architect and educator rarely understand one another in a way which produces meaningful architectural response to what is both an educational and a social need. In 1968, our firm was assigned to respond to a commission for a new community college and we came up with an interesting and responsive scheme which attracted some interest and support among members of the college staff. In the end, conventional wisdom prevailed and a more traditional campus was completed in 1971. In effect, while Woods' completed scheme (and our completed scheme) both require moving pieces of a *building* in response to change, our "enclosure scheme" required moving elements upon a landscape and within a simple and unchanging environmental enclosure. (Buckminster Fuller's dome at Expo '67 in Montreal, with its architectural sculpture inside would have made a magnificent college.)

"When next in Berlin," I certainly shall go and see the University; but in the meantime, I look to your magazine for the kind of evaluation I know Woods would have been keenly interested in; not one which comments on the color of the skin or which compares the building to a Citroën Deux-Cheveaux or to Edison's original phonograph, but one which recalls Woods' eloquently stated educational and architectural goals, and judges the finished project in these terms.

GEORGE SHEAR
Architect, Perkins & Will
Washington, D.C.

Shadrach Woods was an architect we knew well and admired greatly, and we think he would "have been keenly interested in" our 20-page

evaluation of his building. We did mention the color of the building skin, but we mentioned much more than that, and we did include Shad's "Architectural Goals." As for the community college design Mr. Shear considers an improvement over the BFU scheme, we must admit that it does seem to be more flexible, but at the awesome expense of roofing over the entire campus. "Conventional wisdom" is sometimes not only conventional but wise.—ED

I'm usually a couple of months behind, so I just found the real joys of your Jan/Feb issue. The tribute to Shad Woods was very moving and I thank you, as his friend, for presenting him and his work this last time to us who didn't know him, in a way that makes us think we did. What more, really, can a man ask?

To also wedge in the World Trade Center, Kurokawa, Unité revisited and Ossorio is the sign of tireless and creative editing... which brings me and the rest of the exhausted pack some real relief in the publishing desert. Keep it up.

JAQUELIN T. ROBERTSON
President, Arlen Design Group
New York, New York

Greetings

I have just finished reading the January/February 1974 issue of PLUS and would like to take the time to congratulate you on an excellent magazine. To find an architectural magazine with the right balance of good humor and internationalism is indeed rare. I am intrigued over the Nixon Library award covered at length in your letters in the Jan/Feb issue. Thank you for bringing some architectural sunshine into my life.

PAUL HECTOR
Architect, Essex, England

Architecture PLUS is becoming well known among our students in this school of architecture. We find the articles and the internationally known contributors most challenging and stimulating.

JO P. BRADLEY
Senior Lecturer, Royal Melbourne
Institute of Technology, Australia

continued on page 8



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continued from page 6

I highly appreciate the contents of your reviews as well as their graphic qualities. It was by them that I could know of the design of Sydney's Opera House and some of its architect's philosophical concepts.

I should be delighted to find in your publication some visionary proposals of fantastic architecture, international or U.S. competitions, and the presentation of the more recent clash of opinions in architecture.

ADRIAN VIOREL MAHU
Architect, Pitesti, Romania

Thank you most sincerely for including me among your readers. And may I add my humble congratulations on the continued high standard and the excellent contents and presentation of your issues.

M. BILAL RASCHID
Architect, Karachi, India

Women Architects

The architect Landis Gores showed me a copy of your December 1973 issue and I covet it. It has the story in it about the Cambridge School of Architecture and that wonderful teacher, Henry Frost. Mr. Gores, like myself, was taught by Mr. Frost and therefore wants to keep his copy. Is there any way I can get another one? It would be a pleasure for me to read and reread about that fine teacher.

CARINA EAGLESFIELD MILLIGAN
Architect, New Canaan, Connecticut

At last we know how the Cambridge School died. I learned of Doris Cole's article by the grapevine, via Alice Upham Smith, landscape architect.

I have been working on having it in the history of Smith College for its Centennial Celebration. The end of the Cambridge School was a great loss to the college and to the profession.

MARY NEWBURY DIXON
Landscape Architect,
Flushing, New York

The article by Ms. Cole is absolutely splendid—so sympathetically written and so correct in every detail as I remember them. I worked in Mr. Frost's architec-

tural office for a year after graduating from the school and I knew him well and admired him and his aims for his students very much indeed.

BERTHA MCPHERSON
Darien, Connecticut

World Trade Center

On behalf of those men and women of Skilling, Helle, Christiansen, Robertson who worked with dedication to make WTC a reality, our most profound thanks!

LESLIE E. ROBERTSON
Engineer, Skilling, Helle, Christiansen,
Robertson, New York, New York

Close-Up

Those of us who, years ago, read *Cities in Evolution* by Patrick Geddes, and who were taken up by the biological sense of it, will be stymied by Grady Clay's cursory view of him in *Close-Up: how to read the American City* (Architecture PLUS, May/June, 1974).

Geddes was at one and the same time a didactic figure and explosive person. In Collier's Encyclopedia is this: "In 1894, Geddes organized a publishing house to promote the new Gaelic revival, and in 1895, with William Sharp . . . he founded a shortlived quarterly *The Evergreen*."

He understood the blighting effects of specialist knowledge and much of what he did (like the Gaelic Revival bit) was rebellion against the intellectual sterility of modern life.

The comparison may seem strange, but Geddes reminds me of Cézanne—in spite of the differences. Both of them were explosive rebels in their youth. Both realized, after bitter internal struggles, that they had to come to terms with civilization. Geddes learned to speak the professorial Square language of botany, evolution, and the regional geography coming out of France. Cézanne organized paint into Cubism.

But all that language and paint was just the cooled hard lava of a volcano. To judge a volcano solely in terms of its residue—as did Grady Clay—is to be sadly duped.

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Detroit, Michigan

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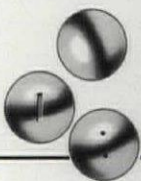
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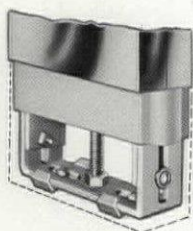


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letter from HAITI

by Selden Rodman

In the sense of a style created by self-conscious artists ambitious to alter the norms of their art, architecture in Haiti has never been innovative. Its few monumental structures are straight out of Europe. The adobe huts thatched with palm in which four of its five million people live differ in no way from the homes in which these peasants' ancestors lived in West Africa. Yet in between, gracing the three principal cities of the Caribbean republic, is a range of styles playing original variations on many themes, appropriate to the tropical setting in every way, and at best very beautiful.

Like every genuine folk art, this architecture is mainly the work of anonymous creators. This has kept it from becoming pretentious or stale. But by the same token it has been left defenseless to the ravages of time, neglect and greed. This Letter is therefore offered not merely in appreciation, but as the latest installment of a long campaign to save an important part of Haiti's rich cultural heritage before it is too late.

Historically, Haitian architecture begins in the second decade of the nineteenth century with King Henry Christophe's construction of the Sans Souci Palace at Milot and the Citadelle La Ferrière on a mountaintop behind it. (The successful slave revolt of 1791-1804 left standing nothing of the architecture of the French colony but a few brick gateposts and crumbling walls.) Sans Souci, judging by prints of the period, is more impressive as a romantic ruin whose orange walls and sentry boxes climb the green slope, than it could ever have been during the decade of its occupancy. The Citadelle is awesome for what it says about an ex-slave's pride and will, but its engineering is not exceptional. Both structures, in any event, were designed by Europeans.

A few miles north of Milot on Haiti's Atlantic coast lies Cap Haïtien (once Cap

Henry, and before that Cap François), capital of the republic's northern provinces. Here Haitian architecture begins to be indigenous. I say "begins to be" because purists might consider the typical one-story building at Le Cap, with its tall hook-and-bolt doors and overhanging jigsaw-fringed cornice, more Spanish than Haitian. It's true that such town houses may be found across the border in Monte Cristi and Puerto Plata; and it's also true that the almost-as-typical two-story Capois structure with its iron balcony supported by brackets is (or used to be) duplicated in Santiago de los Caballeros, the Dominican Republic's second city. But what makes both types in Le Cap unique (and Haitian) is *color*.

The imagination that goes into the paintings of these facades—red doors against umber walls, blue against yellow, gray on rose, lavender over chartreuse, salmon-pink exploding out of ultramarine, and so on—by some miracle creates an ensemble always harmonious. Perhaps this is because paint fades gracefully in the hot Haitian sun. But anyone familiar with the phenomenon of primitive art that has astonished the world in the last thirty years will be sure that the Haitians' unflinching color sense deserves most of the credit.

Why is color so important here and here only? Does the tradition go back to some quirk in King Henry's personality? Or is it simply that paint salesmen in the north of Haiti are more enterprising? There is really no explanation of why the Capois paints his house with exuberance, and out of several cans of contrasting hue. Very few people in other parts of Haiti do. Not even in Caribbean Jacmel, though Jacmel's architecture is at least as interesting and its situation on a coastal hillside more picturesque.

Jacmel's glory is its dozen or so "coffee palaces" built in the 1880s and 1890s out of cast iron columns, balconies and doors shipped from France and Germany as ballast for the incoming freighters. With the recent "discovery" of Jacmel as a Caribbean beach resort of limitless potential, and the consequent provision by Turks & Caicos Airline of daily flights to the hitherto almost inaccessible hill town, some of these lordly mansions are now being refurbished.

One of the loveliest, the home of Mme. Alexandre Vital which now doubles as the Pension Alexandra, had never sunk into the

decay which enveloped the rest of the town when the bottom fell out of the coffee market a generation ago. Situated on a steep slope a little below the town's main square, the mansion's iron balconies, painted green and white, afford a commanding view of the harbor, and in the foreground directly below, a terraced formal garden flanked by towering breadfruits, mangos and royal palm.

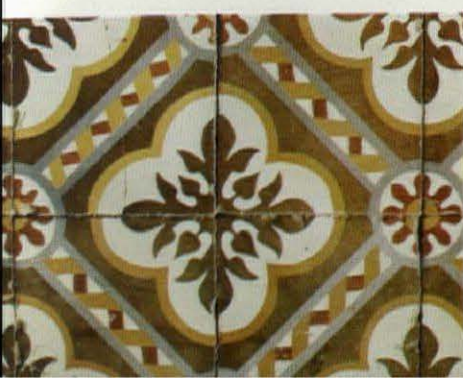
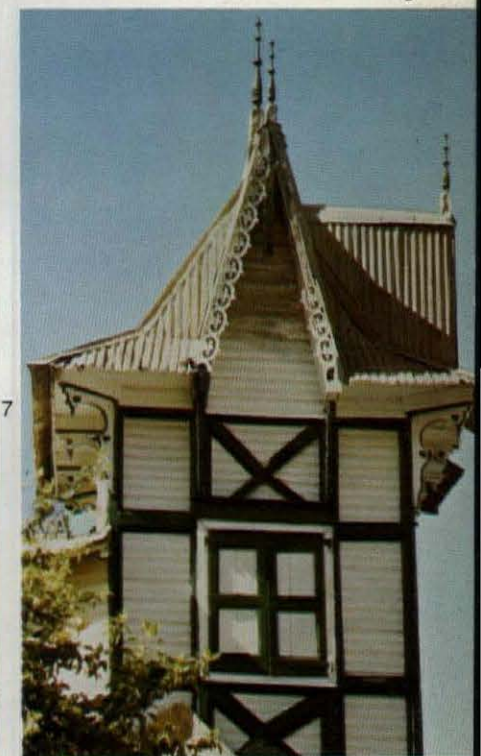
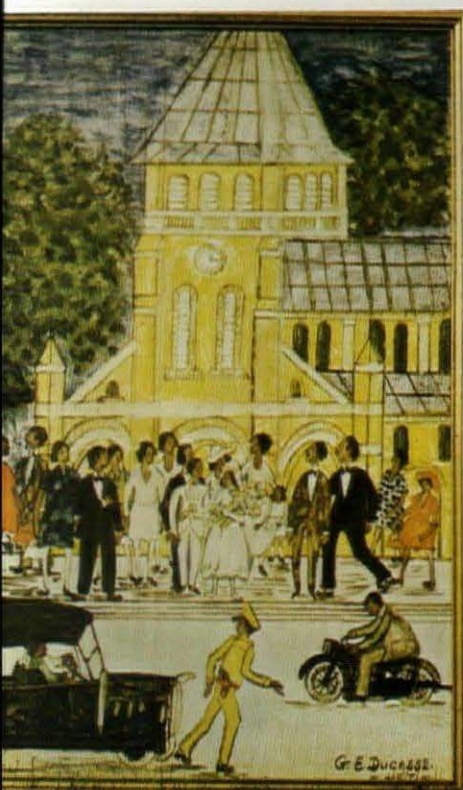
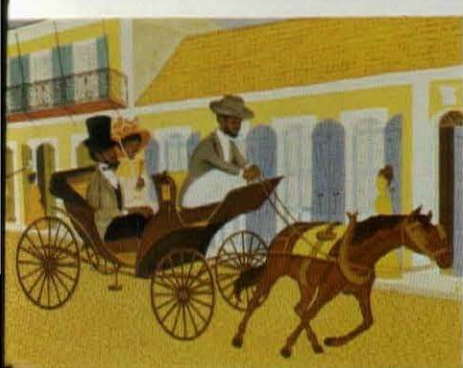
In all these Jacmel mansions, the imported ironwork—slender Corinthian-type columns with fluted bases; ornamental brackets swirling from capital to capital to form shallow arches; railings with interlocking circles, crosses and arabesques; massive doors set in Romanesque or Gothic portals—combines in such a way as to give an effect of grace rather than weight. Decorative foot-square tiles in many colors, imported in the same epoch, floor the piazzas, courtyards, fountains, or provide a frieze above the doors. When the doors double as windows they are generally provided with hinged shutters opening down the middle. In some of the mansions, like the one in the Rue du Commerce which now houses Gallery Renaissance II, an additional decorative feature is supplied by alternating blocks of white and colored stone framing the deeply recessed doors on the street level. But cast iron, swirling in floral billows under every step of every staircase, blooming as banisters and window grills, light poles and garden gates, is Jacmel's trademark.

Where did it originate? Albert Mangones, Haiti's leading contemporary architect thinks the country's Victorian Gothic, in its iron as well as wooden manifestations, owes more to New Orleans than to Paris. Much as I would prefer to see the credit go to America, I am inclined to think the style came to Haiti from France—by way of Jacmel. The Renaissance II structure carries the date 1888. It was in that year that Alexandre Gustave Eiffel was complet-

continued on page 14

Selden Rodman, poet and art critic, lives with his wife and children in Oakland, New Jersey, and Jacmel, Haiti. His recent books include The Miracle of Haitian Art (Doubleday), Haiti: The Black Republic (Devin-Adair) and Tongues of Fallen Angels (New Directions). An earlier book Conversations with Artists (Capricorn paperback) contains a double-interview with Philip Johnson and Frank Lloyd Wright.

1. Former Hotel Mon Rêve, Port-au-Prince
- 2, 3. Haitian life documented by artists J. B. Bottex and G. E. Ducasse
- 4, 11. Floor tiles, Pension Alexandra
5. Massive door, Port-au-Prince
- 6, 9. Details of French Consulate, Jacmel
7. "Coffee palace" ironwork, Jacmel
8. Former house of President Borno, Bois Verna
10. "Haitian Gingerbread," Port-au-Prince





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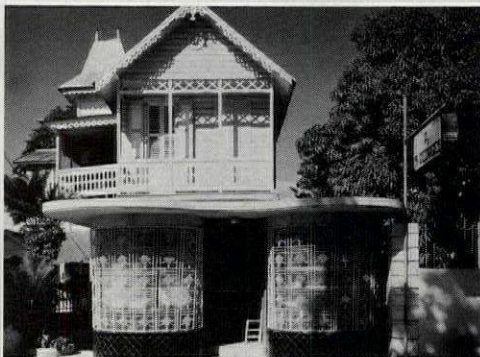
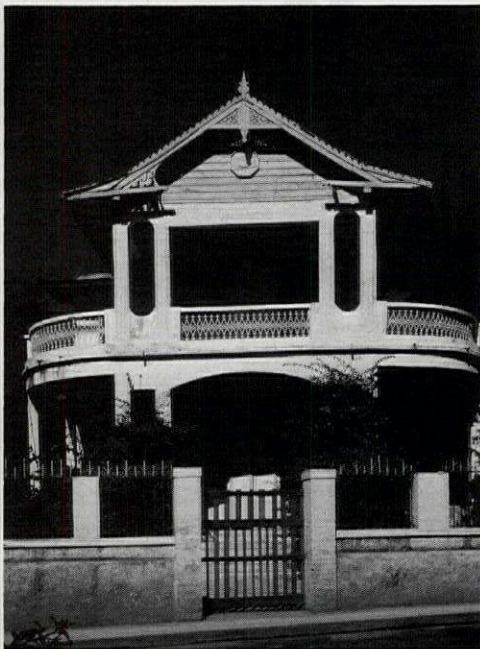
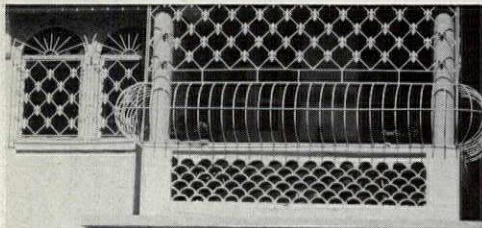
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4. House, Port-au-Prince
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ing the famous tower that bears his name; three years before he had designed the skeletal structure of the Statue of Liberty. But this was engineering. The art of wrought iron, freed of its hitherto almost exclusive dependence on ivy and acanthus motifs, was being perfected in the workshops of such master craftsmen as the Moreau brothers, Émile Robert and Edgar Brandt. Iron was "in." Art Nouveau was just around the corner. And Jacmel, perhaps without being conscious of it, became a repository for some of the fanciest experimentation in forged filigree and cast columns.

Not far out of town, forgotten and half-buried in underbrush, lies a still earlier relic of that Age of Iron that should some day grace a Jacmel museum. It is a steam engine imported to crush sugarcane. Its pistons, valves and condenser now contend with lianas and wasp nests. Its pendulum-like counterpoise hangs in a pavilion of fluted iron columns with Doric capitals. On one of its two huge boilers is a bolted plaque with the legend

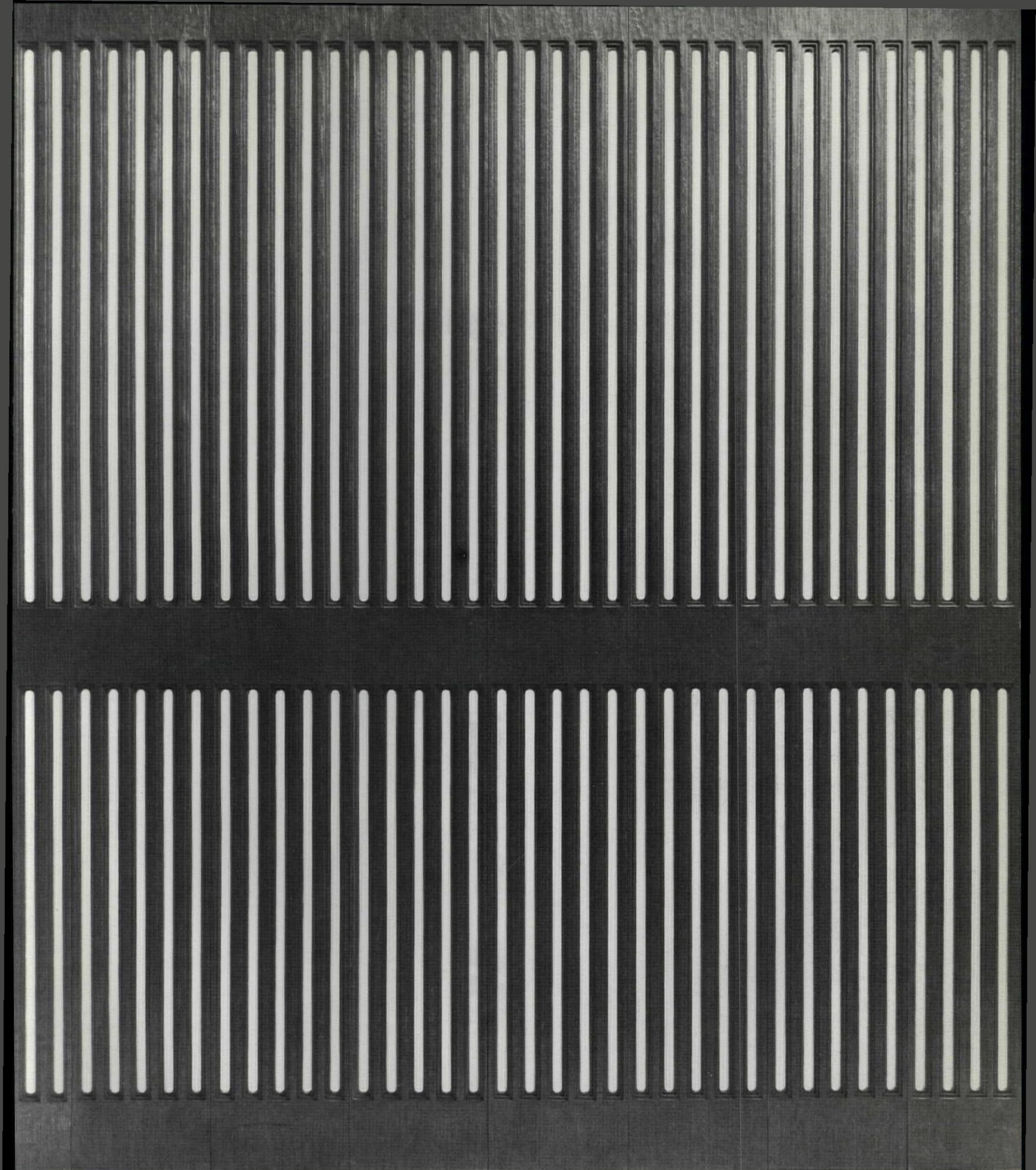
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James Watt, the condensed steam engine's inventor, died the following year.

Even before the producers of the film version of Graham Greene's *The Comedians* were obliged to build a full-scale replica of it in Africa, the Grand Hotel Oloffson in Port-au-Prince was the most photographed building in Haiti. Quite apart from the notoriety given it by Greene's sensationalism, it deserved to be. For no other building in the capital combines so many features of the style known variously as "Haitian Gingerbread," "Victorian Gothic" and "Fin de Siècle Fantasy" as this rambling potpourri of jigsaw piazzas and octagonal gazebos built for a former President.

No doubt because it has been a hotel in continuous operation since the Marine Occupation ended in the 1930s, and because its style has appealed to so many of the writers and artists who have lived in it and publicized it, the Oloffson is better pre-

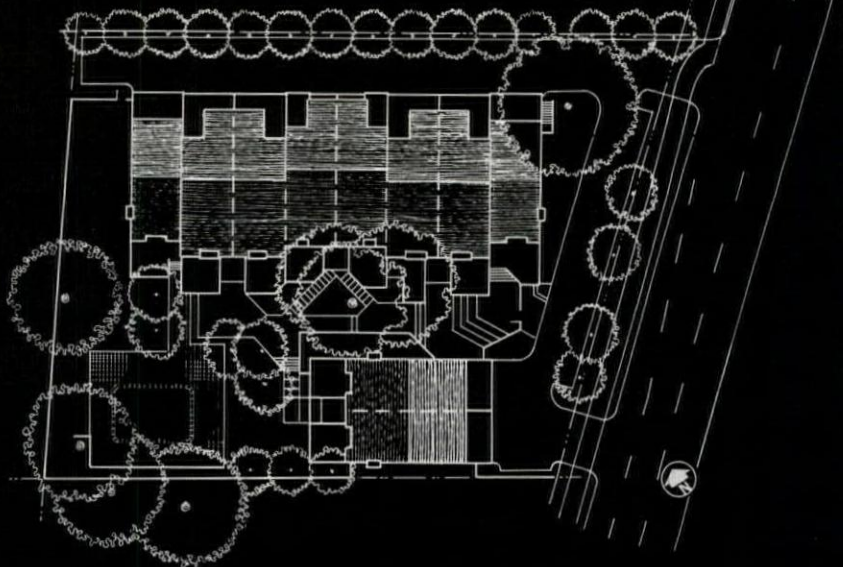
continued on page 22



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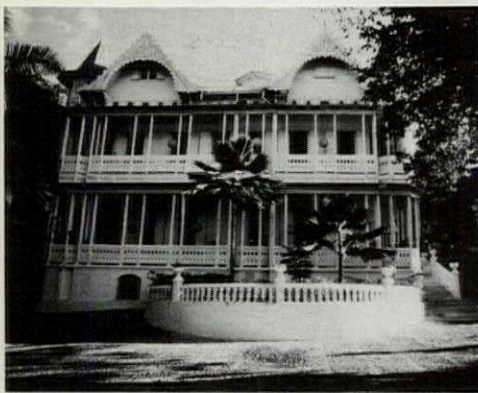


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1. Le Manoire, Port-au-Prince
2. Lawrence Peabody house, Pacot
3. Bois Verna area, Port-au-Prince
4. Cadasco Palace, Port-au-Prince

Photographs: Bettina Cirone and Milton Newman



Imperial China and Victorian England, has had an especially eye-opening impact.

Opinions differ, as already noted, as to where the style of these Port-au-Prince buildings originated. The Gothic Revival, of course, had been flourishing in England, France, Germany and the United States for many years before it reached Haiti, putting a cachet on slender columns, turreted gables, narrow windows and grotesque ornamentation. But what made the style peak in Haiti was the Haitian capacity for gaiety, exaggeration and poetic fantasy.

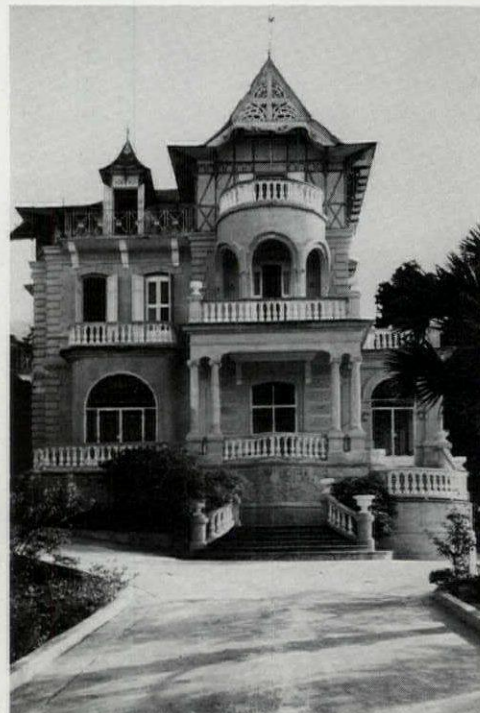
Whatever the provenience, no one denies that it was the return of a group of young Haitian architects in 1898 from L'École Spéciale d'Architecture that gave the new Haitian style its greatest thrust forward. All of them had stayed on long enough in Paris to see the beginnings of L'Exposition Universelle in 1900, with its importation of exotic styles from the French colonies in North Africa and Southeast Asia. One of them was Georges Baussan, who designed the Presidential Palace and whose architect-son, Robert, was later to build Ibo Lélé, Haiti's most splendid hotel. Another was Léon Mathon whose masterpiece (already mentioned) was designed in

1912 for the German Keitel family who called it "Bismarckhoj" and gave it the proud motto it still bears: *Luft, Licht, Liebe*. Still another of the young architects was Eugène Maximilien, who whipped up that caramel-with-cream confection, Cadasco's Castle, which stands alone on a hill half way between Bismarckhoj and the Oloffson.

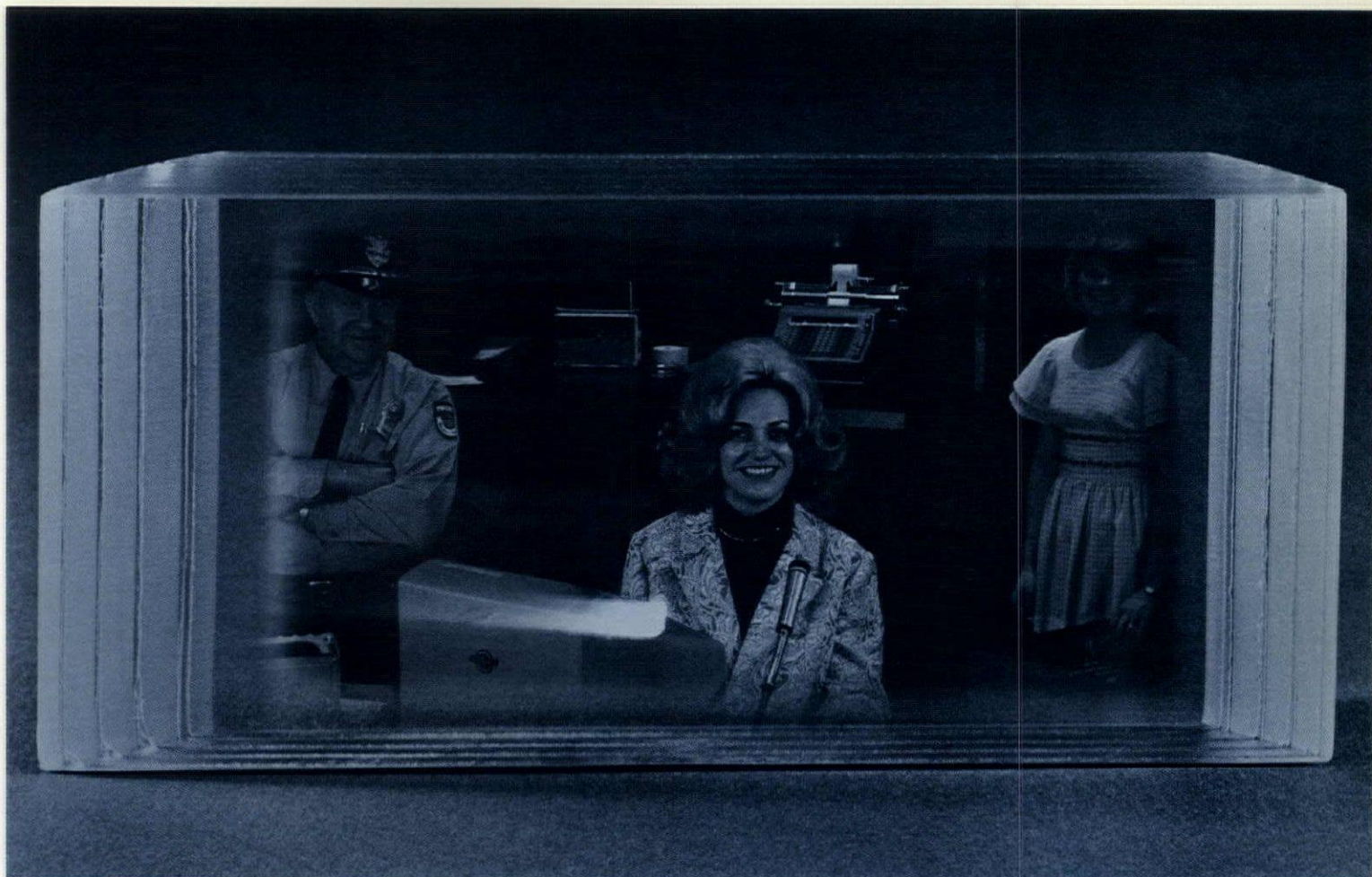
All the way from the Oloffson to Pétienville—and indeed as far afield in Haiti as Jeremie and Gonaïves—examples of Victorian Gothic (often as not embellished with Tudor half-timbering, Italian loggias or Turkish minarets) are still to be seen. But how long will this be so? One of the finest examples, the old Hotel Bellevue on the Champ de Mars, was torn down in the Forties. Most classical of the town-houses, the home of Edner Brutus on Lalue, loses something every time a different dress shop rents it. Purest and smallest of the breed, the one-time residence of President Borno in Bois Verna, is now rented out to *twenty* families who nail their straw mats and tin partitions to its termite-infested newel posts, while directly in front, bisecting that once-sublime facade, squats a cinderblock, chrome-grilled bungalow painted bright blue.

served than most other prime examples of the style. Fire has accounted for perhaps a third of those constructed of wood, and neglect for at least another third. For until recently the mulatto élite, whose fathers commissioned these bizarre but beautiful homes, were ashamed of them, either letting them fall into disrepair or replacing them at great expense with "Miami Modern."

Now, at long last, the style is being recognized as Port-au-Prince's principal claim to visual distinction. To be sure, the government has done nothing to declare surviving examples inviolate parts of the national patrimony. But restoration by foreigners of such prime examples as the Keitel house in Pacot and "Le Manoire" on the avenue leading to Pétienville have stirred the torpid élite to preserve family dwellings that have suddenly become commercially valuable beyond anything with which they might be replaced. The tasteful restoration of the Keitel house by Lawrence Peabody, an interior decorator with a flair for non-indigenous furnishing from as far away as 4



It may be that in time only Jacmel's iron palaces will still stand. If that happens, it is fortunate indeed that the architecture of Port-au-Prince and Cap Haïtien will survive through the paintings of Haiti's artists. Philomé Obin's works of genius have already made the multi-colored Capois streets familiar to millions who will never walk them. Taking their cue from the 80-year-old master, such lesser artists as J. B. Bottex, Senèque, Télémaque and Antoine Obin, and J. R. Chéry, invariably make Cap Haïtien the background for their documentaries of Haitian life. Almost as accurate a record of Port-au-Prince is being put together by such of its artists as Gerard Emmanuel Ducasse and Raymond Olivier. And long before Jacmel knew what a tourist looked like, its Cathedral, Iron Market, tilted alleys and harbor had been transmitted to future generations through the pictures of the late great Castera Bazile, Wilmino Domond and Préfèt DuFaut.



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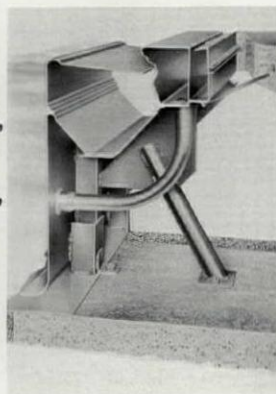
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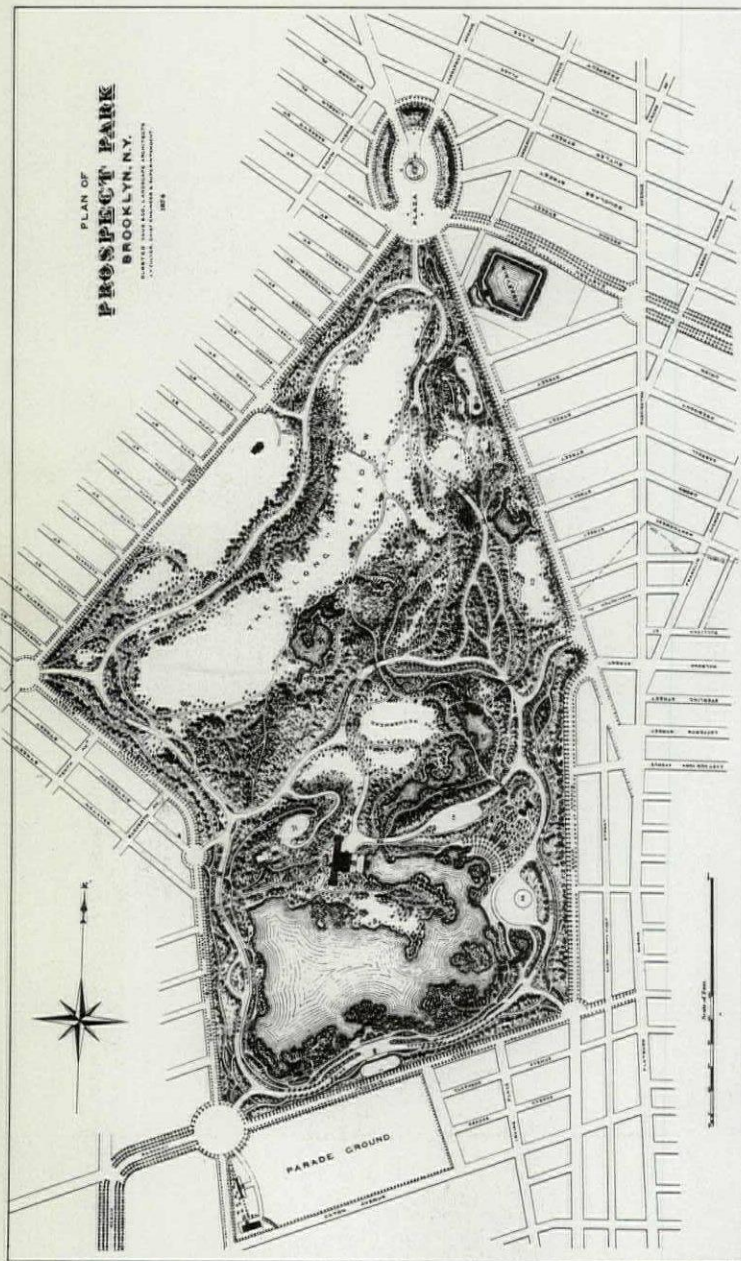
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Book Review



FLO, A Biography of Frederick Law Olmsted by Laura Wood Roper. Published by The Johns Hopkins University Press, Baltimore, 1973. 555 pages, illustrated. \$15.

Forty Years of Landscape Architecture: Central Park; Frederick Law Olmsted, Sr. edited by Frederick Law Olmsted, Jr., and Theodora Kimball. Published by the MIT Press, Cambridge, Mass., 1973. 575 pages, illustrated. \$10.

Reviewed by Henry Hope Reed

Henry Hope Reed is Curator of New York's Central Park and author of The Golden City.

Landscape architecture today pales by comparison with that of yesteryear. Even the size and number of jobs are now much smaller,

but this is also true of painting and sculpture as any knowledgeable artist will tell you. I know of only one new urban park, built from scratch; it so happens that it was completed this year. It is not in America but in Austria, outside Vienna. The price tag read around \$25,000,000.

Landscape architecture is evidently like mural decoration and sculpture. It thrives when the public insists on ornament on a grand scale. Certainly the first great landscape commission in America, New York's Central Park, was on a grand scale. To transform its 840 rocky acres 300,000,000 in today's dollars was spent. As many as 3,800 men worked on it at one time. It was followed by many others. Brooklyn's Prospect Park,

the Minneapolis Park System, San Francisco's Golden Gate Park, the parks which came out of Daniel H. Burnham's and Edward H. Bennett's Chicago Plan and even the great private examples such as the gardens of Villa Vizcaya in Miami by America's greatest living landscape architect, Diego Suarez.

If it would seem that little has been done to the landscape except closing parts of it for state or national parks or burdening it with subdivisions, such footdragging has in no way slowed the ever growing revival of interest in Frederick Law Olmsted. No better example of that interest is the hefty book under review. There is good reason for the backward glance; Olmsted was very much part of the urban park movement (some called it a mania) which flourished on the success of Central Park. The extraordinary movement touched almost every city in the country as one after the other determined to have its Central Park.

Olmsted, of course, was the hero because he laid out many of the parks and because he was, in one way or another, involved in saving great bits of natural scenery such as the shore line of Niagara Falls.

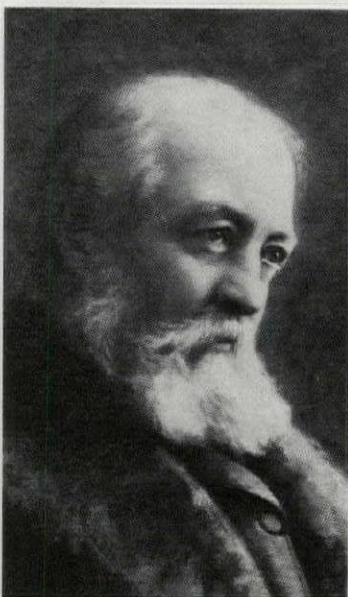
Nor must it be overlooked that the career of no other artist in American history is so completely documented. Anyone who has looked into the Olmsted Papers at the Library of Congress knows that he never threw away a letter he received nor even a copy of one he did not mail. The sheer quantity of *paperasserie*, beautifully organized by the Library's Manuscript Division, is staggering,

enough to caution the ambitious researcher.

Fortunately it did not awe Mrs. Roper. She is the first to thread her way through the reams of letters, clippings and printed reports of Olmsted. Nor did she confine herself to these sources. Beginning her research several decades ago, she was able in 1952 to interview Frederick Law Olmsted, Jr., Olmsted's youngest son who was 82 at the time. Hers has been total immersion.

The subject is well worth it. Frederick Law Olmsted was born in 1822 in Hartford, Connecticut, the son of a prosperous merchant. His education, to our organized eye, appears haphazard, what with his going to different schools and tutors, but there was nothing casual about his fondness for reading. In this he was precocious. There could not have been many, even among his elders, in Hartford of the Romantic Era, who could read Uvedale Price on *The Picturesque* and William Gilpin's *Forest Scenery*. He inherited the inclination from his father who kept a sizable library and subscribed to numerous journals. He grew up not quite knowing where his future lay, hardly uncommon then as now, but he enjoyed the wide latitude and the time for self-searching still found among American families. George Santayana wrote somewhere of the penchant that many an American parent has of letting a child paddle his own canoe, especially on the high seas. In Olmsted's case, if it was not with a canoe, it was literally on the high seas, for, at the age of eighteen he shipped before the mast from New York to Canton. Other than the hellish weather, notably at Cape Horn, he had to deal with a brutal captain. One of the reasons for the long voyage was to correct poor eyesight; it is a wonder he came back alive.

With the years he wavered between farming and journalism, helped along by his indulgent father. One key step, for all the hesitation as to career, was his migrating to New York, like so many other New Englanders. A farm on Staten Island—the house is still there—became his base of operations. Thanks to his writing, both on farming in this country and in England and on conditions in the Slave South, he made a wide circle of friends and acquaintances.



Frederick Law Olmsted

continued on page 122

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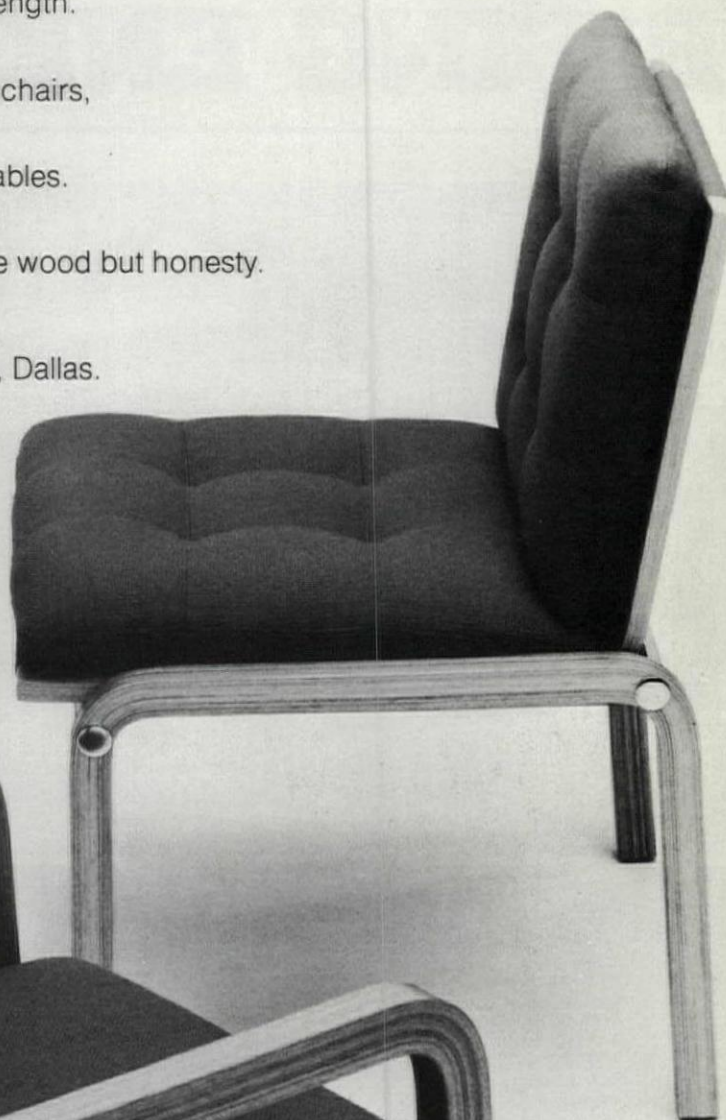
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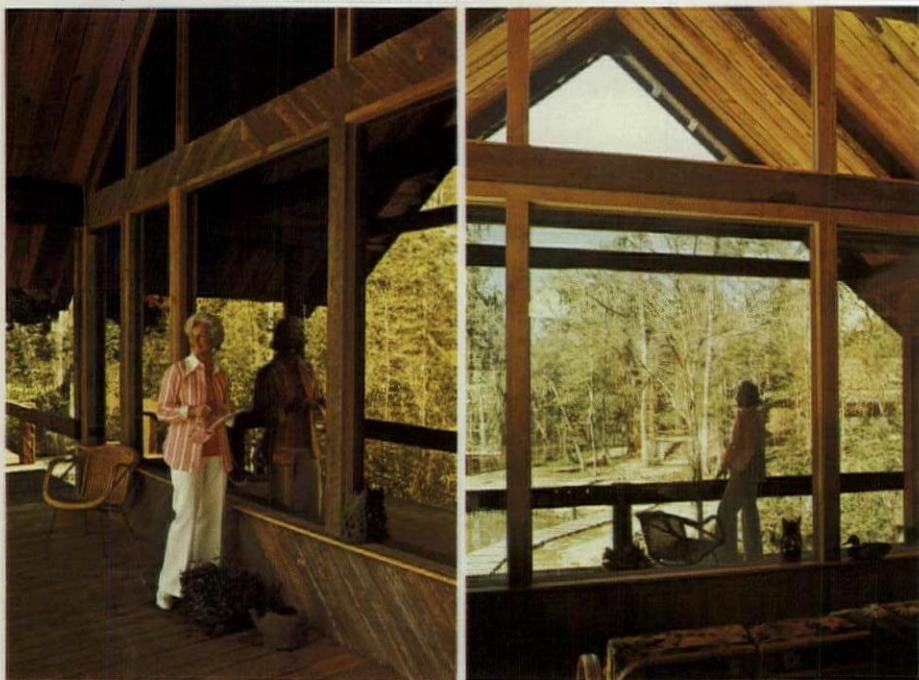
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For those who knew Lou Kahn, his death on March 17th was a traumatic event.

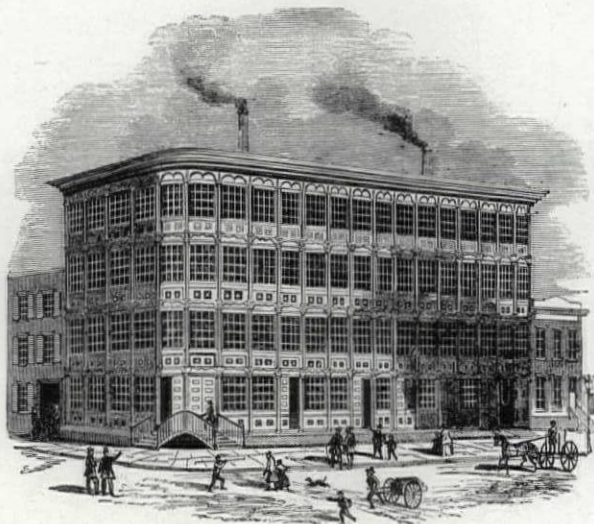
The reason is not merely that a really wonderful person disappeared from our lives. It is, I suspect, that Lou's death, more than any other identifiable event in our memory, signalled the end of a certain concept of architecture. Lou's death quite simply signalled the end of a kind of profession.

Everybody now knows that Lou was just about totally bankrupt when he died—as, indeed, he had been most of his life. (I know—I worked for him, sharpening pencils, for two years when I was a student at Penn.) It wasn't that Lou squandered his fees—not at all; he lived the life of a pauper. It was because he practiced his art with total dedication—a dedication and a passion so all-consuming that it has not really been seen in this century except, perhaps, in the lives and works of Louis Sullivan and Frank Lloyd Wright and Le Corbusier, and one or two others.

Lou thought nothing at all of tearing up a completed set of drawings and specifications, at the very last moment, and starting all over again from scratch, if he felt that his scheme wasn't quite good enough. His completed buildings were almost literally drawn in his blood, and in that of his devoted associates.

When Lou died, the practice of architecture in America, and the rest of the world, had passed into the hands of Organization Men. These teams of Organization Men are producing many first-, well, *almost* first-rate buildings, every one of them a Gold Medal Winner. Lou died in the washroom of Pennsylvania Station, New York, designed by one of those firms.

What is so shattering about Lou Kahn's death is that something in each of us died with him. Not only because we loved him (which we did); but because we were still sentimentally attached to a profession that now seems obsolete. (When the American Institute of Architects convened in Washington, D.C., in May of this year, the most spirited talk was about such matters as Corporate Dues. That was two months after America's finest architect had dropped dead, and his name was hardly mentioned.)—PETER BLAKE.



Men bite building

People don't ordinarily steal buildings; but in June three men did: they stole five connected four-story structures designed in 1848-49 by James Bogardus, and built of prefabricated cast iron panels with glass infill—the first prefabricated “curtain wall” ever constructed anywhere. The historic Bogardus buildings, officially declared a landmark in 1970, used to form the northwest corner at the intersection of Washington and Murray Streets in lower Manhattan. When the

area, known as Washington Market, was razed as part of a mammoth urban renewal effort, some dedicated and energetic New York preservationists, after a lengthy exhausting battle, got the Federal Government to allocate \$450,000 to disassemble, store, and reassemble the five Bogardus buildings, or rather, their cast iron and glass facades, which were to become part of the new Manhattan Community College to be built in this urban renewal area. About \$80,000

Many of the news reports and comments are from our regular field editors: John Donat (London), Gilles de Bure and Marc Emery (Paris), Detlef Schreiber (Munich), Vanna Becciani (Milan), John Hadidian (Beirut), Charles Correa (Bombay), Patricia Boyd and Neil Clerehan (Melbourne), Hiroshi Watanabe (Tokyo), and Edla van Steen (Sao Paulo). Plus correspondents are identified by their initials; other contributors by their full names.



of the money was spent in taking it apart. The students of Columbia University Architecture Professor James Marston Fitch made 17 sheets of measured drawings of the buildings, and took thousands of photographs, all of which are now in the Library of Congress. A section of the facade went to the Smithsonian Institution in Washington, D.C. Each piece of iron was painstakingly stenciled with a serial number to insure accurate reassembly.

So far, so good. Rumor had it that the historic Bogardus curtain wall was safely stashed away somewhere under the approaches to the Brooklyn Bridge, together with the remains of three other, later cast iron facades. Unhappily, this turned out to be untrue. In fact, New York's Housing & Development Administration had simply dumped the Bogardus treasure on an empty lot up the street, and protected it with a coat of paint, a rusty fence, and an unlocked gate. New York City Landmarks Commissioner Beverly Moss Spatt, a peppery lady who treats her certified treasures as if they were her own children (which they are), promptly began to have nightmares—which, on June 25, turned out to be fully justified: a contractor, busy on a nearby site, observed three men loading the remaining pieces of the four-ton cast iron facade onto a truck, for sale by the pound, as junk. The police made some arrests, and found that a junkyard in the Bronx, New York's

northernmost borough, harbored the broken remains of a few of the pieces of the Bogardus cast iron. Where the rest went, knows only God—probably into some melting pot.

There are several other Bogardus buildings in the city of New York that have not been stolen as yet, but are up for grabs: there are two very nice ones on Leonard Street, which have two-story-high cast iron columns that could be profitably melted down and converted into soil pipes; and there is a watchtower in Mount Morris Park, at Madison Avenue and 121 Street, which might prove to be a source of revenue also. (Another Bogardus watchtower still stands, we trust, in Santo Domingo—prefabbed in the U.S. and shipped there in the 1850s. It probably isn't available for junking—at least, not quite so accessible for that purpose.)

The theft of buildings—and the subsequent melting-down of same—may appear, at first blush, to represent a rather paranoid form of architecture criticism. But it is surely a less paranoid pursuit than that practiced by certain architecture students at a famous U.S. university when they—expensively educated, one and all—attempted to blow up a building designed by a great architect, of which (and whom) they happened to disapprove. The anti-architecture students were never brought to trial; the poor ignorant guys who sold Bogardus for scrap (and reportedly got \$63) probably will be.—P.B.

Ships and folding chairs

The French Government has decided to mothball that floating palace, the S. S. France, thereby sending into extinction a style of travel that surely will never be equalled. Now, in another devastating move, the Ministry of Cultural Affairs and Environment has announced that henceforth those

wood and metal folding chairs in the Tuileries Garden will not cost anything to sit upon, thus sending into mothballs the entire fleet of ancient ladies who from time immemorial have collected their pennies from the footsore tourist. The ritual was worth the penny. A little bit more of old France disappears.

Deep freeze dome

The U.S. Navy's first permanent South Pole headquarters building, which was built in 1957 (to coincide with the International Geophysical Year), is now buried under 50 ft. of snow. Heat escaping from the building melted the surrounding snow, causing damage to the structure and caused its eventual "sinking."

In a climate which can only be described as totally inhospitable to any living creature with the exception of the emperor penguin, an aluminum geodesic dome 50 ft. high and 164 ft. across has been raised to house the new U.S. Navy headquarters. The dome, manufactured by Temcor, will function as an umbrella over three prefabricated buildings to be built inside it—the new home for "Operation Deep Freeze": crew's quarters, a science building and a communications center.

Designed to withstand 125-mph winds, uniform snow loads of 120 psf and unbalanced loadings to 300 psf, the dome's unusual strength (aluminum becomes stronger at extremely low temperatures) and spherical shape are expected to postpone for a more reasonable length of time (at least 15 years)

its disappearance under the snow.

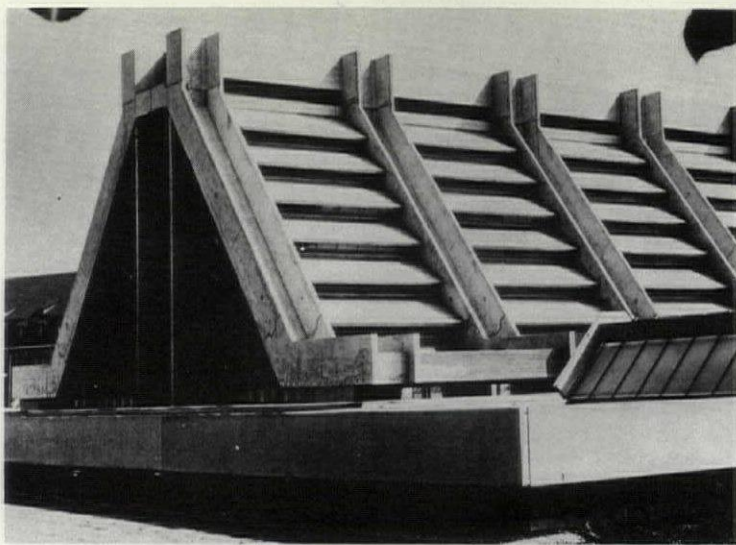
The interior temperature of the dome will be maintained at 0° F. through the use of vents at the top, thus catching and dispersing whatever heat escapes from the three buildings sheltered inside the dome.

The Navy's Seabees spent three years finishing the dome; they could only work during the brief Antarctic summer, and even on one of summer's rare "good" days (-10° F., little wind), a man could work outside for only 30 minutes before retiring to a warm-up shack, so rapidly does the wind-chill factor drain body heat. Since no cranes or booms were available, the dome was man-assembled with the use of hand winches.

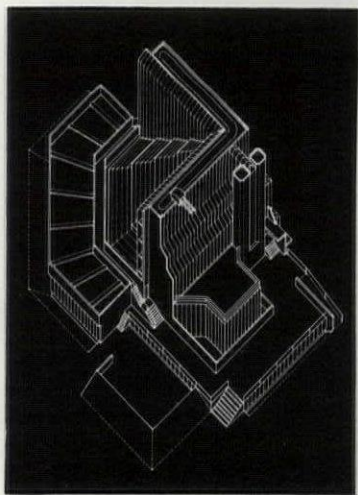
The new station is sited a quarter of a mile "upstream" of the Pole itself to allow for the drift of the polar ice cap toward South America. The station will be exactly over the Pole in five years, and five years later will be a quarter of a mile "downstream."

Work on the three buildings has been suspended now until November (Antarctic summer) and the South Pole station should be in operation by February 1975.

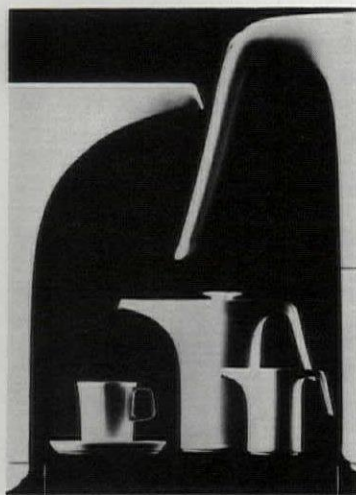




Production Hall, Thomas Glass Factory, Amberg, Bavaria TAC 1968



Cambridge 1964-67 James Stirling



Rosenthal china "TAC II" 1968

Gropius and Stirling

Gropius—Unity in Diversity 1883-1969—an exhibition at the Building Centre in London will be touring the British Isles for the rest of the year. It is a further transmutation of the material first assembled by The Architects Collaborative of Gropius' work with them that was circulated to American architecture schools. Before being brought to Europe the exhibit was enlarged to include post-Bauhaus work from 1928 and then augmented by Mrs. Gropius to include drawings dating back to 1906. This version, still traveling in America and Europe, was turned down by the London Arts Council, a decision bitterly attacked by signatories to a letter in *The Times*: Jack Pritchard, Nikolaus Peysner, Henry Moore, Morton Shand, Maxwell Fry and others. At length the exhibition was brought to Britain by the Building Centre Trust after negotiations with the *Bauhaus-Archiv*.

Here the exhibit has been expanded still further to become a documentary of Gropius' work and his time. The designer, Ken Baynes, and Gordon Steele of the Building Centre Trust both felt that the work itself should be set in a context that would more ade-

quately describe the social and historical background to Gropius' ideas and designs. It was also expanded to emphasize the work done during his stay in England when he had left Germany and worked here with Maxwell Fry.

Recently on show at the Heinz Gallery in London were the drawings of James Stirling, which drew admiring crowds. Stirling's drawings were snapped up by the Victoria and Albert and the British Museum.

The catalog had a thoughtful introduction by Reyner Banham and statements by Stirling, who has always been a man of few words, describing the act of creation; preferring his works to speak, loudly, for themselves—which, as we all know, they do. The drawings speak with a quieter voice but they communicate with a marvelous economy and clarity the essential qualities of the buildings and are very beautiful things in their own right. As a document of Stirling's career so far and of the disciplined means by which his thought processes move, these spare, elegant and eloquent images, all small but all full of substance, are a superb compliment to the built work.—J.D.

What has Sheraton done for you lately?

The mystifying diagram reproduced below is, as it happens, the floor plan of the Washington, D.C. Park Sheraton, site of this year's convention of the American Institute of Architects—an organization which, unbeknownst to itself, has been defunct for some years now. One reason: its few, undaunted conventioners continue to meet in buildings like the Park Sheraton, whence they then fail to re-surface in the real world.

Before the undaunted conventioners disappeared, forever, among the bleak tunnels of this Washington pleasuredome, they did the following, after much pondering:

- Resolved that every architect making a political contribution shall do so publicly and in his own name as a private citizen.
- Resolved to work for appropriate public disclosure laws with respect to political contributions.
- Voted to continue efforts to get pending national housing legislation through Congress.
- Voted to endeavor to involve minorities in Institute programs.
- Supported the establishment of a national man/hour data bank.
- Elected as President William Marshall, Jr., of Norfolk, Va., and as First Vice President and President-Elect Louis de Moll.
- Elected as Vice President Elmer Botsai, who was quoted in the *San Francisco Chronicle* three years ago as saying "on my part, I wouldn't hire a woman." *The New York Times*, just before the 1974

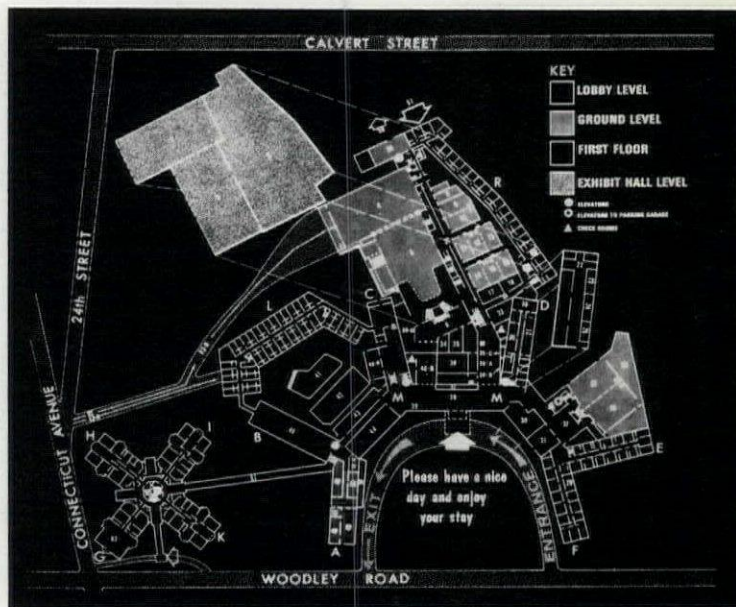


Elmer Botsai

convention, recalled this statement as "I would prefer not to hire a woman" (which is not quite the same thing) but assured us that Mr. B. "now says he regrets his statement and is 'not at all opposed' to women in architecture." It's comforting to know that we can now look to his actions, as his campaign material suggests, and not have to rely on his words. And we wouldn't want to clutter up the situation further by asking him when he stopped beating his wife. Or why.

Also elected as Vice Presidents John M. McGinty of Houston, and Carl L. Bradley of Fort Wayne.

"What has Sheraton done for you lately?"—a tantalizing question sung, daily, on American TV by an airborne nymphet—was thus answered conclusively and to everybody's complete satisfaction: Sheraton has lately swallowed up the American Institute of Architects, without a trace. Not a bad way to go, if your checkout time has come.

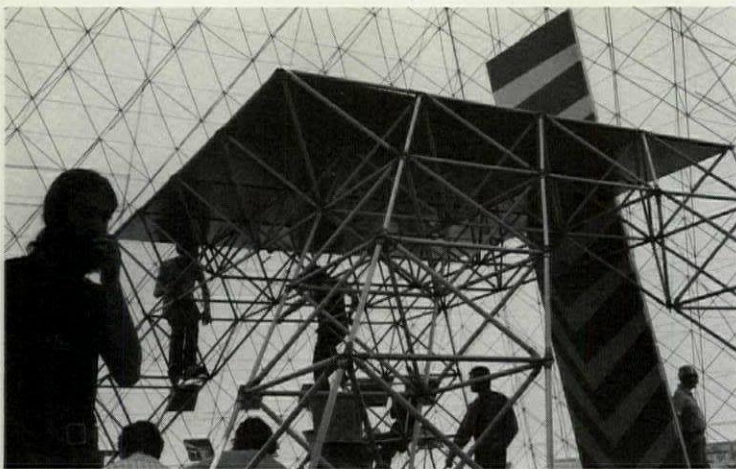


Louis Kahn memorial book

Richard Saul Wurman and Vincent Scully are assembling tapes made at lectures and informal conversations with Louis Kahn for the purpose of compiling a book of his words, writings, speeches and conversations, with a section of

comments by his students, friends and peers.

Anyone wishing to contribute tapes or photographs to the publication should contact Richard Saul Wurman at 1214 Arch Street, Philadelphia, Pa. 19107.



Old form, new material

Among the student constructions at the foot of the Washington Monument during the convention was a white vinyl pyramid, 40 ft. high. The pyramid, a scale model of the one at Khufu in Egypt, was designed by Jerry Compton and Brian Burke who came to the convention from the new Southern California Institute of Architecture. The struts (circular fiber glass $\frac{3}{8}$ in. thick) and the 500-lb. vinyl covering arrived from California in a small trailer. The material cost \$2,000, half of which was paid for by the Association of Student Chapters. The monkey-bar interior was thick with happy kids swinging

from their knees, both during and after construction, causing the erection of the structure to become an interesting experience.

Paul Knell and Steve King, from Carnegie-Mellon Institute at Pittsburgh, built a "playform" from whatever they could find—tires, telephone poles, canvas; they estimate it cost about \$120 in hardware. This novel structure attracted lots of kids in spite of the relentless Washington sun.

Other student projects were colorful inflatable crawl-through tunnels and display domes, including one we didn't check out called the Maidenformasphere.

Resolution or Irresolution?

Women were the subject of some attention at the American Institute of Architects convention. But let's go back a year. The 1973 convention barely passed a resolution on the Status of Women in the Architectural Profession. The resolution itself was hardly controversial—to "take action to integrate women into all aspects of the profession as full participants"—but it passed by only a 3-2 margin. Clearly without unanimity, the AIA resolved to "conduct a study on the status of women in the profession and report the results to the Board of Directors in December and to the 1974 Convention."

What has happened to this resolve? As nearly as we can piece it together, things began to go awry as early as last July, when AIA President Ferebee wrote three internal memoranda on women—none of them mentioning the study that was clearly the heart of the resolution.

In late September—no point in rushing things—Judith Edelman, partner in the firm of Edelman & Salzman, and first woman on the Executive Committee of the New York Chapter, was asked to head the subcommittee that came under Personnel Practices. It took until February 1974 for the subcommittee to discover that there would be no funding until 1975. At this point, Tim Prentice, President of the New York Chapter (one of the three chapters, with Boston and New Jersey, that sponsored the 1973 resolution), wrote a no-nonsense letter to First Vice President Rogers, and sent copies to every regional director. That must have stirred things up, because by March the AIA sent word to Judy Edelman that funds would indeed be available for the study, if the study and report could be completed by May 2, in time to be given to the Board by May 15.

Incredibly, the study *was* done

by May 2 (a questionnaire had been ready to go for months), and a final report *was* in Washington by May 15. Fewer than 100 copies of the report were available at the "Women in Architecture" booth on the first day of the convention. And then there were none.

Why was no effort made to distribute this document to the widest possible audience? Because it said too little (responses to the questionnaire were still coming in), or because it said too much?

- Average salary for full-time employment among the 516 female respondents: \$14,500. Average among the 198 males: \$24,300.

- Architecture is not a "hobby" for these women. Their professional income is the sole means of support for 40.8 percent of the women (and their families); it is so for 63.4 percent of the men.

- Women are not "playing" at architecture—69.8 percent of these women work full-time (compared to 94.1 percent of the men); 36.6 percent of the women take on freelance work above their full-time jobs (29.6 percent of the men do).

- Professional life takes a great toll on a woman's personal life: only 52.5 percent of these women (but 90.3 percent of the men) are married; only 43.5 percent of the women (but 89.2 percent of the men) have children.

(The report also presented many quotations from respondents on their experience with discrimination. This "testimony" is in some ways even more meaningful than the statistics.)

It is true that women were more in evidence at the 1974 convention than previously. A lively booth

among the manufacturers' exhibits had literature from women-in-architecture groups across the country, and videotapes from recent conferences on women in architecture (especially the two successful gatherings this spring at Washington University and the University of Oregon). The subject of women was given two 45-minute slots in the afternoon "marketplace." Judith Edelman made a presentation at the final business session. (She mentioned a "lack of clarity and agreement" on the part of the Board as to what constituted implementation of the 1973 resolution. She was diplomatic in the way that most women working in a predominantly male profession have learned to be diplomatic on this subject. She even got a few laughs.)

But what happens now? Laughs and visibility won't be enough. Will there be further research on the considerable data already at hand? Will there be distribution or publication of the results thus far? Will there be funding for policies encouraging more women to become architects? (The 1973 resolution mentioned the formulation of such policies. An admittedly incomplete hand-count of the state rosters, done in 1974, shows only 1.2 percent of the registered architects to be women.) Will there be full-speed-ahead on the "initiation of an affirmative action program" (also part of the 1973 resolution)? And will *that* be distributed—or only seen by the first 100 passers-by who stop at a booth, and heard by the last few hundred convention-goers who sit in a dreary hotel ballroom?—E.P.B.

The Great Court of the Pension Building, an 1884 Italianate palace built as a Civil War Memorial, was the scene of the grand ball at the convention





88 Pine from across the East River; "uncommonly designed"



Reynolds award

James Ingo Freed, an associate partner of I. M. Pei & Partners, has been given the 1974 international R. S. Reynolds Memorial Award for his "demonstration of excellence" in the design of 88 Pine Street in New York, owned by Orient Overseas Associates (Mar. '73 issue). I. M. Pei & Partners received a \$25,000 honorarium and an original sculpture in aluminum, designed this year by Kenneth Snelson of New York.

Eighty-eight Pine, a speculative building to be filled with business tenants, is a type of structure common to most cities of the world, but was found by the AIA jury to be "uncommonly designed." "It is," they said, "not only a hand-

somely designed urban building; it is also a type of structure that rarely receives the care and attention that this one obviously was given by a master designer."

Aluminum, organically coated in white, is used as cladding for the building, and on columns and beams in the lobby, banking areas and elevator core walls.

The jury consisted of S. Scott Ferebee, Jr., past president of the AIA; architecture critic Chloethiel Woodard Smith of Washington, D.C.; and Hannes Westermann of Braunschweig, West Germany, last year's winner of the Reynolds award. The presentation was made to Mr. Freed at the AIA Convention in May.

Yes and no

It was one of those days when the left hand didn't know what the right hand was handing out as official information from Washington, D.C. On a recent very busy day we received two Government news releases on the subject of the nation's water quality, further muddying the water, as it were.

First, the Department of the Interior told us. "... Considering that most of the water returned to the environment is of lower quality than when it was withdrawn, and that the amount withdrawn and returned has been increasing at the

rate of three percent per year, we say with some confidence that water quality in the overall has been declining."

Naturally we felt very sad about this, but not for long. Soon the next mail arrived with a more cheerful report from John R. Quarles, Deputy Administrator of the U.S. Environmental Protection Agency. "The national water pollution control effort has rolled up a record of immense achievement and has made unmistakable progress toward the goal of clean water."



Stone Face by Sidney Kerner, and Westside Brownstones by Evelyn Hofer

New York through the lens

An excellent photography show, "Manhattan Now—14 Photographers Look at the Form of the Old City," has been on all summer at the New York Historical Society. The fourteen photographers, some of them famous professionals and the others ardent amateurs, are Andre Kertesz, Andreas Feininger, Peter Fink, Sam Falk, Dimitri Kessel, Adelaide de Menil, Mark Feldstein, Evelyn Hofer, Edmund V. Gillon, Jr., Rodman Rockefeller, Robert Campbell, Peter Marks, Sidney Kerney, and Martin Leifer.

The result is a variety of fascinating impressions of the architecture of New York. "Manhattan Now" was made possible by means of a matching grant from the National Endowment for the Arts.





Rechargeable buses

"Silent Rider," Britain's first battery-operated bus, went into commercial service in the city of Manchester this summer. Designed for rush hour operation, the almost silent, pollution-free, single-decker vehicle was built by the Chloride Group, a manufacturer of rechargeable batteries, in cooperation with the South East Lancashire and North East Cheshire Transport Authority. "Silent Rider" can carry 50 passengers, has a range of 40 miles on one charge and a top speed of 40 mph.

The bus has a power pack consisting of a 330-volt lead acid battery with 165 cells, and is fitted with an automatic topping-up device. The batteries can be fully recharged in 3½ hours. The fleet will consist of 20 vehicles operating from one base.

Meanwhile, in Amsterdam, four small white electric rental cars have appeared on that city's congested streets. The tiny vehicles have been greeted with enthusiasm by the Amsterdamers, and if this experiment succeeds it may help Holland's severe gasoline shortages, and the air pollution situation.

The little car, called Witkar (white car, in Dutch), holds two persons and a few packages, and



The silent Witkar



can travel up to 20 mph. It has a range of 40 miles without recharging—and there are seven parking-recharging stations around the city. The cost is 3½ U.S. cents a minute—cheaper than a taxi. Anyone with a driver's license who is a member of the White Car Association may use them. The fee is \$10 a year and there are already 1,500 members. Luud Schimmelpennink, the Dutch engineer who invented the Witkar, has been trying to do away with gasoline-powered vehicles in the inner city for a long time. Nine years ago, when he was a member of the Amsterdam City Council, he proposed that 20,000 white bicycles be supplied free of charge to commuters and shoppers who would pick up and deposit them in racks all around the city. That scheme was rejected.

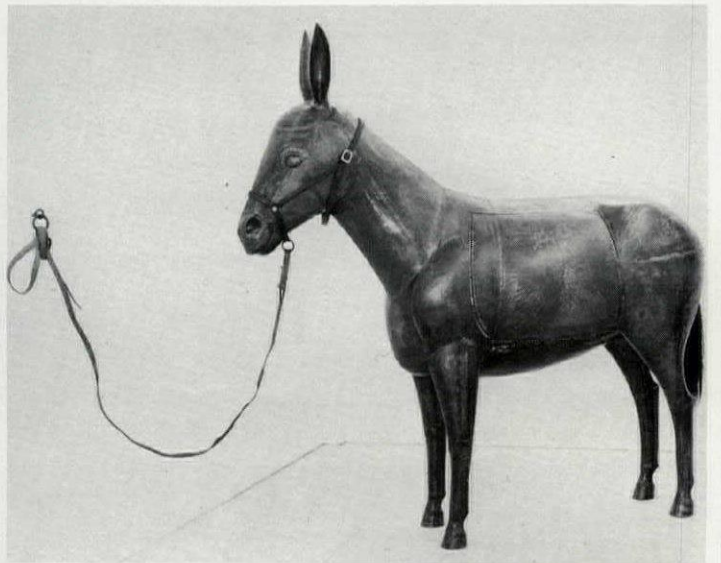
Mr. Schimmelpennink would like to see 1,200 Witkars in Amsterdam, with 100 parking-recharging stations, and no private cars at all.



Cartier-Bresson archive

The Menil Foundation in Houston, Texas, has purchased the Henri Cartier-Bresson archival collection of photographs, and is showing 385 of them at Rice University's Institute for the Arts through September 15. It took Cartier-Bresson two years of going through every contact sheet he has, literally thousands assembled over forty years, to produce this selection. Many chosen for the show have never been made public before.

Cartier-Bresson, the only photographer ever to have had two one-man shows at the Louvre, has long been recognized as one of the most influential photographers. He is the master at capturing a moment's instantaneous reality. He walks down a street, and with a sudden up-and-down motion, shoots a stroller three feet away, and then walks on. He explains his method: "I never think. I act, quick! I hit. . . . If I can manage to make one good photograph a year, I am happy."



Lalanne and his animals

A rocking bird, a life-size donkey with a belly/desk, and a shaggy camel are among the whimsical sculptures by Francois-Xavier Lalanne in a current show at the Alexandre Iolas Gallery in Paris.

The donkey is hollow; his rib cage opens out to form a desk. The lid on the desktop folds to become

a bookrest. (Lucky the child who gets a donkey-desk.)

A shaggy camel seven feet long is for sitting on. A cushion can be pulled out from under it so that one can sit and lean on the camel's side. The camel's face has a knowing smile, and his head moves from side to side.

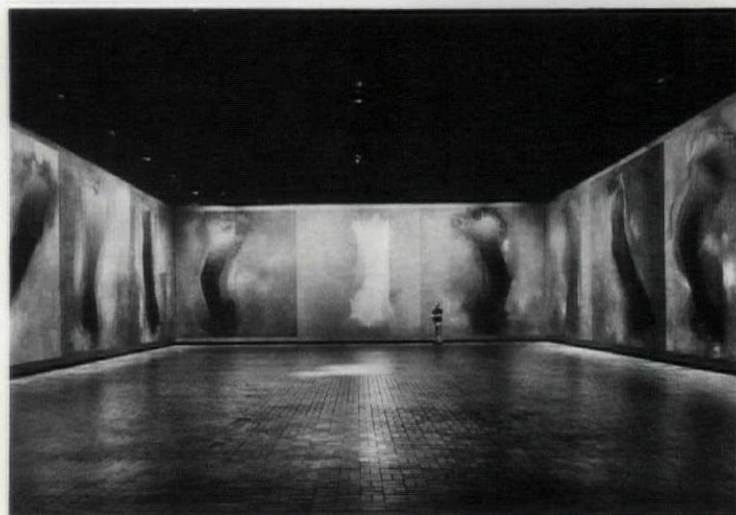
The Threnody sequence

Fourteen paintings, each 20 feet square, were painted in place by Cleve Gray at the Neuberger Museum at the State University of New York at Purchase. The idea was that a series of environmental paintings, each to be executed in time by three or four individual artists would completely occupy the Gallery (96 ft. by 68 ft. by 22 ft.) as temporary murals, and Cleve Gray's are the first of the series.

The only stipulation given to the artist was that the paintings should

fit the four walls devised by the architect, Philip Johnson; and that the paintings be easily removable. Cleve Gray's sequence of 14 squares, each divided into halves vertically for easy handling, uses the separation line as an element.

The artist built a scale model of the room, one inch to the foot, and executed hundreds of tiny murals on cotton duck before deciding on his solution. His paintings, called *Threnody* represent a lament for the dead of the Vietnam War.



Wall-to-wall paintings, one painter at a time. Above, Cleve Gray's *Threnody*

First exhibit

The first AIA-sponsored exhibition of the work of "Women in Architecture," organized by the Equal Opportunities Committee of the New York Chapter, was a success in many ways.

- It got 58 local women to show their work—and show it together. Only three years ago, the suggestion (not from the AIA) that women join in an all-women exhibit was a total flop.

- It brought out the statistics of discrimination once again. "According to a New York salary survey," says the exhibit (which did not mention that New York's Alliance of Women in Architecture did the survey), the 1973 mean income for men in architecture was \$15,800, while for women it was \$13,200.

- And it must have raised a consciousness or two. In the small slide show accompanying the main exhibit, there was an inspired technique. Between successive groups of slides (of work by the exhibitors) were other slides—of sauna ads, flooring ads, *anything* ads, in which women wear fetching smiles and not much else. (One man came into this small room and said disapprovingly, "That's pretty chauvinistic, putting those slides in." But most people got the message.)

Other than that, absolutely nothing marked this exhibit as a women's show. The show did not draw

any women who are exploring architecture from a feminist perspective, trying to ask the hard questions about how women do live—or might live—in our society. But there will be other chances. The feeling about this show from a number of women was: "Not bad, for the first time out!"

The entries covered a range of work not usually included in a more self-consciously "selected" show. Thus it was more true to the profession as it is practiced—good, bad and indifferent—than a glossier and more carefully culled show would have been. It was uneven, with material ranging from major projects to minor, and from high-fashion to "dumb and ordinary." The work came from apprentices and experienced designers, and represented everything from building design to the many other aspects of professional work done by women "in architecture." It made its point—women *are* at work in architecture, now a little more visibly, and their work is no better and no worse than that done by any representative group of men.

Credit goes to M. Rosaria Piamelli, chairwoman of the Equal Opportunities Committee, and Anna M. Halpin, Commissioner. The show will reopen in New York City in October, at the convention of the New York State Association of Architects/AIA.—E.P.B.



Abbey, St. John's University, Minn. 1965-67, Marcel Breuer and Hamilton Smith

Breuer is beautiful

A show dedicated to the work of Marcel Breuer has been on all summer (through Sept. 9) at the Musée des Arts Décoratifs in Paris. It's a slightly modified version of the Breuer show which opened at

the New York Metropolitan Museum of Art in November 1972. There are 107 photographic panels, nine architectural models, ten pieces of furniture and three tapestries.—G. de B.

Crafts show

"The Collector," a show of over 200 objects from private collections, has been on exhibit all summer (closing Sept. 2) at the Museum of Contemporary Crafts in New York. Among the more amusing pieces were "Metamorphic

Car Kiln" built by Patti Waranshina, an auto piercing a brick wall, and in doing so, taking on the wall's identity; and "Wine Goblets," a set of drinking glasses that defies description, made by Dale Chihuly.



continued on page 106

BRICK-ON-BRICK AND WHITE-ON-WHITE

The Walker Art Center
may be the best modern museum in the U.S.



East elevation (opposite page) shows one of three service towers at far left, and the lowest of the three roof terraces on an upper level. The top floors of the building rise above these roof terraces, and contain a restaurant, conference room, library and design studio. The brick is plum-colored. The sculpture in the foreground is Alexander Calder's 1965 "Spinner." The white-on-white gallery (below) is the two-story high, skylit portion of the entrance lobby. The draped work is "Carrousel Merge" by Sam Gilliam, dated 1971.



The new Walker Art Center, built on an almost impossible site next to a freeway in Minneapolis, Minnesota, is a very modest-looking six-story high cluster of boxes covered, head-to-toe, with a neat and understated veneer of plum-colored iron-spot brick. But unlike the butt of Winston Churchill's famous joke, the new Walker Art Center has not much at all to be modest about; for it is, quite possibly, the finest American museum for modern art in operation today.

It has elicited rave reviews from every artist who has ever exhibited there, and from every artist, gallery owner and curator who wishes that he might have a chance to do so. The sculptor, Louise Nevelson, told us that it was one of her great joys to have had an exhibition at the new Walker. "The architect has captured, for our times, the space concept of contemporary, creative minds," she said. And she added: "I know of no other museum that quite captures the need of the artist as this one does." And Leo Castelli, the owner of one of the finest galleries of modern art in the world today, said that "it is probably the best museum space that we have in the United States."

What makes the new Walker Art Center such an unqualified, critical success is that its architect, Edward Larrabee Barnes, performed an act of deference that is not especially characteristic of architects of this or any other time. He deferred completely to those whose work would inhabit his building. One is inevitably reminded of Frank Lloyd Wright's Guggenheim Museum in Manhattan—a magic space that, to date, has crushed almost every artist (except, perhaps, Alexander Calder) who had the audacity to show his or her work inside that concrete snail. By contrast, Ed Barnes' white-on-white loft spaces—so much like the anonymous studios in which people like Louise Nevelson and Robert Rauschenberg and Ellsworth Kelly actually do their jobs—not merely tolerate works of art; they welcome them as few architects have ever welcomed their creative allies.

It is a difficult building to describe, because the anonymous, relentlessly white-on-white loft spaces that are contained in that cluster of bricks seem to dissolve before the human and the camera eye. They seem not to exist, except as enclosures to keep out the rain, and to diffuse the balanced light, and to display the works of art. It is a difficult

building to describe, also, because it is not, in fact, an innocent building at all. Modest, yes—innocent, no.

It is, above ground, roughly 130 feet square; and from that square base, the building rises, in the manner of a three-leaf pinwheel, like a large staircase, in which the broad landings are the galleries. The visitor can walk up through this ascending pinwheel, counter-clockwise, from gallery to gallery, never climbing more than a third of a flight at a time. Each gallery is a white-on-white loft space varying from 10 to 18 feet in ceiling height; and each of these loft spaces, in addition to recalling SoHo and environs, serves as a gently, imperceptibly ascending viewing platform from which to look at the works of art from different vantage points.

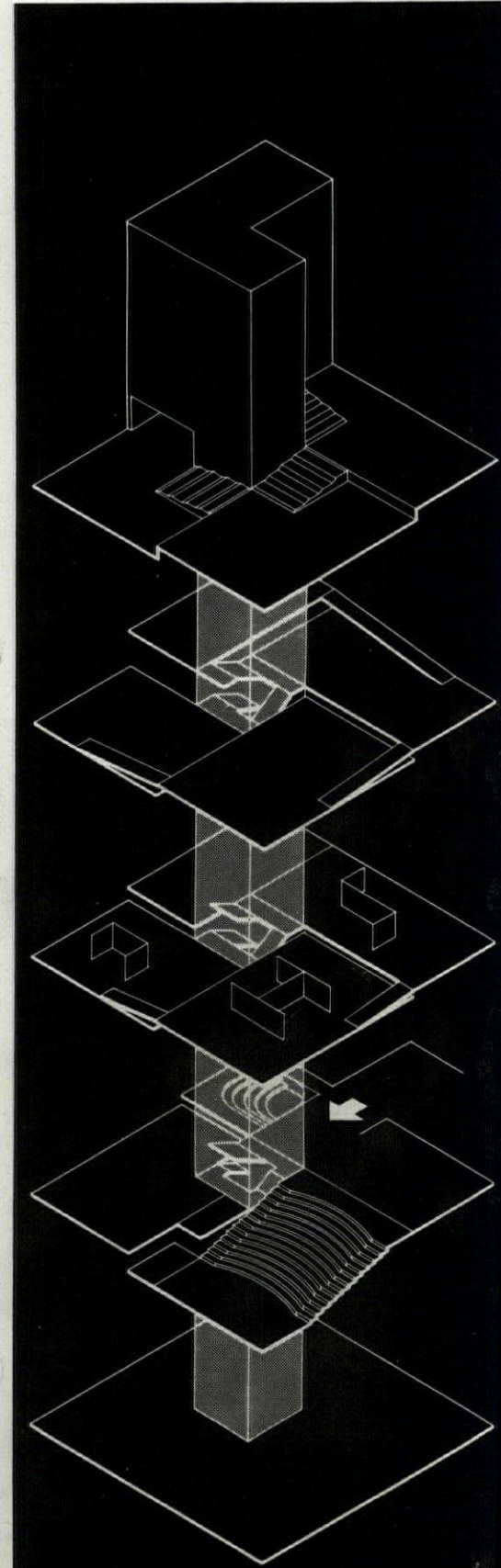
At the center of the pinwheel plan, there is a stair and elevator core that enables visitors to bypass galleries as they walk up or down through the building. (There are, in addition, three free-standing fire-stair towers attached to the perimeter of the building; and one of these stair towers also contains a service elevator.) Finally, the roof is an open-air extension of the pinwheel plan—three connected, ascending terraces that support outdoor sculpture. These terraces, like all the other outdoor surfaces, are rendered in brick-on-brick.

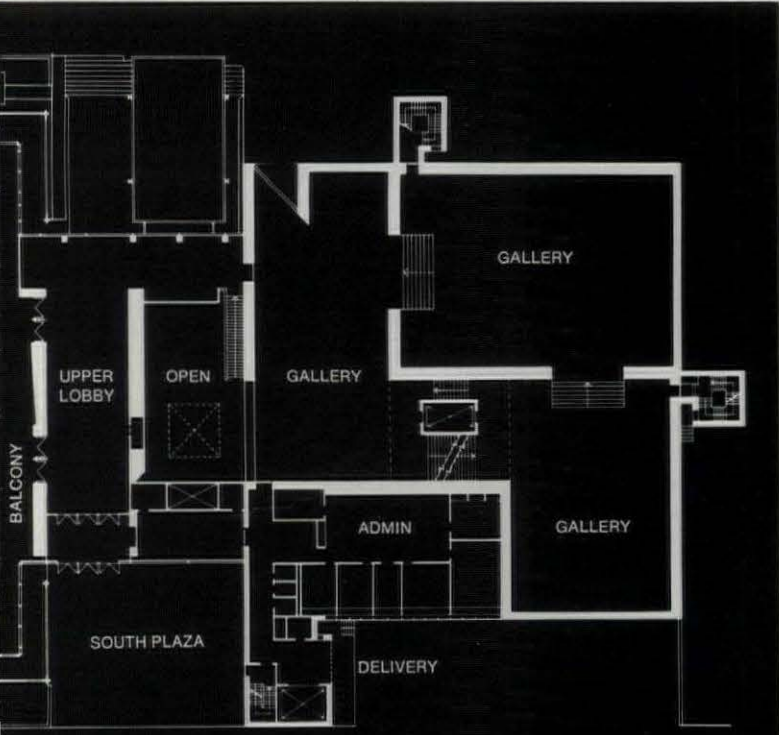
The structure of the building is reinforced concrete, with precast T-beams exposed in the ceilings of the most important spaces. There are no interior columns at all, thanks to the long-span capabilities of the precast beams. Light tracks are integral with the T-beam ceilings.

White walls, white ceilings, and white terrazzo floors might seem difficult to maintain in a pristine condition; but Martin Friedman, the Director of the Center, points out that museums almost always repaint after every show—and white paint is just as easy to apply as any other. In any event, the galleries do retain their pristine beauty, after more than two years of intensive use.

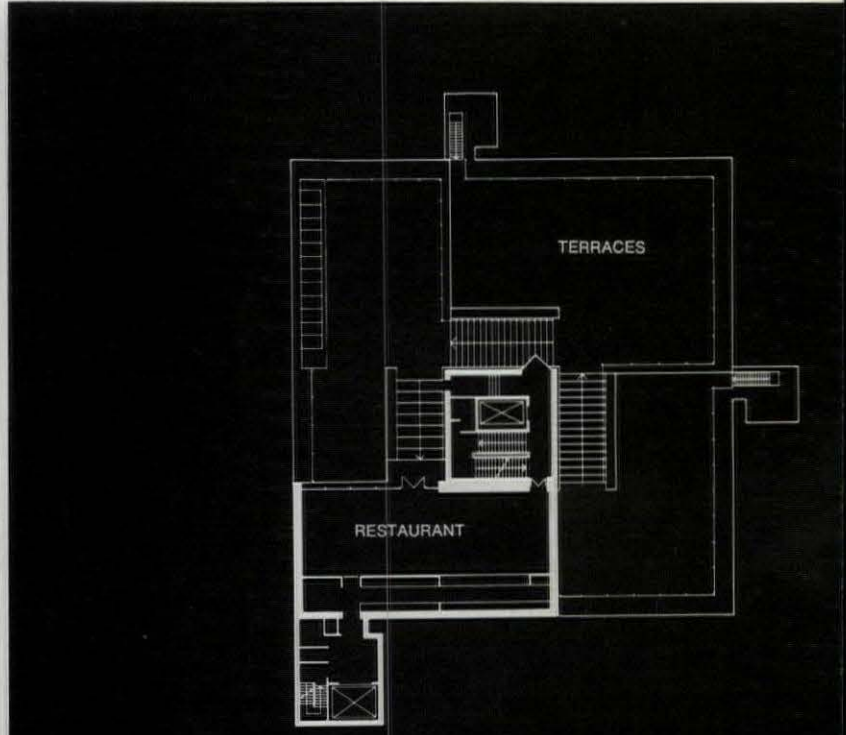
The subtlety of these white spaces is more than a matter of color, or of changes in height and in square footage. There are also subtle changes in the quality of light—an occasional skylight here, and an occasional window there. So there is some natural light in some of the galleries; but the predominant lighting is artificial (incandescent and

Drawings (below) show the four most important levels of the building. The exploded isometric view explains the pinwheel ascent through the principal galleries in the Center. Not shown in plan are the basement, which contains storage, workshop, and other support areas; and two of the upper floors, which contain additional galleries and additional curatorial and related spaces. The principal administrative offices are located in a vertical shaft outside the three-leaf pinwheel, but connected to it on several levels.

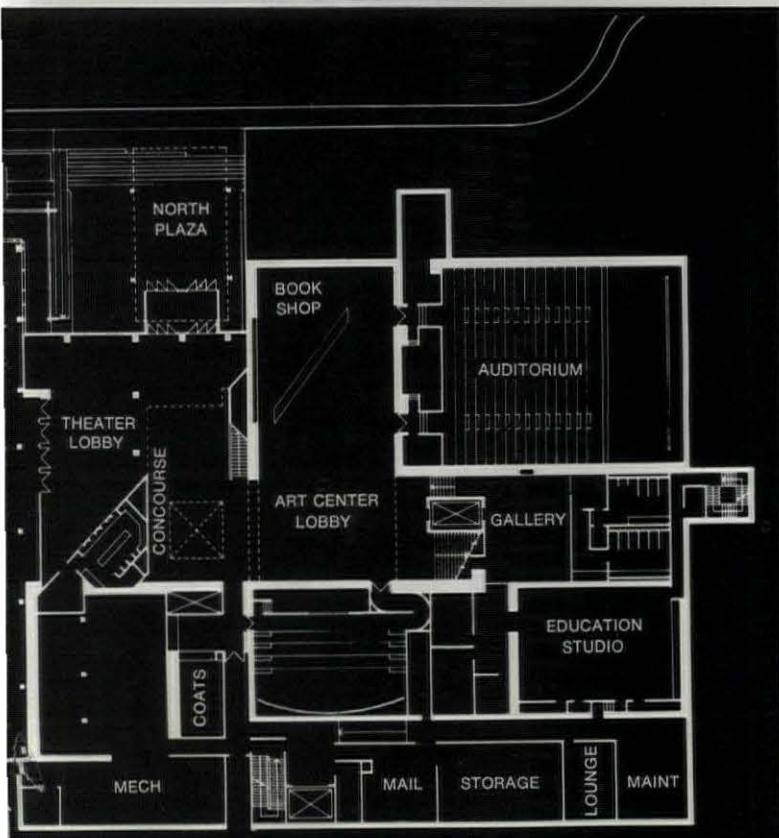




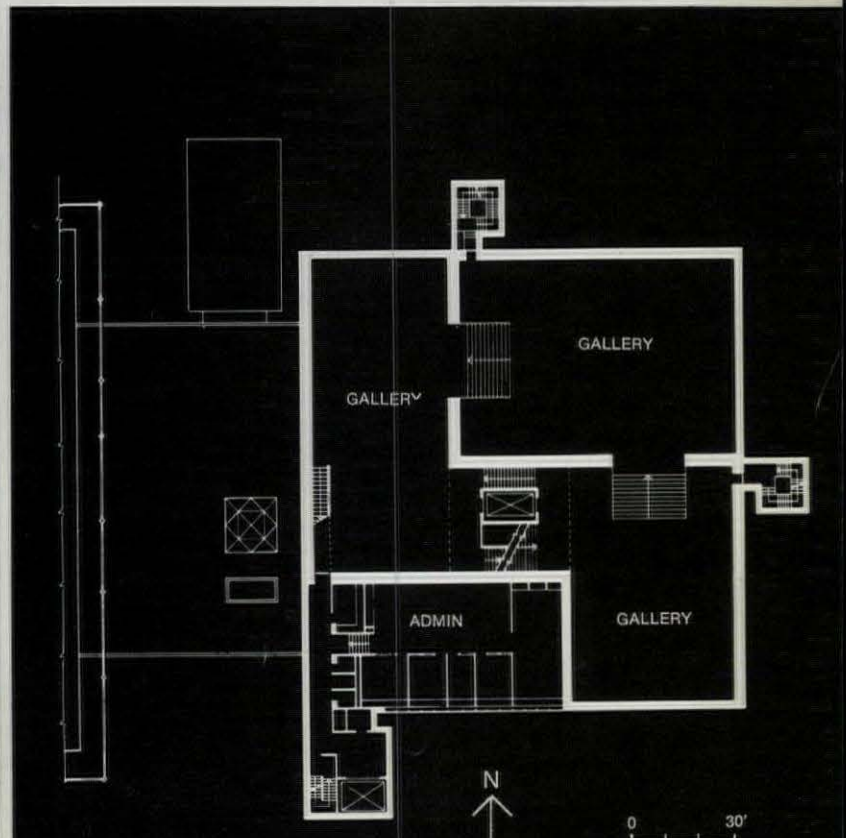
FIRST FLOOR PLAN



FOURTH FLOOR PLAN

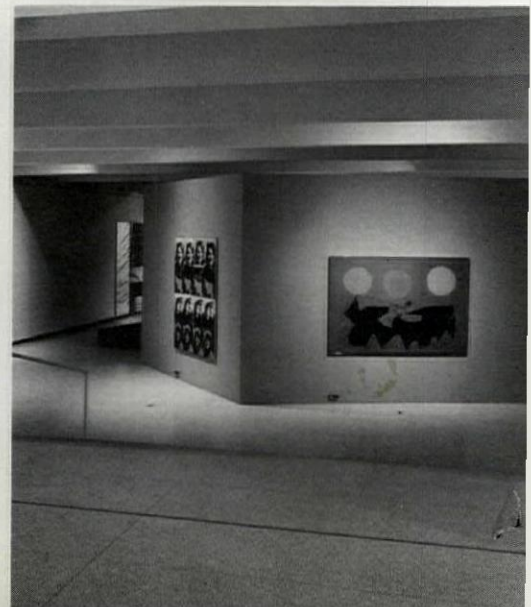


SECOND FLOOR PLAN



0 30'

The airy, anonymous quality of the white-on-white galleries is evident in the photographs on these pages. The top photo, taken during a 1971 exhibition entitled "Works for New Spaces," shows visitors admiring a work by Robert Irwin entitled "no title;" in left rear is Laddie John Dill's work, also "untitled;" and the object in the center is "Fifth Element" by Siah Armajani. The object at front, left, is a bench. The three views at the bottom of page contain works by Frank Stella, Jean Dubuffet, Anthony Caro, Robert Motherwell, Kenneth Noland, Andy Warhol and Adolf Gottlieb, and others. Throughout these galleries, the precast concrete planks are exposed in the ceilings.



quartz lamps). Finally, there are subtle changes in the spatial relationships between different galleries—a mezzanine-overlook from a second floor gallery into the main lobby, and a special stair along one wall of the tallest gallery, which permits one to see works of art from various levels, as he dashes up to still another gallery and to the sculpture terraces on the roof.

The entire building is a virtuoso performance, on a site so small that one feels that no museum of this size—complete with administrative offices, a 350-seat auditorium, a 75-seat lecture room, a library, restaurant, education department, design studio, and much, much more—could possibly have been fitted onto the available space. Yet, the architect not only succeeded in doing just that; he also managed to connect the new Art Center to the neighboring Guthrie Theater, designed in 1961 by Ralph Rapson—and to relate his new building, visually, to a handsome public park, and to the Minneapolis skyline beyond.

The old Walker Art Center, designed by Long and Thorshov in 1927, stood on this same site; and Barnes was originally commissioned to remodel the old building, and expand it. (He found that soil conditions and other structural problems made such a procedure impractical; and so the old building had to be demolished.) In short, the old Walker Art Center *was* an established institution, and the new Center clearly builds on its reputation, as well as on its site.

Still, the quality of these galleries has added very substantially to the Walker's reputation. The old building was a decent enough structure, operated with exceptional imagination by Martin and Mildred Friedman, who also run the new Center, and who served as Barnes' most constructive critics and clients.

Yet, the old Walker was a rather minor museum in a rather minor Midwestern city. But the new Walker Art Center is, perhaps, the first modern museum in the U.S. that can successfully challenge the New York art scene. Every artist, just about anywhere, who has seen these new galleries and terraces, would almost prefer to have his or her work shown here, in Minneapolis, rather than in some of those rather grandiloquent Manhattan museums that often smother art. As Leo Castelli said: "The recent Ellsworth Kelly exhibition was superbly installed at New York's Museum of

Modern Art. It was subsequently shown at the Walker—and, to my amazement, it looked even better there."

What this sort of thing means, in tangible terms, is that the new Walker is able to attract gifts of important works of art by important artists—or soon will be, whenever the U.S. Congress decides to grant tax deductions to artists, similar to the deductions now granted, as a matter of course, to wealthy collectors willing to buy and then donate those same works to public museums.

But even now, even before the U.S. Congress bestirs itself, the new Walker is, in effect, beginning to shift the center of gravity of the American art world from New York to this rather intriguing little Midwestern city, previously known chiefly for its production of perfect thermostats. It is highly unlikely that the Minneapolis Art Institute, in its ambitious expansion program, would have retained the Japanese architect, Kenzo Tange, and the Italian-born designers, Massimo and Lella Vignelli, if Ed Barnes' Walker Art Center had not set a standard of excellence which the Art Institute simply could not afford to ignore.

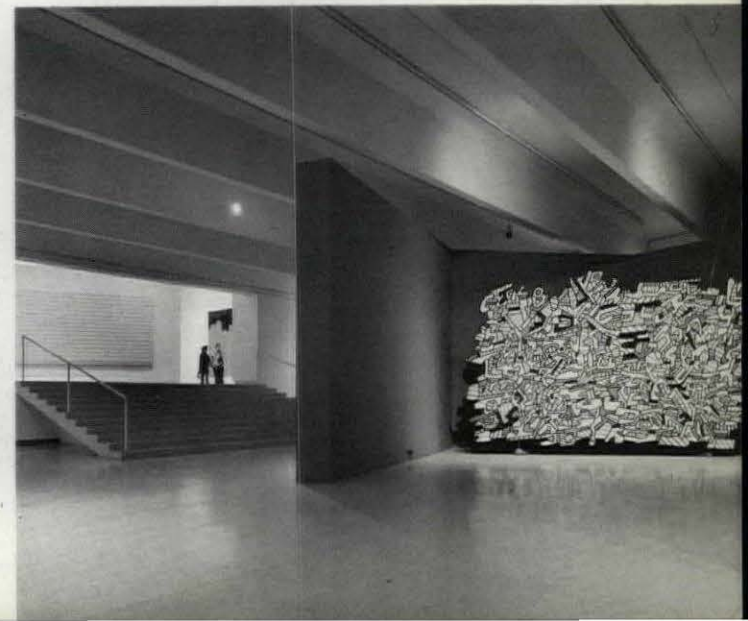
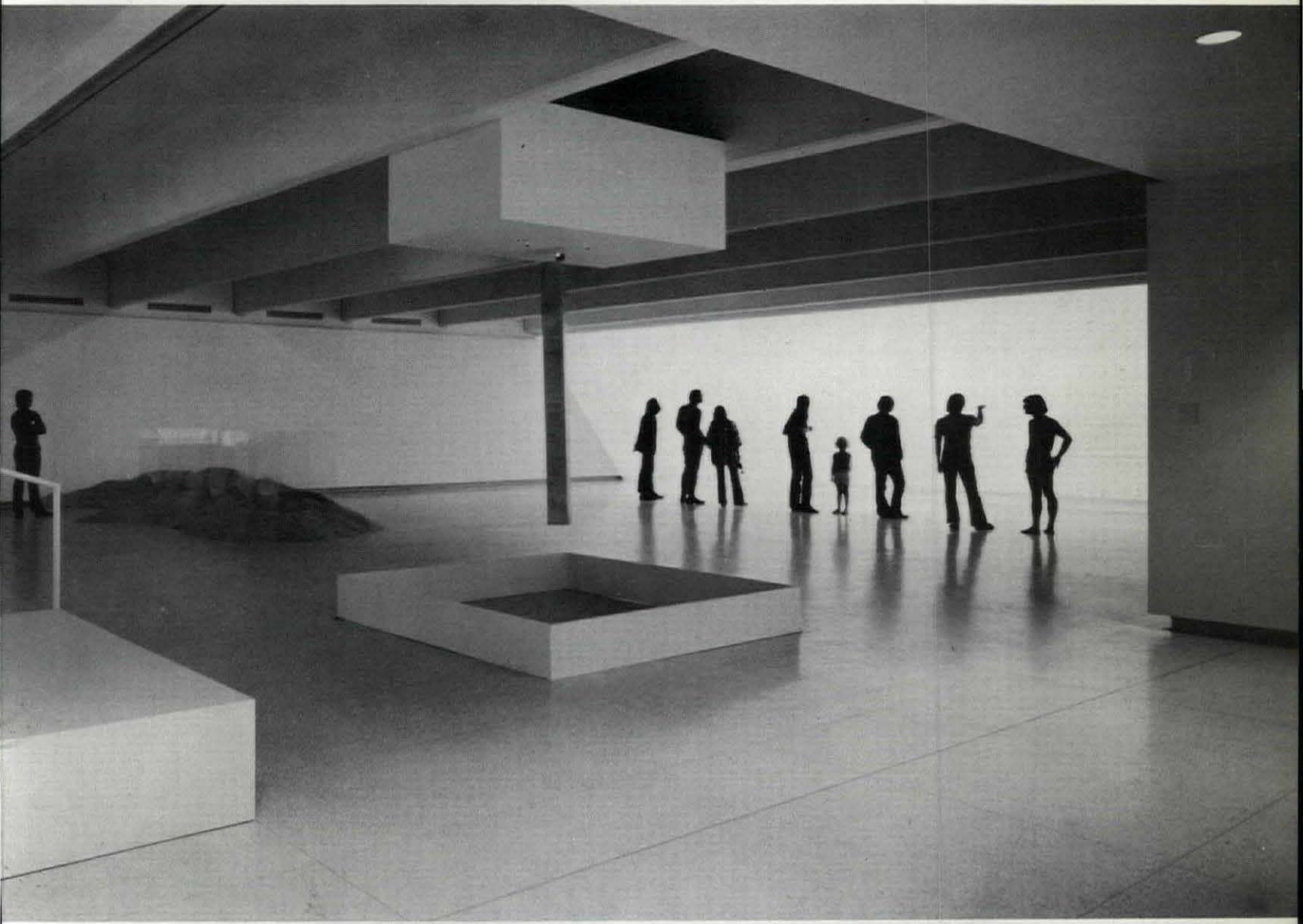
Many new museums have been built throughout the U.S. since World War II, and many of them were built by great and very great architects—Mies van der Rohe, Frank Lloyd Wright, Marcel Breuer, Louis Kahn, Philip Johnson, I. M. Pei, and others.

This is the first museum designed by Ed Barnes, and it quietly challenges all the others built by his elders and by his peers. When the Walker was opened to the public for the first time, Hilton Kramer, the art critic of the *New York Times* enthusiastically commented on the building's "grace, flexibility, and esthetic tact. . . . What the architectural experts will make of Mr. Barnes' design," Kramer wondered, "I cannot say—or even guess."

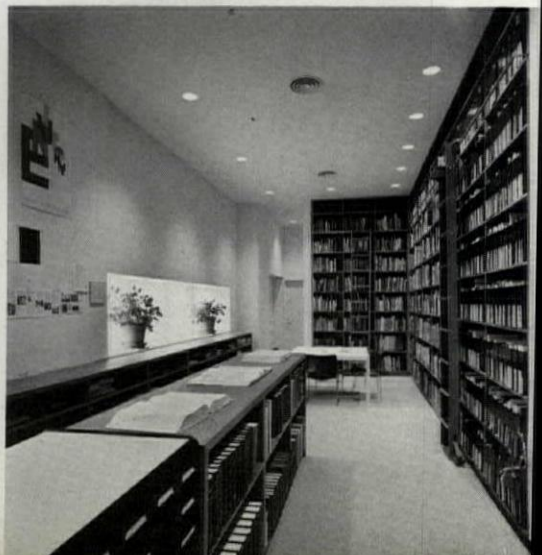
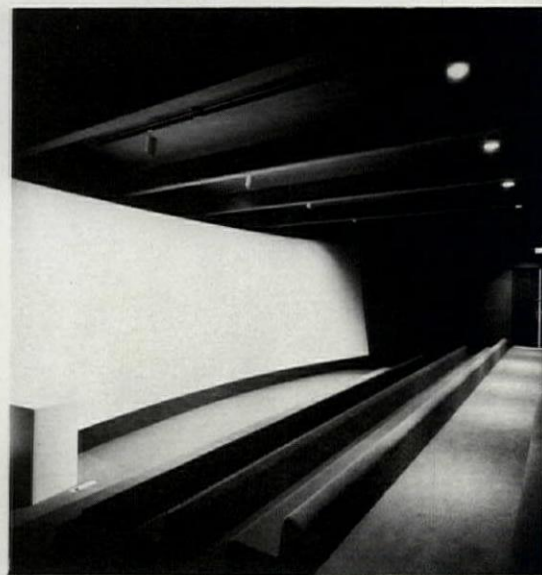
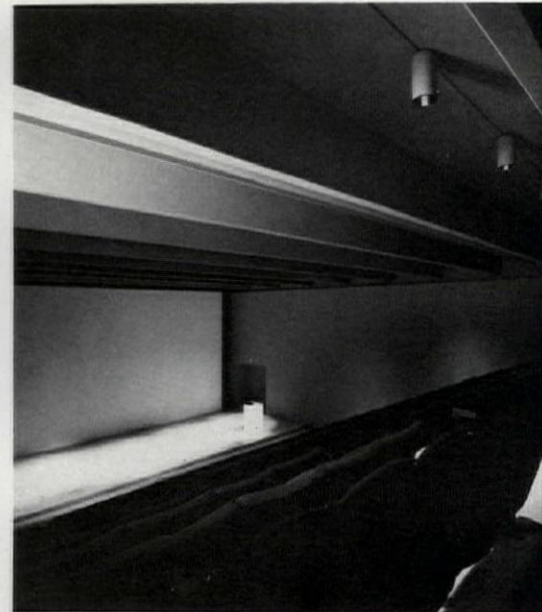
Well, now he knows.—PETER BLAKE

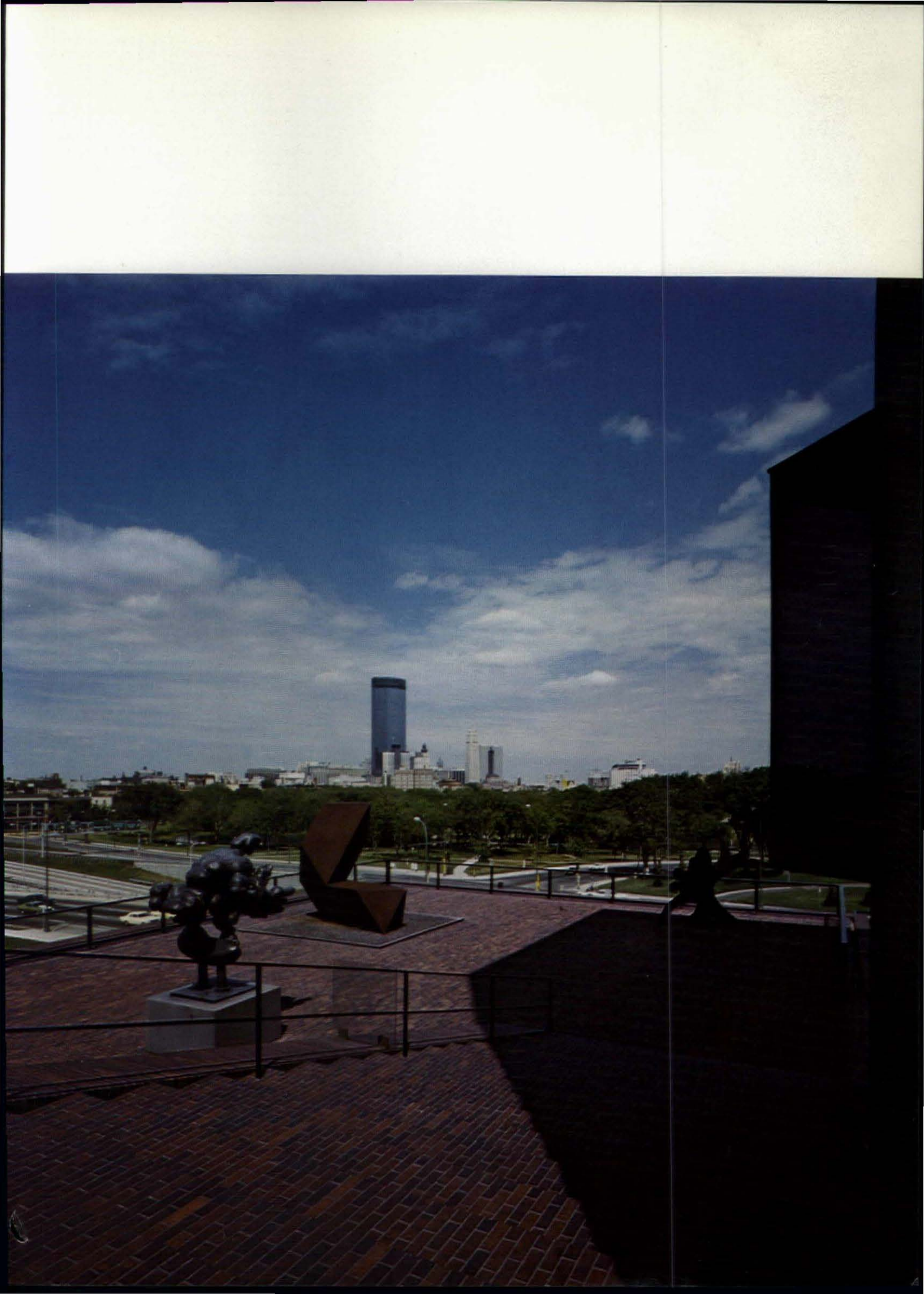
Facts and Figures

Walker Art Center, Vineland Place, Minneapolis, Minnesota. Owner: T. B. Walker Foundation. Architect: Edward Larrabee Barnes, FAIA. Associate-in-Charge: Alistair M. Bevington. Job Captains: Justin Lamb, Martin Rich. Engineers: Paul Weidlinger (structural); Gausman and Moore (mechanical and electrical). Interiors: Mildred S. Friedman. Consultants: Donald Bliss (lighting); Ranger Farrell and Assocs. (acoustics). Contractor: Naugle-Leck, Inc. Building Area: 117,000 sq. ft. Construction cost: \$4,417,000.



At left is Carole Fisher's "Device Piece for Walker." Outside the white-on-white galleries, the Walker Art Center contains a number of extremely neat support facilities. Directly below (from top to bottom) are the 350-seat auditorium; the 75-seat lecture-information room (in which audio-visual presentations can be made on an extra-wide screen); and the library, on the top floor of the Center. The view at right shows one of the roof terraces, and the public park beyond. These terraces support major works of outdoor sculpture. Seen here (from left to right) are Jacques Lipchitz' "Prometheus Strangling the Vulture II," done between 1944 and 1953; Tony Smith's "Amaryllis," 1965; Calder's "Octopus," 1964.







The roof terraces that support the Center's outdoor sculpture continue the three-leaf pinwheel pattern of the plan. In the bird's eye view (opposite page) four pieces are visible: a "Geometric Mouse" by Claes Oldenburg at far left, done between 1969 and 1973; a "Horse and Rider" by Marino Marini, dated 1949; and the Lipchitz and Tony Smith pieces also shown on the previous page. The Lipchitz and the Marini pieces are also visible in the photo, below, which includes a portion of Calder's "Octopus" in the foreground. The triangular bay window at left is merely an overlook from a landing in the central stair tower of the Walker Art Center—a pleasant surprise in a kind of space that is usually handled without much imagination.

Photographs: George Cserna; except p. 43 (top) Eric Sutherland; and p. 44 (top and bottom).



SOUTH AFRICAN TOWERS

by Jim Morgan

Even though it stands halfway around the world from the United States, Carlton Centre in Johannesburg must be considered an *American* building complex. It is an important one, too: the biggest realized project of Skidmore, Owings and Merrill and a soaring symbol for South Africa of the American Way of Life. At least that was the intention of the client, the Anglo-American Corporation—a South African-owned company in spite of its name—when it commissioned the New York firm of architects in 1964, a decade ago.

It is important for anyone appraising Carlton Centre to keep that decade in mind, for many of the complex's shortcomings were not seen as such at that time. Political and economic criticisms, that is the relationship of a cartel-like organization such as Anglo-American to the South African people as a whole, must be tempered when the buildings themselves are discussed. Questions related to architecture and the Energy Crisis, to give another modish example, as applied to Carlton Centre are largely irrelevant. Many of the inadequacies in design which these buildings share with their som cousins in the United States could not be foreseen until the buildings were finished. Then they were apparent to the designers as well as to all other architects. The profession has learned much from som's bold experiments.

In fact, it can be said that when examined against the criteria included in the ten-year-old program and the urban planning and building technology assumptions som then made, Carlton Centre is quite successful. But what if it is compared to another example of American-influenced office building built during the same period in the same country? For instance, BP Centre (for British Petroleum, the main tenant) in Cape Town, designed by Revel Fox and Partners.

High-rise office building design technique is indisputably an American achievement and one in which som is an acknowledged pioneer. The comparison, therefore,

is apple to apple, one an entirely native strain transplanted to an orchard far away; and the other, a second-generation mutation of the original. Carlton Centre and BP Centre each is vulnerable to the now-familiar litany of criticism directed at all high-rise buildings. Both are speculative ventures initiated by institutional clients—in the case of BP Centre, by the South African Mine Officials Pension Fund. Both are intended to accommodate a wide variety of tenants. Both stand on land combined by the respective municipality to encourage high-density construction. Both rely heavily on sophisticated mechanical equipment systems to deal with the effects of South Africa's climate, similar to that of the southern United States. Both make use of up-to-date reinforced concrete construction technology. Finally, tallest to date in their respective communities, both serve as a symbol of urbanity there.

And yet how different they are! Carlton Centre consists of several buildings which have four or five separate functions while BP Centre has essentially only office functions and parking with a small exhibition and service building adjacent. That means the Johannesburg complex is much more self-sufficient in urban design terms. Its gross area, 3.5 million square feet, is more than eight times that of the Cape Town building. Within Carlton Centre's borders are elements which combine to give it a 24-hour life, something a solitary office building cannot generate. A multi-level shopping center (mostly underground), a 600-room hotel, an ice-skating stadium with a 160-foot span roof located above a six-level parking structure accommodating 800 cars are integrated with the 50-story office building around a pedestrian plaza.

Urban planning

The difference in magnitude thus works both ways for Carlton Centre: it makes it a viable focus of urban activity but causes severe scale problems within Johannesburg's urban fabric. Generation of further real

Jim Morgan, a member of the Architecture Plus Board of Contributors, recently visited Johannesburg and Cape Town.



estate development in Carlton Centre's immediate neighborhood was an important goal of the program given the architects in 1964. Anglo-American had purchased a large parcel of land located three blocks off Eloff Street, Johannesburg's main shopping street. The City Council (perhaps the most progressive governing body in South Africa) cooperated in the venture by closing two streets to allow the four adjacent blocks to be combined into a single parcel. The resulting super block, approximately 400 by 500 feet, was later expanded through the addition of another block-and-a-half across Main Street which was not closed. That adjacent land, on which the garage and stadium is built, is also the entrance for 1,200 parking spaces located under the office building itself and service access to the complex.

Anglo-American was convinced that for its awkwardly-located new development to

succeed, a large-scale scheme built all at once was required. Once again American experience, specifically Rockefeller Center, seems to have been the model for a decision which was passed on to the architects. But for SOM, that framework was not unusual. At the time that Anglo-American was shopping in Europe and the United States for an architectural firm with what it considered proper credentials, SOM was deeply involved in Main Place, a Dallas urban development. Had it been completed, Main Place would have been larger even than Carlton Centre. SOM's work on that job clinched the South African commission.

The project has been a great success as a real estate venture. Not only are all components now operating at profitable capacities, but the blocks around it are today alive with the construction of new buildings, smaller but still comparable to Carlton Centre. The scale of the neighborhood into

which the colossal buildings were placed can still be seen on the surrounding blocks. That helps to explain the feelings of many South African architects that Carlton Centre "brutalized" the existing urban fabric.

It is, however, a phenomenon with which city dwellers around the world are quite familiar, something common to Houston, Tokyo, Sao Paulo, and other cities to which Johannesburg could easily be compared. Five years from now, the surrounding neighborhoods will have been completely erased and land-values increased ten-fold or more there. Recent substantial increases in the price of gold on world markets has brought an acceleration of building activity in the city of Johannesburg.

Cape Town, in which the 30-story BP Centre tower is an important urban focus, is quite a different city. The "boom-town" vigor of Johannesburg is replaced by a relaxed and cosmopolitan attitude. It is reminiscent of San Francisco in many ways. In 1967, the Mine Officials Pension Fund purchased property adjacent to Thibault Square, a mid-block plaza being developed under the Town Planning and Draft Tower regulations. The city wanted to encourage building there in order to tie its waterfront urban renewal area, the rather barren Fore-shore development, into the existing downtown. It has a long way to go before that goal is accomplished.

Revel Fox, who has a relatively small office in Cape Town, and the client knew that the tower erected there had to accommodate parking for 350 cars and subsidiary shopping facilities. Unlike the Johannesburg situation where the City Council negotiated the Floor Area Ratio with SOM and its client, the Cape Town project was held to existing limits regarding setbacks and height. Maximum permitted floor area for the site was 417,000 square feet.

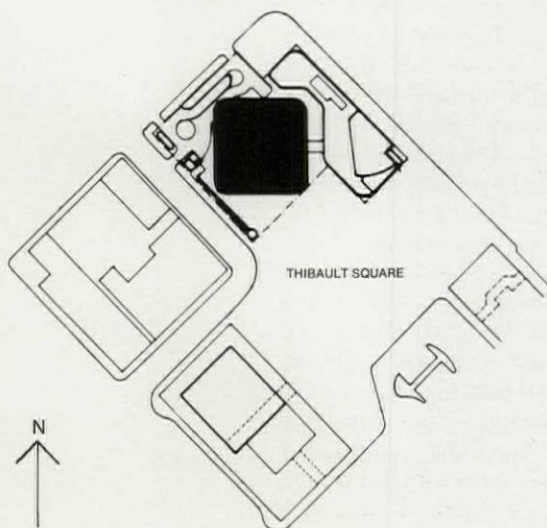
The single outstanding urban design contribution of the tower is its siting on a 45-degree angle to the Cape Town grid. This was done to orient the building with the cardinal compass points which, in a struc-



ture with a square plan, reduces air-conditioning loads substantially. "Sometimes," says South African architect and critic Julian Elliott, "it seems as though BP was set square and the city had been revolved through 45 degrees relative to the new grid established by this tower."

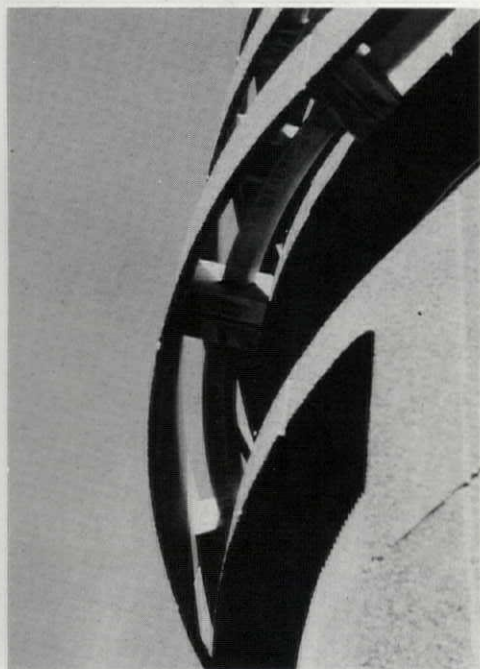
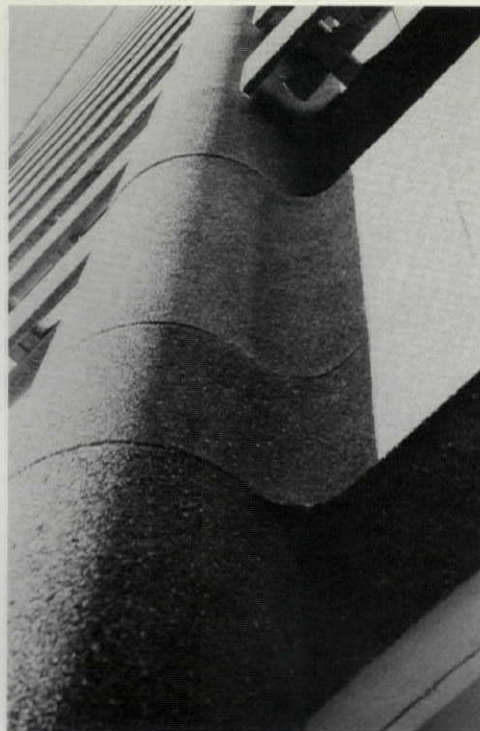
But Thibault Square has its own problems. Not only is it isolated from major pedestrian paths on adjacent blocks, but its landscape design (not by Fox's office) is so minimal and unattractive that no one would be drawn there who did not have business nearby. Across the square is another tower, the Trust Bank by Colyn and Meiring, that is slightly less tall than BP and sets up a disturbing duality when they are seen together from a distance. It is ironic that a duplicate of the bronze, Mies-style Trust Bank also stands a block from Carlton Centre. They serve as "scale figures," a constant by which the relative size of BP and Carlton Centres can be compared. Or perhaps the Trust Bank is not a building at all but that dark monolith that appeared in the film, "2001," whenever man's intellectual reach exceeded his grasp.

Nonetheless, when examining the quality of life on the ground around the Carlton and BP Centres, the Johannesburg complex emerges as the livelier place, mainly because its mixed uses generate so much pedestrian traffic. Yet the landscape design—by the wife of Carlton Centre's manager and considered a bit *too* lively by SOM—also helps to make it a place to which people are attracted. Unfortunately the original design intention, that the underground shopping center would be visible from the plaza itself through a large circular hole, has been thwarted by a fabric cover installed by the owners. They claim that winds in the plaza, which seem an unavoidable companion to any tall building, were sweeping down into the shopping areas. SOM, which regrets the necessity for an enclosure, would like to see a transparent one but Anglo-American's budget does not permit that at present.



Carlton Centre





Construction technology

The crucial difference between the two Centres is the manner in which they make use of American construction technology. Both are able to enclose much larger areas of rentable space than earlier South African commercial buildings, through the use of sealed windows and air-conditioning. Both office towers, it should be noticed, have glazing that has been kept back of the spandrel in order to gain some shading benefits from it, and that is supplemented at BP by precast sunshades that vary according to each facade's orientation.

Carlton Centre was originally detailed for precast concrete exterior cladding; but after the hotel was almost two stories above ground, according to SOM, the contractor decided to switch to a poured-in-place technique. That decision may account in part for the over-bearing quality of the hotel's end walls, for instance. BP, by com-

parison, has a more elegant and crisper exterior. Precast beam and column covers, with dark gray shale aggregate, were used as the in situ concrete formwork.

It is in the detailing of the typical spandrel, however, including window and mechanical equipment, that the difference which makes one set of buildings oppressive and the other quite ingenuous and fresh is so apparent.

The approach taken by SOM, who claim that the City Building Department urged them to put together buildings that would "shake up" established practice in Johannesburg, was to transfer undiluted to South Africa the techniques developed in their New York office beginning with Lever House (1952). That meant that if products were not available in South Africa, SOM either encouraged local manufacturers to retool and produce the element exactly as it is made in the U.S., or else they had it

shipped from the United States. They insist that most of Carlton Centre's components, except for complicated things like specialized elevator controls, were manufactured there. Furthermore, it is their contention that their work "ended up educating the City and rewriting the building codes." One example cited was plumbing access requirements. Where formerly in tall buildings a chase was required into which the mechanic could enter for inspection and repair, SOM introduced American-style toilet fixtures and frontal access to plumbing through removable panels. A great deal of floor area was thus saved.

But back to the window details. After SOM had done the master planning and design preliminaries, a small group of people from SOM's New York office went to Johannesburg and supervised the working drawings prepared by their South African associates, W. Rhodes-Harrison, Hoffe and Partners. The resulting drawings were, in the words of Roy Allen, SOM's partner-in-charge, "much more complete than the standard for South Africa."

The Americans, apparently, played a stronger part than they anticipated and the results are obvious. Detailing throughout the complex is based upon the well-known combinations of extruded aluminum sections that have spread to almost every American office from SOM. Without having to examine it closely, any visiting American architect can look at any Carlton Centre window sill (or any interior detail for that matter) and see the drawing of the wall section, complete with lollipops identifying large-scale details, right before his eyes.

That is not the case at BP Centre. It may sound strange to a non-professional, but the window-wall details at BP are alive with the clarity that comes from a problem solved for the first time or at least with a fresh viewpoint. The visual acuity that captures one's interest in Revel Fox's building has been lost somewhere along the way in SOM's standard details. And it is especially sad

because so many of the original concepts upon which Fox based his work came from som. In the end, one feels, it is not so much a matter of money as of the concern of the person bending over the drafting table that counts. At BP, it shows in the way the window units meet the ceiling and, at the sill, in the air-handling equipment enclosures. It shows in the floor-to-ceiling segmented glazing at each corner of the typical floor. And as one walks around the perimeter of the floor, the variation in placement of the sunshades changes his viewing experience.

Thus the difference between the two projects seems to be the consistent application of standards—for consistency's sake—versus the thoughtful application of the same standards, carefully restudied to suit a specific circumstance. It is the difference between high-quality speculative building and architecture.

Approach to interiors

Comparative window details lead logically to a look at interiors. It is a bit unfair to compare the two projects on this basis because som did none of the interiors at Carlton Centre. Yet, their overall design decisions did provide the envelope within which others have designed the work spaces and specified the furnishings. For instance, the 30,000 square foot office building floors at Carlton Centre (requested in the client's program) are more efficient in terms of tenant subdivision than those at BP Centre which have only one-third the area. But the standard American approach of individual offices next to the windows, encouraged by large floors, offers far less sense of the outside world than the multiple exposures available to everyone on the floors of the Cape Town tower. Roy Allen acknowledged that som would have liked to have done the interiors at Carlton Centre but insisted that was not important to the story. "What matters at Carlton Centre is the technology and urban planning—the integration of a multiplicity of functions."

BP Centre



Carlton Centre



But it's not quite that simple. The fact is that som's approach to interior design and graphics seems to have lost whatever vitality it had twenty years ago. Or perhaps our taste has changed to require more emotional content in the environment. It is no wonder that Western International, the operators of Carlton Centre's hotel, rejected som's interiors proposal for one based on decorator's techniques. Even though the hotel felt exactly like new ones in Chicago or Houston, its interiors at least have a sense of welcome.

The BP Centre interiors indicate a basic concern for the average office worker that transcends the cosmetic approach. Within the 33 feet between core and windows, an office landscape-type system of furnishings permits a wide variety of work arrangements. The lightness of the system, developed by the architect with BP's own designers, is consistent with the interior detailing throughout. It encourages frequent adjustments and changes in the relationship of one worker to another. Even the executive floor, at least to American eyes, retains an appealing simplicity and compactness.

Architectural imperialism

Many readers will remember when young and concerned architects picketed som's New York office in 1966 because the firm was doing a South African project, Carlton Centre, which required provision of separate toilet facilities for whites and non-whites. The economic and political realities of Apartheid, the official South African policy of racial separation, are so brutal when seen first-hand, that the toilet facilities issue seems a modest one indeed.

The buildings of Carlton Centre symbolize the inequities of income distribution in South Africa vividly and that is a far more meaningful problem. Anglo-American Corporation, the client and owner, can afford such architectural extravagance at least partly because it pays indecently low wages to the black men who bring the wealth from its mines to the surface.

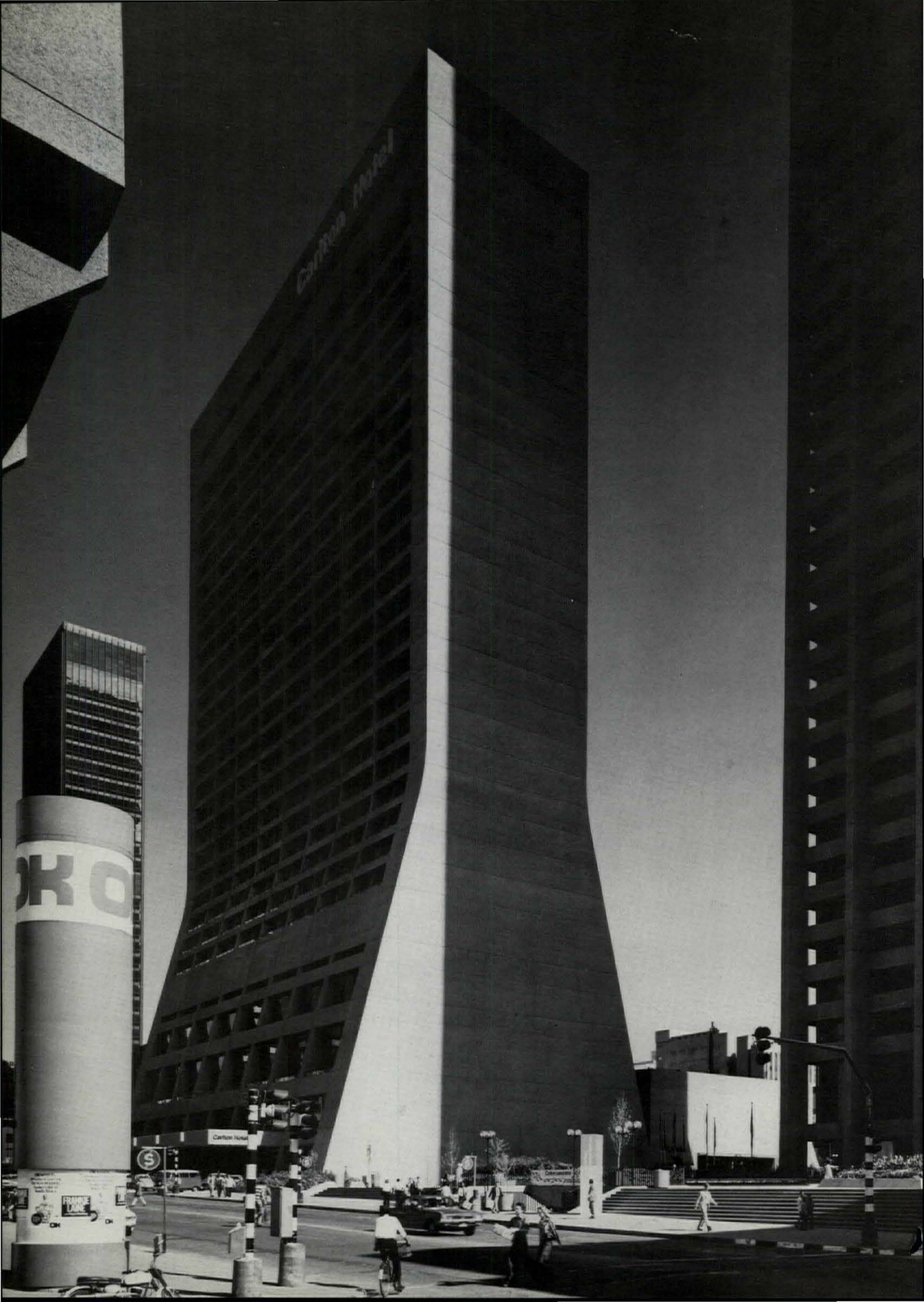
But Carlton Centre symbolizes another regrettable fact as well. Call it architectural imperialism. That term is heavily overlaid, it is true, with economic and political meanings which must be set aside before the term can be used instructively here. It is not meant to imply that SOM practices the sort of market-seeking activities usually associated with the word. And very little of the total cost of Carlton Centre represents American-manufactured products says the firm. No, it is rather an intellectual imperialism.

Skidmore, Owings and Merrill seems to believe thoroughly in its own technological and architectural standards; it represents a kind of "revealed truth." That is why the architects could so easily impress a distant client and municipality over the past ten years. That is also why, today, SOM can confidently assert the correctness of that approach. The matters that worry them in retrospect—the enclosure over the shopping center, the inadequate graphics, the overdone landscaping—are unimportant compared to the seeming inappropriateness of their work in the context of Johannesburg.

Any criticism here, in short, has more to do with the process of architecture than with the product, although the result will inevitably express the means by which it was created. Even when the frenzy of construction adjacent to Carlton Centre is completed and the entire neighborhood is filled with high-rise office buildings, that complex will still seem alien to the wild and free-wheeling spirit of the city.

That need not have been so. BP Centre, gentle and so much at home in its cityscape, grew out of a sympathetic understanding of Cape Town's potential. As the city grows toward its waterfront, BP will assume an even stronger role as an urban focus. Carlton Centre will never have that indigenous quality. Indeed, as one architect who has examined the buildings put it, the two tall buildings are the handles of knives thrust to the hilt into Johannesburg.





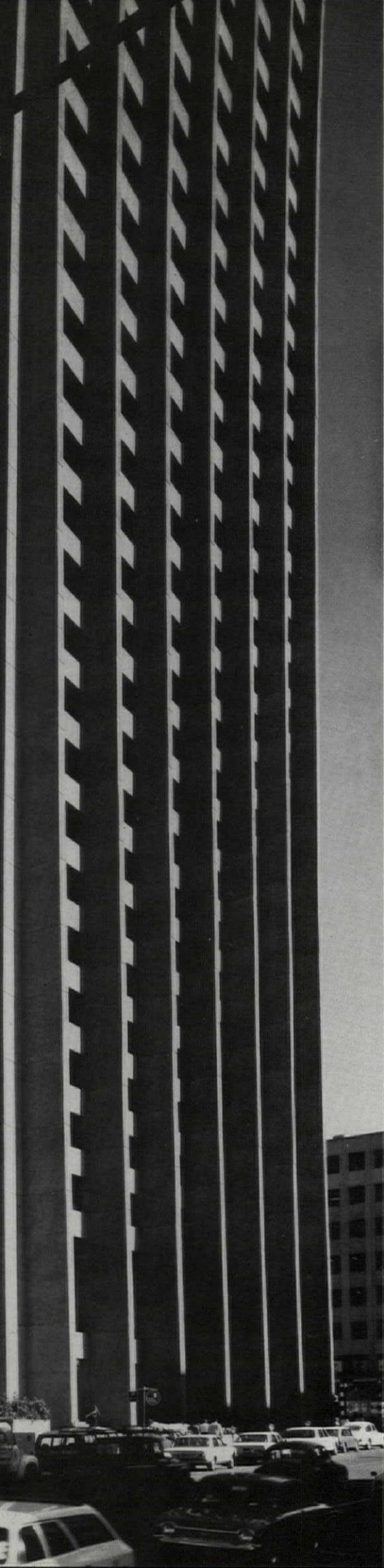
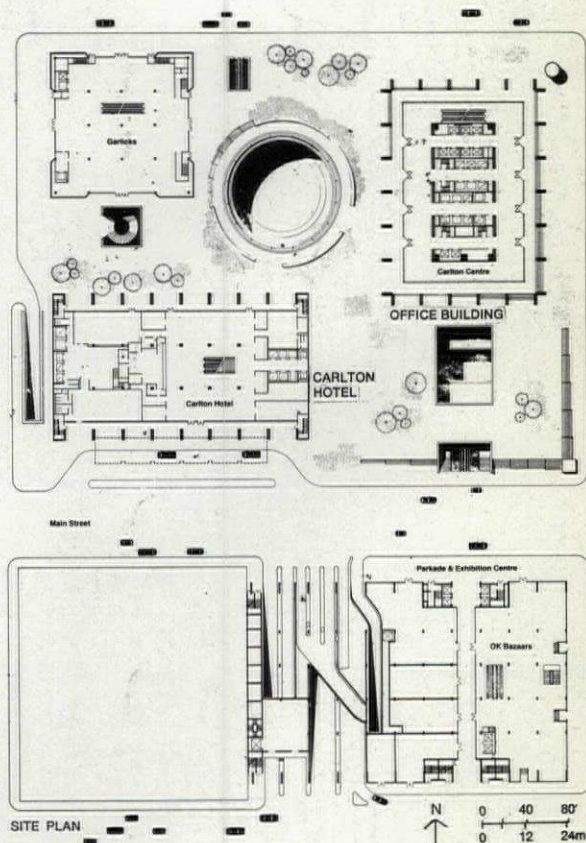
CARLTON CENTRE

Johannesburg

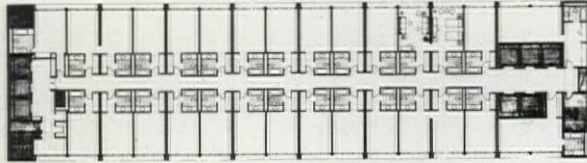
The bell-bottom base of the 30-story Carlton Hotel (left) contrasts with the more subtly flared columns of the 50-story office tower but both convey vivid images of power, whether seen as thrusting or soaring. The entire complex, on six-and-a-half acres in downtown Johannesburg, includes a multi-layered underground shopping complex around a circular opening in the ground-level plaza (site plan below). A five-story mestaba-like department store shares the major block with the tall buildings. Parking facilities common to all on the lowest levels are entered from the smaller parcel across Main Street. This land is completely covered by a structure which contains a second department store, six levels of above-grade parking and topped by an ice-skating stadium with a long span concrete roof. All service vehicles enter and leave through the same building.

Facts and Figures

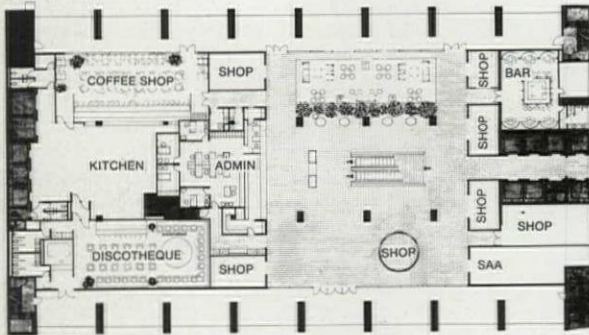
Carlton Centre, Johannesburg, South Africa. Owner: Carlton Centre, Ltd. Architects: Skidmore, Owings & Merrill, New York. Partner-in-Charge: David H. Hughes. Partners-in-Charge of Design: Roy O. Allen, Whitson M. Overcash. Project Manager: Allan Labie. Associated Architects: W. Rhodes-Harrison, Hoffe & Partners, Johannesburg. Engineers: Syska & Hennessy, New York (mechanical and electrical); Watson, Edwards, Van der Spuy & Partners, Johannesburg (associate mechanical and electrical); Weidlinger Associates, New York, Ove Arup & Partners, London and Johannesburg (associated structural); Wilbur Smith & Associates, New Haven (traffic). General Contractor: Murray & Roberts (Carlton Centre), Johannesburg. Photographs: Ezra Stoller © ESTO, except p. 50 (left), and p. 52 first three.



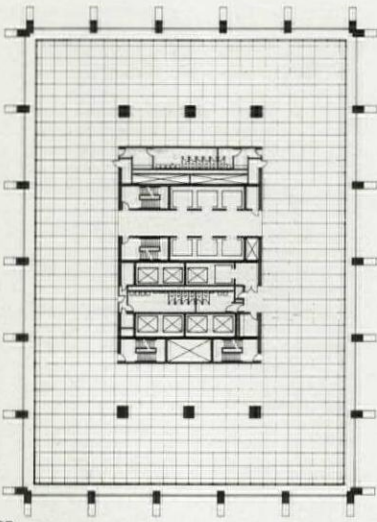
The often massive forms making up Carlton Centre have surfaces which display a high degree of skill in the finishing of poured-in-place concrete. The typically American detailing has been well-executed by the South African builders. Several escalators and staircases, including a spectacular spiral one (below and far right), lead to the underground shopping mall but its signage on the plaza is so muted that some visitors have failed to realize that the shops are there at all. Johannesburgers, nonetheless, flock there in crowds. The lobby and typical floor plans of the two high-rise buildings represent an undifferentiated American approach to such speculative structures. The office tower (bottom) has more depth from window-wall to core than is normally found in South African buildings, producing the large open floor areas that corporate organizations seem to require for efficient, if somewhat impersonal business practice.



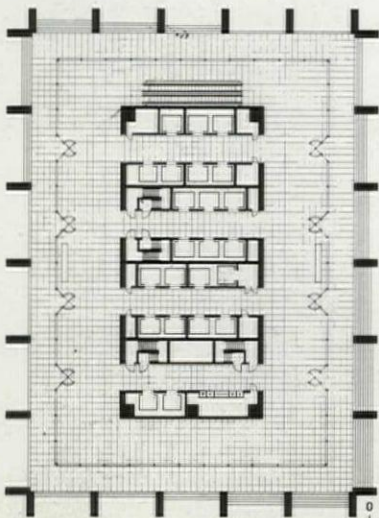
TYPICAL GUEST FLOOR



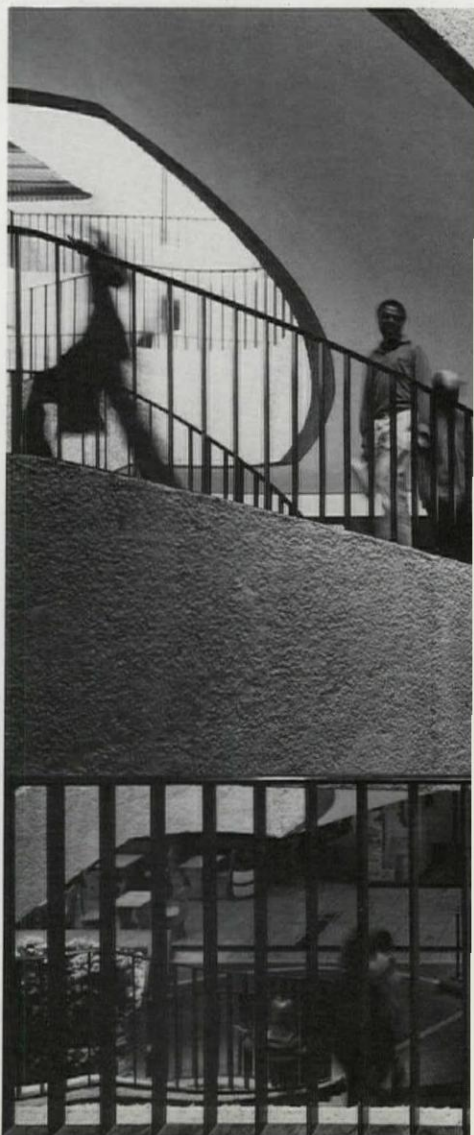
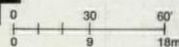
CARLTON HOTEL STREET FLOOR

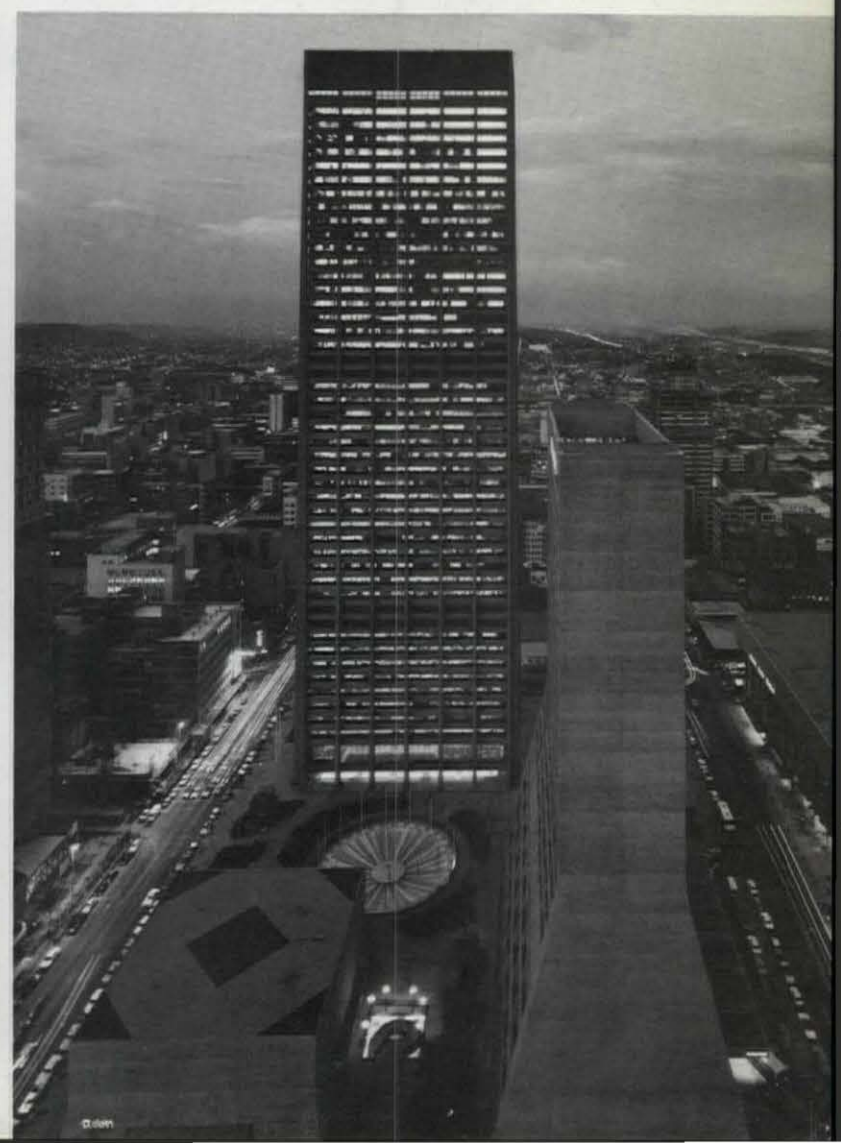
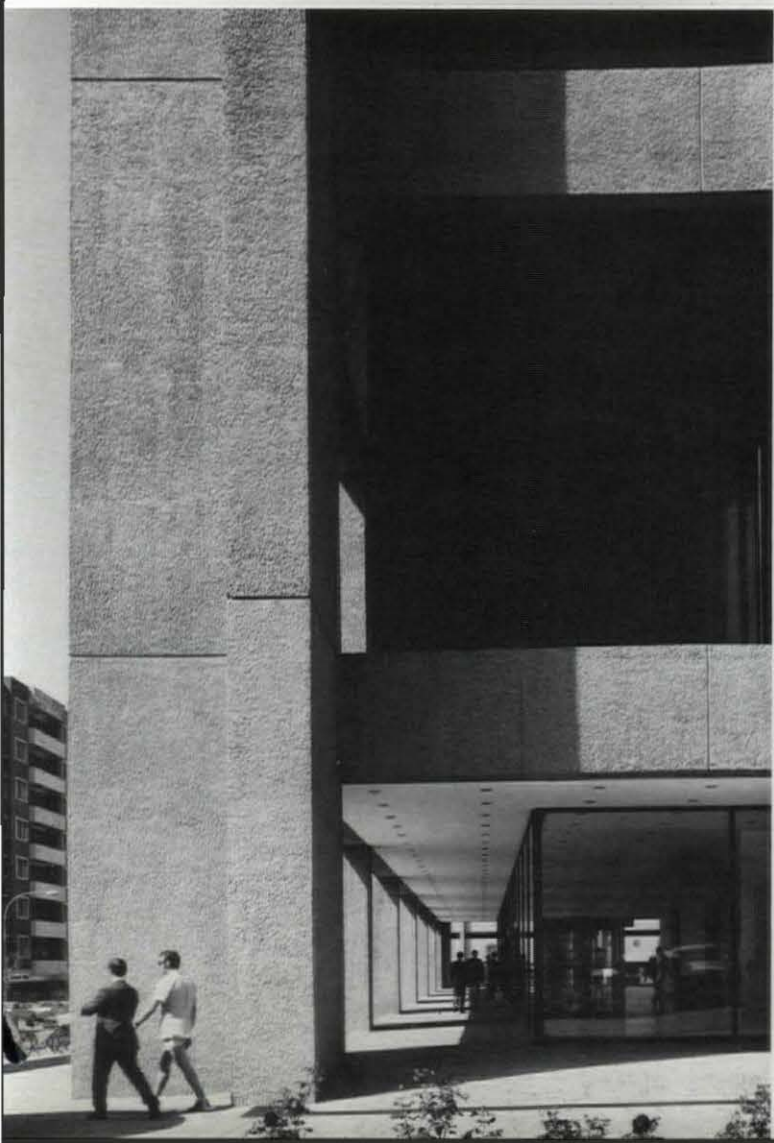
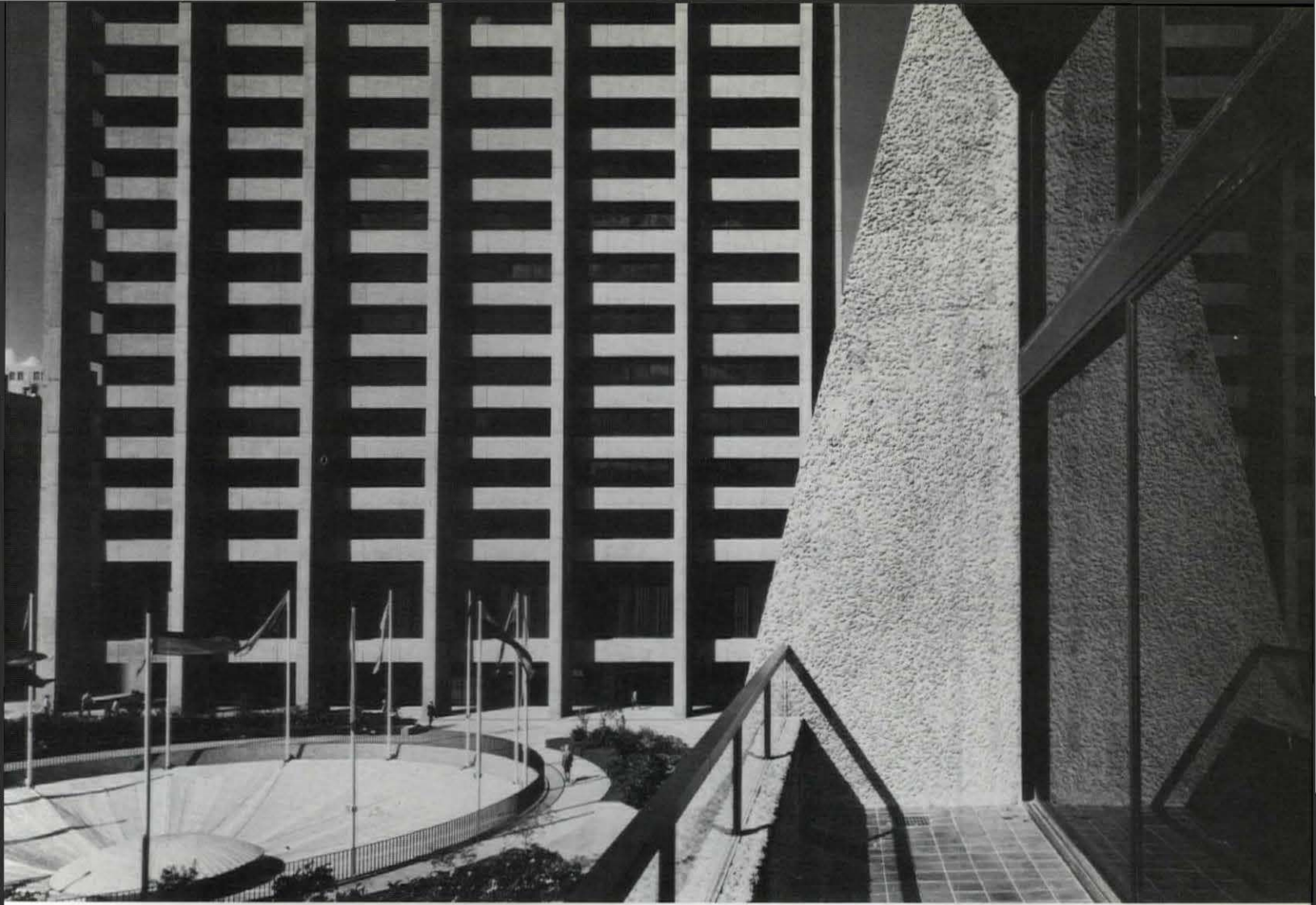


TYPICAL HIGH-RISE FLOOR



OFFICE BUILDING PLAZA LEVEL



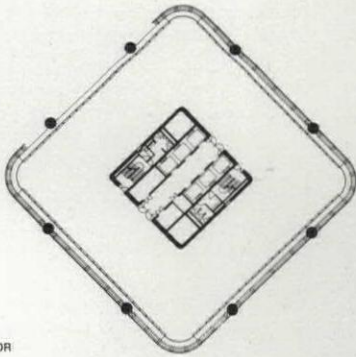




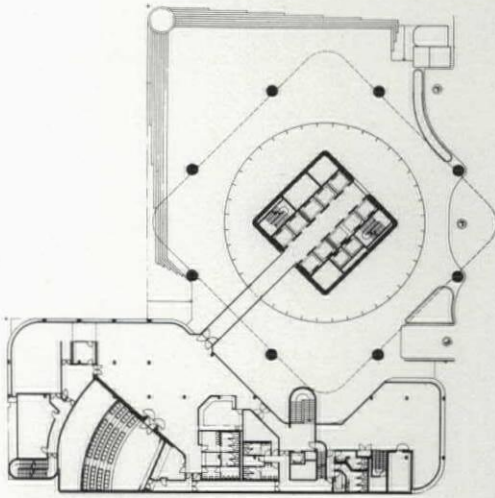
BP CENTRE

Cape Town

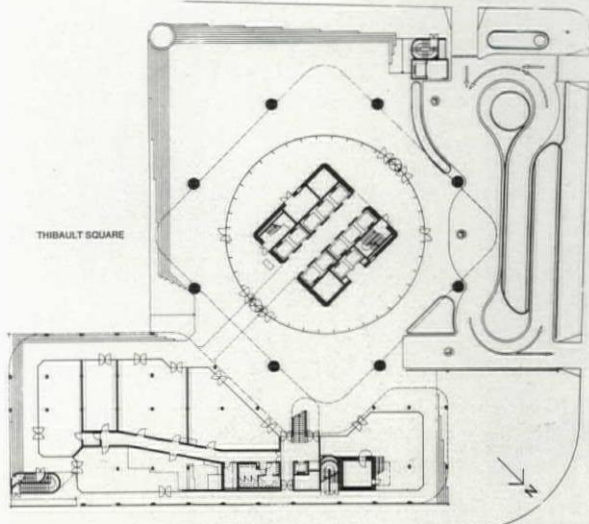
Although the tower is sited on the diagonal to the Cape Town grid, from the southwest it terminates the vista of a major boulevard (left). On its lowest floors, BP tower relates intimately with a second building containing shopping facilities, exhibit space and a small film theater used by British Petroleum. To Hans Strijdom Avenue, the low building provides a wall which helps to define Thilbault Square and the tower's relationship to it (below right). Plaza level, mezzanine and typical floor plans (below) offer constructive lessons in planning and scale when compared to similar diagrams of Carlton Centre. Note especially the depth from core to window-wall in each case. Though perhaps less efficient for real estate purposes, the smaller square floors offer a far more enjoyable work environment (right).



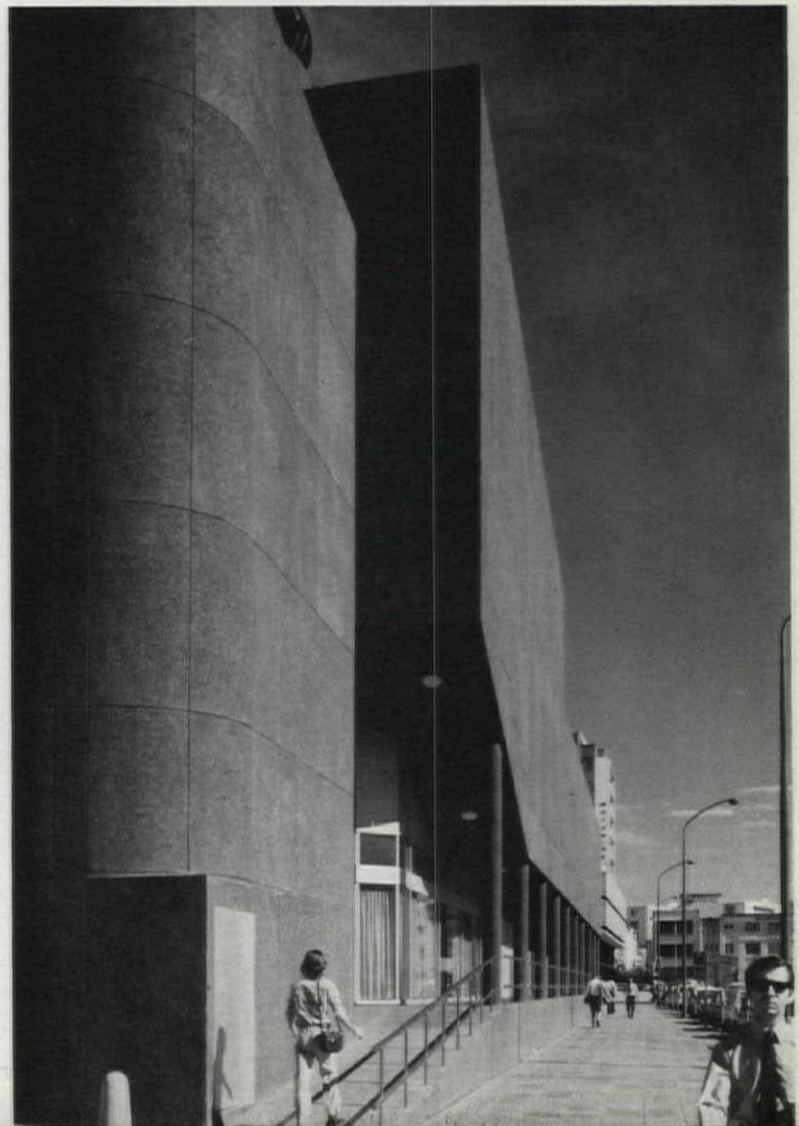
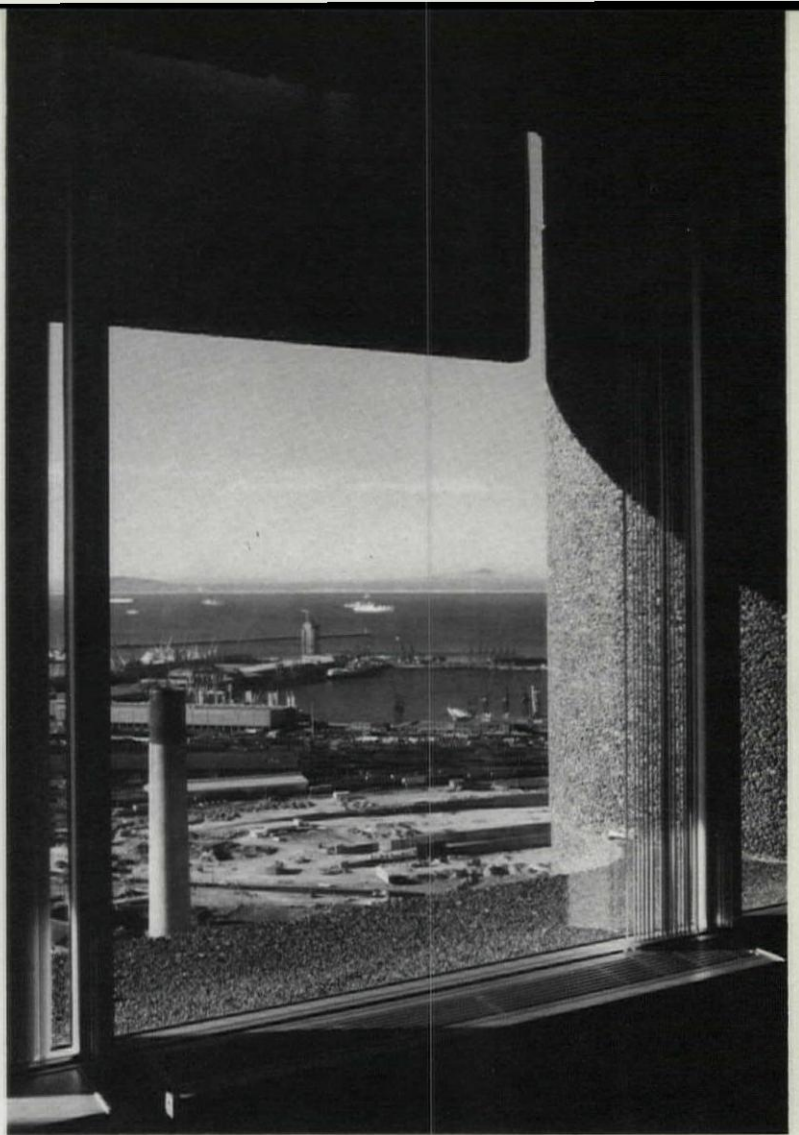
TYPICAL HIGH-RISE FLOOR

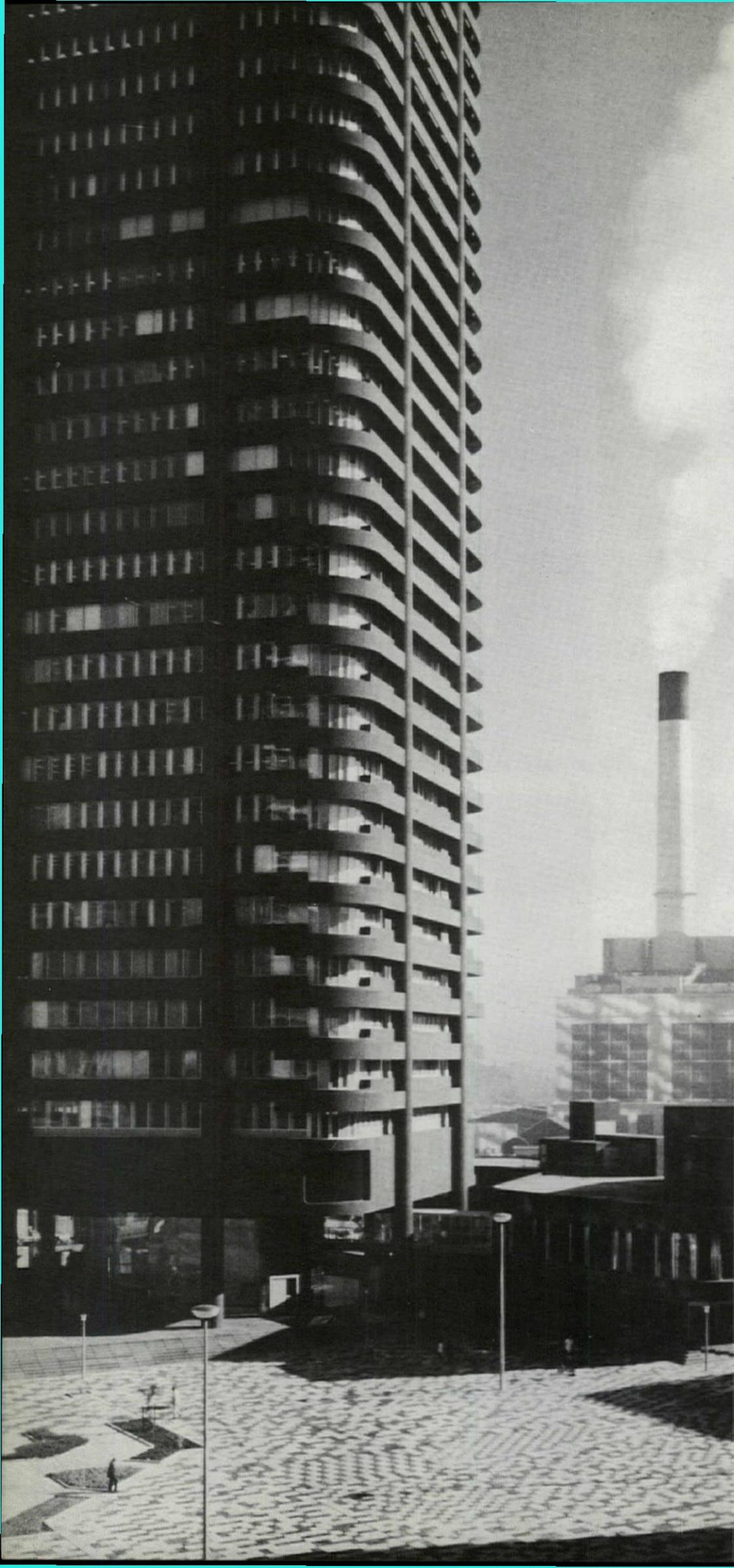


FIRST FLOOR/MEZZANINE LEVEL



GROUND LEVEL





In order to maximize the unity between tower and site, a newly-created urban space, Revel Fox has clothed the ground and mezzanine floors with the most diaphanous of enclosures: a butt-jointed glass wall hung from the soffit of the first tower floor. Except for glass stiffeners near the top of each pane, the division between interior and exterior is as minimal as possible. Unfortunately, the plaza, whose design and furnishing was not within the architect's control, is so barren that this careful relationship is largely wasted. A post-tensioned concrete bridge spans between the tower and the lower building, carefully detailed (below) to preserve the sense of lightness with which the tower touches the ground. Instead of Carlton Centre's heavy and forbidding stance upon its plaza, BP opens itself to its neighbors and seems to soar higher for that act of urban graciousness.

Facts and Figures

BP Centre, Cape Town, South Africa. Owner: Mine Officials Pension Fund. Architect: Revel Fox & Partners. Consulting Architect: Leslie Louw. Engineers: Ove Arup & Partners (structural); Watson, Edwards & Van der Spuy (mechanical and electrical). Quantity surveyors: Andre du Toit & Partners. General Contractor: Murray & Stewart.



EXPANDING LIABILITY

by C. W. Griffin

The fast changes occurring in the practice of U.S. design professionals led PLUS to ask C. W. Griffin, P.E. to examine and discuss professional liability problems, which are mounting exponentially. (Mr. Griffin is author of Professional Liability for Architects and Engineers, to be pub-

lished by Van Nostrand Reinhold.) Professionals in other nations may well encounter similar problems as their practices expand under client demands for faster construction and more comprehensive services and they should consult with liability experts in their countries.

Architects lured into expanding their practice into new domains are learning anew the cosmic law, "Everything has its price!" The price, in this instance, is vastly expanded professional liability. Design professionals sailing into the hazardous, uncharted waters of joint ventures, associations with building-systems manufacturers, construction management, and the entrepreneurial development role face greater hazards and considerably higher professional liability insurance premiums than their less adventurous colleagues who stay in the calmer waters of traditional architectural/engineering practice.

Just about every improvement in the building process heightens the architect/engineer's professional liability risks. Fast-track scheduling techniques used to accelerate the snail-paced traditional construction process are becoming ever more necessary to control soaring construction costs. Accelerated construction schedules bring tremendous savings to the owner, chiefly through reductions in interim-loan interest payment, which can run into thousands of dollars a day at annual rates of 12-14 percent. But the more intimate coordination required between designer and builder vastly complicates the task of pinpointing responsibility for construction delays on fast-track projects. This difficulty heightens the risk of the architect/engineer being caught in the legal crossfire of a "shotgun" lawsuit filed by the attorney of a financially desperate owner-plaintiff, anxious to find a legal scapegoat.

Confronted with these professional liability hazards, what does the prudent architect/engineer do? On one hand, the lure of expanded services, which in extreme cases may be necessary for the architect's professional survival, pulls him toward these new professional services. On the other hand, the warnings of insurers anxiously assessing new hazards in an already perilous field, pushes him back into the safer, more comfortable, rut of traditional architectural services. Even for the conventional architect/engineer practitioner, professional liability premiums have soared, roughly tripling over the past four years.

Whenever an architect considers entering one of these new fields, his first thought should turn toward professional liability insurance, to find out the limitations, or possible exclusions in his coverage. In the standard Continental Casualty Company (CNA) professional liability policy, the exclusions start with "the performance of services not customary for an architect or engineer." Some of these services can be

covered through addition of a rider to the basic insurance policy, along with payment of an additional premium. But some are totally uninsurable and, in the opinion of some insurance experts, will remain so.

Joint ventures

The increasingly popular joint venture is one of these hazardous new fields. The construction industry leads the way in creating these ad-hoc organizations, which Alvin Toffler, in his provocative book, *Future Shock*, postulated as a distinguishing characteristic of successful modern enterprise. Created and dismantled quickly and efficiently, these flexible organizations can tackle large, complex, and unique projects that are beyond the capacity of ponderous governmental and corporate bureaucracies. Architects, engineers, and contractors have been joint venturing for decades. Confronted with projects of ever-increasing size and complexity, they will doubtless make more frequent use of this handy organizational tool in the future.

Design professionals have many reasons for forming design-team joint ventures. Not only does the design joint venture enable individual firms to handle projects of much larger scope and variety than they could possibly handle individually; it also offers an opportunity for efficient division of work, the basic principle of industrialization. The joint venture enables internationally famed design firms to handle projects in communities from which they might otherwise be excluded. Associations between such firms and local firms who know local codes and construction costs give owners the best combination of talents to produce outstanding projects.

Joint ventures with contractors and manufacturers offer even greater opportunities (and risks) for architects and engineers than interdisciplinary joint ventures. But unlike a design joint venture, for which a special ad-hoc insurance policy is available, a designer-contractor or designer-manufacturer joint venture is uninsurable.

Here's the reasoning behind the insurers' different limitations of coverage for both kinds of joint ventures. First, for design joint ventures, the association of firms A, B, and C on a single project poses the possibility that the insurer's firm A may be the only insured firm on the project. Regardless of legal merits, an insured defendant tends to draw a lawsuit away from a non-insured. Design joint ventures thus compound the insurer's risks: the insured professional retains total responsibility for his own negligence, plus whatever else may rub off from

his joint-venture partners. Moreover, the often tangled lines of responsibility on a joint venture project create a whole class of problems that simply cannot occur on simpler projects on which one prime design firm bears total design responsibility. A separate ad-hoc joint venture professional liability policy written for each joint venturer for one project only, acts like a legal quarantine, restricting an insured's potentially complex problems to one policy.

For Turnkey and other design-build joint ventures offering single responsibility for design and construction, there is no professional liability insurance coverage available. This ban is simply explained. On any kind of design-build project, the architect loses effective control over the contractor. Even under the conventional building process, with the architect acting as the owner's agent and arm's-length relation between architect and contractor, it is difficult to distinguish between design and construction errors. When the architect and contractor become partners on a joint-venture, it becomes almost legally impossible. Moreover, if the design-build joint venture were insured for design only, it has a powerful temptation to place the blame on design rather than construction. In summary, there is no practicable way to determine when a design-build joint venture stops playing its design role and slips into its other role as construction superintendent.

Turnkey, a special type of joint venture in which the design-build team owns the project until it is completed and turned over to the permanent owner (who merely "turns the key"), poses even greater hazards than a conventional design-build joint venture, according to Gerald W. Farquhar, legal consultant to the V. O. Schinnerer Company, administrator of Continental Casualty's insurance program.

"Professional-liability insurance for any design-build joint venture would inevitably become insurance of its business success. The insured would have an irresistible motive to attribute every aspect of any financial problem to the design. And who is better qualified to find design defects than the designer himself?"

"Turnkey makes things even worse than a conventional design-build joint venture because it involves the sale of a finished product. It thus exposes the design professional to the added risks of *implied warranty* (a contract concept) and *strict liability* (a tort concept). Under these two closely related legal doctrines, the design professional could be held liable for damages even if his work satisfied the normal standards of care and competence set by his fellow practitioners, who constitute the criterion against which the architect/engineer's performance is measured in a professional liability case. Under the *implied warranty* or *strict liability* concept, however, the mere existence of a defect is legal grounds for a damage claim. This is, of course, not true of a professional

liability claim, which requires proof of the design professional's negligence or incompetence to win the plaintiff's case."

If, despite the legal hazards and loss of professional liability insurance coverage, an architect/engineer decides to participate in a design-build joint venture, he should investigate his prospective partners even more rigorously than he investigates partners in a design joint venture. Fee chiseling by the prospective partner should ring a loud, clear bell, signaling the architect/engineer to call off the joint-venture plans, for it indicates an underfinanced partner who may file a professional liability claim against the architect/engineer at the first sign of financial difficulty. Low fees, in any event, are never stimulants to quality design, the architect/engineer's best defense against professional liability claims. Before entering into partnership even with a financially sound contractor, the architect/engineer should seek legal advice on inclusion of an indemnification clause (absolving him of legal responsibility to the owner or contractor for design errors or omissions) in the joint-venture agreement.

Similar to the design-build joint venture, another kind of joint venture that architects/engineers must beware of is association with a building products manufacturer. It poses an especially serious problem with the emergence of systems building as the apparent wave of the building industry's future.

A case history illustrates the insurer's reasons for not providing this coverage. Several years ago, a Midwest architect lost his professional liability coverage for his major work, the design of systems components manufactured and marketed by an industrialized building products manufacturer. The architect contended, not irrationally, that his designs were better researched and tested than conventional designs. Nonetheless, he lost his professional liability coverage, and there is none available for this type of joint venture.

Judged from the insurer's viewpoint, the arguments for not insuring this architect seem eminently reasonable. The architect designed the building system components much as he would design the corresponding components for a single building, as a sort of prototype. But, in so doing, he worked with the manufacturer's engineering department. This integration of the design-manufacturing process made it hopelessly difficult to differentiate between design and production errors. To make matters worse, the manufacturer was carrying insufficient insurance coverage for production liability, thus setting up the architect as a likely liability target if the components prove defective. Add to these factors, the compounded risk accompanying the mass production of the building components and you have the potential for a multi-million-dollar damage claim, jeopardizing the entire financial structure of the architect/engineer professional liability program.

The architect-developer

During the credit crunch of 1969-1970, when developers were desperately scrounging for front-end capital to launch their projects, they began to offer their design professionals a "piece of the action," as co-owner equity sharers in the projects they designed. The American Institute of Architects put its ethical imprimatur on the architect-developer role in 1971 and began actively promoting the idea. For an architect holding a 25 percent equity share in a project, the owner-developer role may multiply his recommendation by a factor of 3 or more, an ample demonstration of its financial appeal. But again, professional liability rears its obstructive head. The standard CNA policy excludes coverage for "claims made against the insured . . . by a business enterprise . . . that is wholly or partly owned, operated or managed by the insured."

To understand the difficulties involved in professional liability insurance for an architect-developer, consider the following hypothetical case: An architect owns a 30 percent equity interest in Buildmore Developers, a joint venture comprising the architect, a mortgage banker, and a real estate broker. The owner, Buildmore Developers, decides to sue the architect, who was retained to design the project, for professional negligence in the design of a malfunctioning HVAC system. As co-owner, the architect would theoretically be suing himself. Since owners constitute by far the largest class of claimants against architects, the insurance carriers have naturally eliminated this bizarre possibility.

The coverage denied under the standard policy exclusion is partially restored in a relatively recent special CNA policy. Under this new policy, the architect's protection against an owner's claim is reduced by the architect's proportionate share. For example, if the architect holds a 30 percent equity interest in a joint venture project, his liability coverage against an owner claim is reduced by 30 percent, and the deductible amount (ranging from \$2,000 to \$100,000) would be subtracted from the remaining 70 percent. Thus, if a \$100,000 liability loss claim were settled between the insurer and the non-architect members of the joint venture, the total claim payout might amount to \$60,000 (70 percent of \$100,000 minus \$10,000 deductible) instead of \$90,000 (\$100,000 minus \$10,000 deductible). Note, however, that this coverage is limited to claims for remedial work. It does not provide payments for consequential damages, such as rental income loss. (Schinnerer: How about cases of bodily injury?)

In addition to reduced professional liability coverage, the architect runs heightened liability risks as an equity-sharing joint venturer. As a professional designer associated with lawyers, real estate brokers, and others who, viewed in a construction

continued on page 114

THE KITES OF GUATEMALA

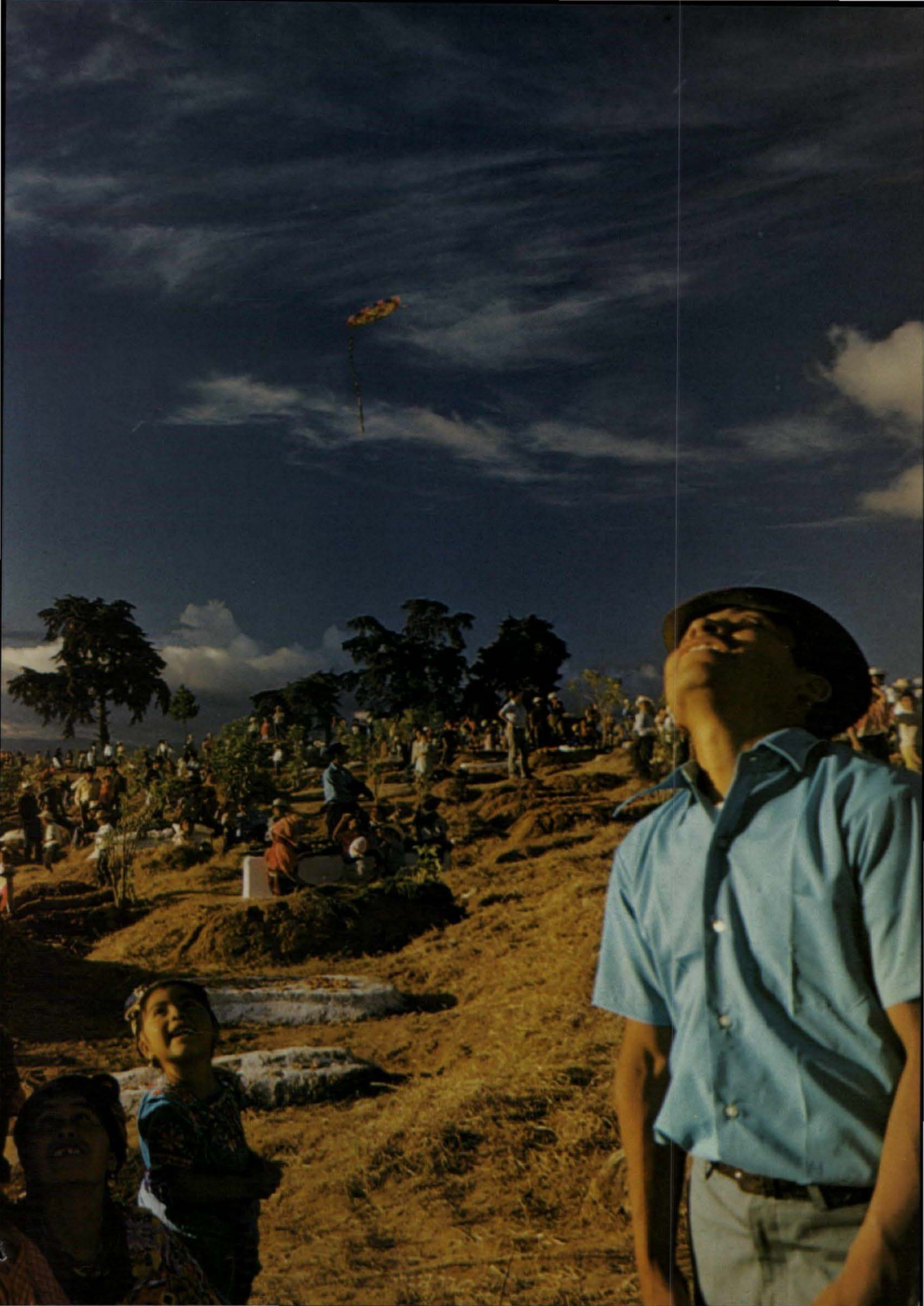
Text and Photographs by Hans Namuth

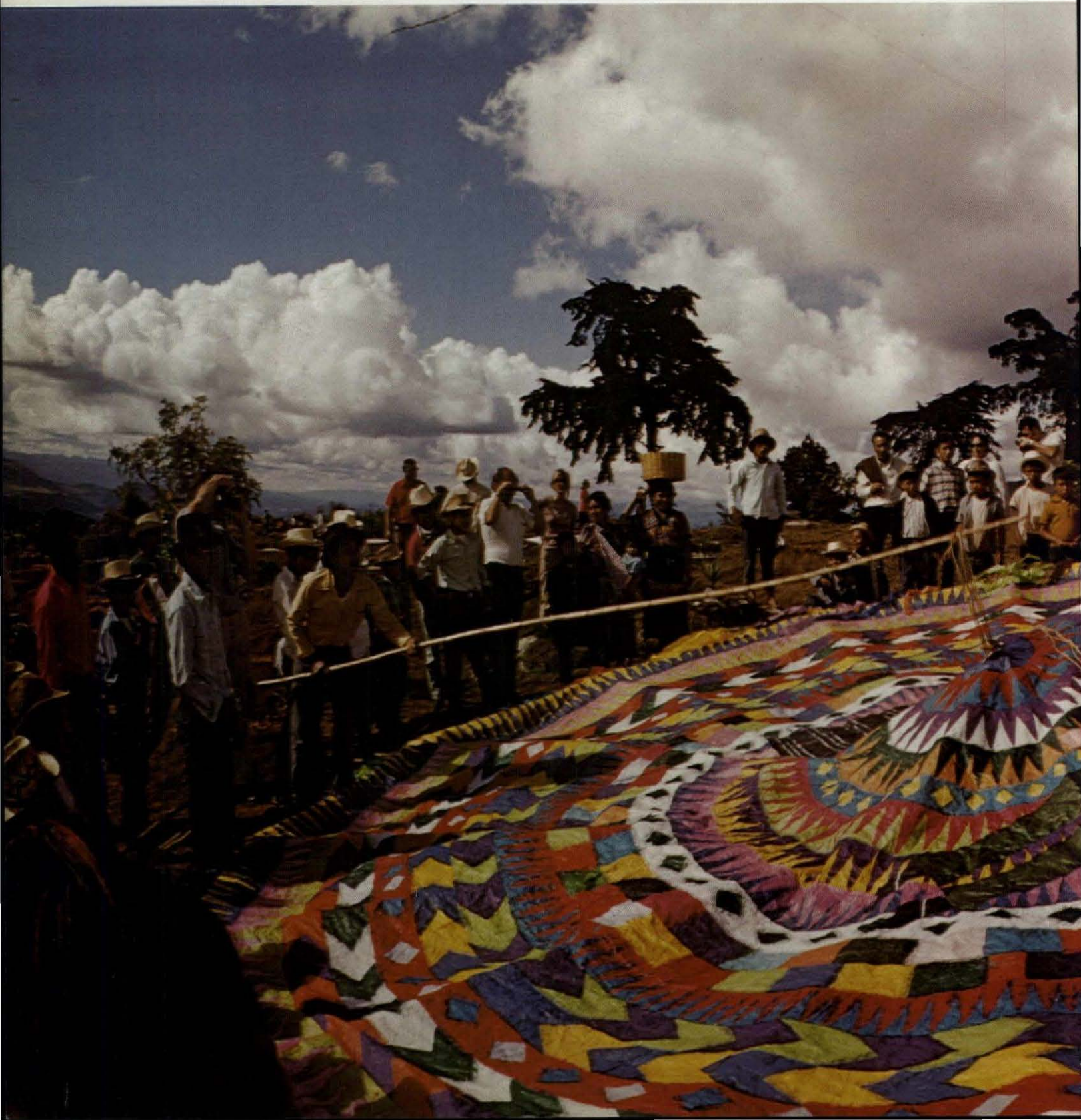
The first day of November is clearly marked as All Saints Day in the Ecclesiastical calendar but here it is a national holiday combined with *El Día de los Muertos* (November second). The cemeteries which have had their yearly facelifting, so to speak, are crowded. Something festive and gay is in the air everything has been painted, scrubbed, grandly decorated with magnificent flowers. On November first, loaded down with more flowers, with offerings and candles, thousands of people all over Guatemala invade the cemeteries and spend long stretches of time with the dead.

Not so in Santiago. Here the preparations start not days, but weeks, often months before. Every household in the village seems to be busy building kites—kites of all sizes, small and large, some 10, some 25 feet in diameter. On the day of All Saints they will all be flown over the flowered graves.

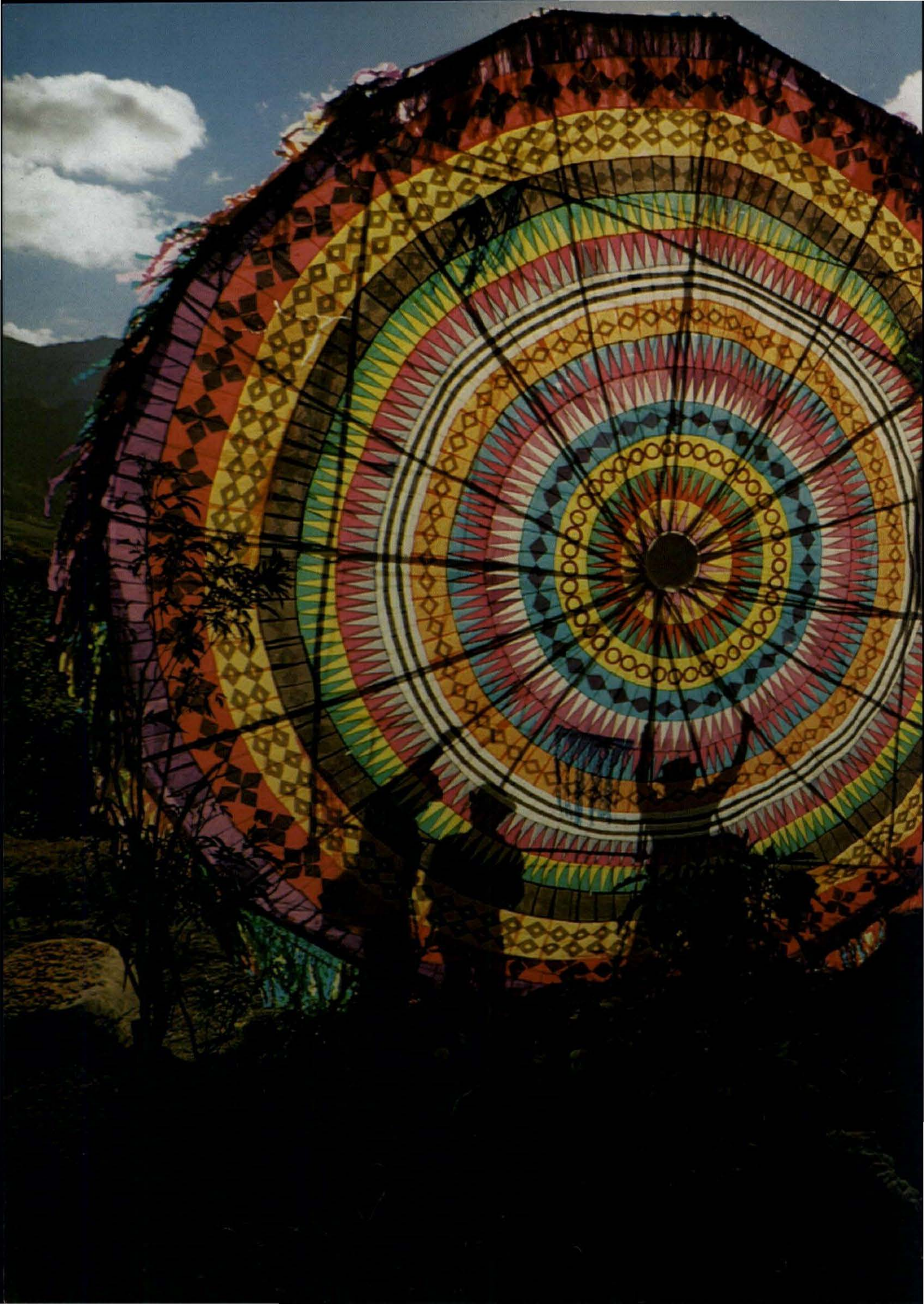
The kites themselves are a joyous wedding of Matisse and pop art. Their moment of glory is quickly consumed. Treacherous air currents ravaging the western slope usually fight them back to earth within minutes. Over and over again they will be taken back for repairs, and flown again. Their final destiny is always the same: to be burned to ashes by their creators.

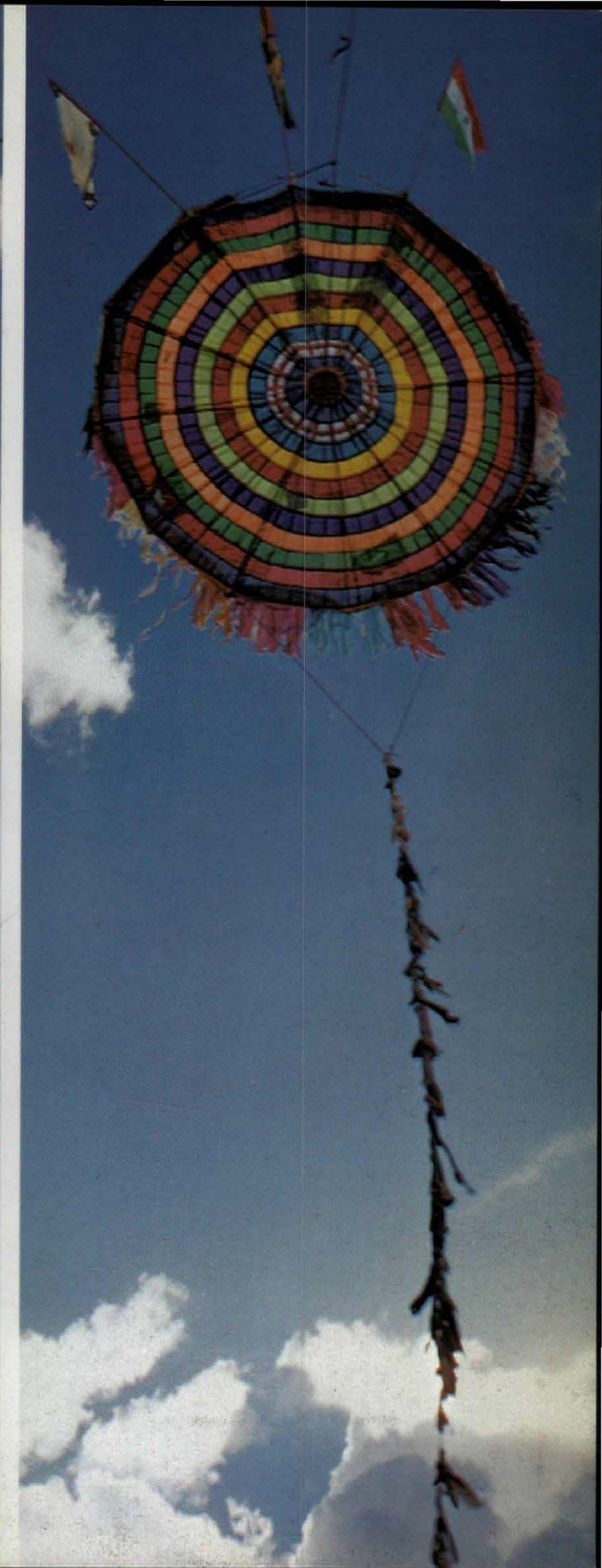












About six years ago, Systems Building arrived in the United States with great fanfare and hope. Its supporters hailed it as a new era of building that heralded faster, cheaper construction with no loss in quality. Many of its critics could not deny the potential good of systems, although some felt it was a new name for old gimmicks or felt threatened by its challenge to the old way of doing things. Some critics were skeptical that such a European approach to building could succeed in the United States' fragmented construction industry and market; others worried that its standardized rationale would inhibit creative design or flexibility for its occupants.

The controversy is still unresolved. Despite such massively advertised government projects as Operation Breakthrough, which was designed to investigate, promote and pave the way for systems building, the issues—and the semantics—of systems remain topical. What has changed, however, is the scale of the controversy. The supporters of systems no longer talk of revolutionizing the building industry, but instead point to the series of smaller accomplishments that the systems process has already made. They cite the many buildings and subsystems already produced, the progress with labor and codes already made, and the fact that in some instances the systems process is taken for granted and so no longer subject to newspaper headlines. Those critical of systems often attack its early brashness and campaign promises more than its underlying rationale and they cite the numbers of companies that have failed in the name of systems building.

The following three essays represent three alternative views of systems building today. The first opinion is that of architecture critic Ada Louise Huxtable, as it recently appeared in the *New York Times*. (Reprinted by permission. © 1974 by The New York Times Company.) Her editorial was occasioned by an exhibition of Moshe Safdie's design work in New York City's Whitney Museum, which she used as the basis for an evaluation of systems building in the U.S. The second essay is by Jordan Gary Mertz, an architect now teaching at the University of Tennessee, in Knoxville, and formerly designer for Shelley Systems, a concrete box system, which participated in Operation Breakthrough. The third opinion is that of David Pellish, an architect and Housing Technology Officer of the New York State Urban Development Corporation, where he has used the systems process to introduce innovations into that agency's housing projects. In his essay, he is expressing personal views and not official udc policy.

SYSTEMS: MYTH OR REALITY?

The occasion of an exhibition called "Moshe Safdie: For Everyone a Garden" is a good time to examine some particularly attractive architectural mythology. The myth is industrialized building, and Moshe Safdie is its living legend—if that is possible at 35. Since Habitat made its stunning appearance on the scene at Expo 67 in Montreal, this very talented architect has been demonstrating both the theoretical potential and the frequent dead end of one of today's most intriguing, seductive, frustrating and self-defeating approaches to housing construction.

Habitat was the handsome, custom-made, almost handcrafted prototype (including, anachronistically, a fine prefabric bathroom) meant to demonstrate the beauty and practicality of systems building. It also demonstrated everything that could go wrong with the process of developing new techniques against impossible deadlines, and how attractive housing could be created by an architect who cared. Safdie has an unshakable faith in two things: the human, intimate, personal scale of the optimum housing environment, and the ability to produce it industrially. His professional life is dedicated to the realization of this *idée fixe*.

The exhibition traces his work from Habitat forward. It is all fascinating work, and it has remained quite consistently unbuilt except for schemes for Puerto Rico and Israel.

The projects themselves are so well done that one does not dispute the ability of their designer. It is a quite amazing production, even in schematic terms. It forces one, instead, to examine their basic premise, and the society into which these schemes seem to fit so well only on paper.

What one disputes, reluctantly, is their



Habitat, Montreal, 1967

logic. That is an odd thing to say, because they are founded on a bedrock of logic that is, in the abstract, indisputable. The argument is as follows. We need housing. The 20th century has developed industrial expertise. The mass-production system that turns automobiles off the assembly line should be able to do the same thing with houses. Standardization could move housing into factories for prefab units to be site-assembled to save money, labor and time. Industrialization should be the sane and rational answer to the American housing problem.

There is absolutely nothing wrong with this logic, which is why most of us have bought it, promoted it and prayed for it. It has worked in some parts of Europe, and there have even been token imports of European systems here, but the process has never succeeded in getting off the ground in this country. For some reason, the logic does not work. For a lot of reasons, in fact, but they tend to be swept aside by those to whom the arguments are intellectually irresistible.

For one thing, we have a building system already, which is admittedly full of faults, but it is quite capable, with the right confluence of the moon and interest rates, of turning out a lot of houses. The industry has also quietly incorporated a lot of modest and unspectacular prefab techniques, aimed at conventional taste and markets rather than at the avant garde.

The gospel of industrialized housing demands revolution. It cannot work within the established system. It takes on existing practice, labor unions, custom and even life style, with missionary zeal. It would require the total reorganization of the building industry into a coordinated, vertical, production-shipping-assembly format.

There was a time when such assembly line production might have been set up as a reasonable investment, but it is now an outrageously costly procedure. Add to the huge capital investment the expense of special carriers and long and short range transportation, and the first costs approach the stratospheric. Purely economically, the time has apparently passed when the logic worked. Even with on-site factories, as tried with London's Thamesmead, the diminished costs expected through increased production became an idle fantasy as prices continued to rise. Inflation deflates the dream. The arguments of speed and quantity tend to become academic.

A further fallacy is the premise that we are dealing with the main cost of housing by industrializing the product. The house unit itself—materials and labor—represents only half of the total costs; the on-site cost is less than one percent. Big chunks of housing costs are in land (23 percent) and money (25 percent) problems no one is solving.

Another fallacy has been indicated in the recent report on America's housing needs by the Joint Center for Urban Studies of the Massachusetts Institute of Technology and Harvard University. Standardized solutions, the argument of proponents of industrialization goes, can still be flexible enough for regional or other variations. But the Joint Center study concludes that there is such a wide variety of need and taste, in different places, for different people, that any generalized or centralized solution will not work. The recommendation is for specialized, local solutions of many kinds, on many levels.

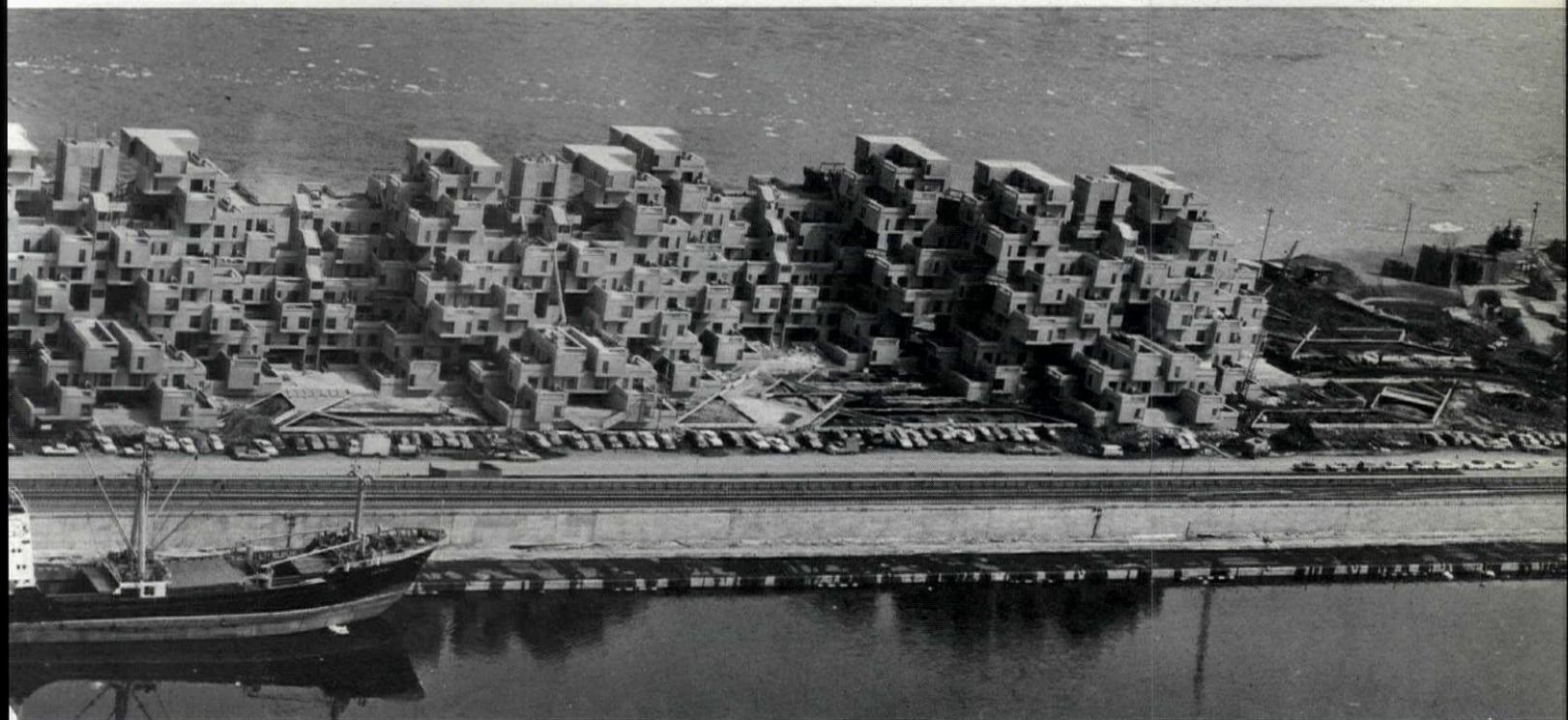
That was the unreality of HUD's (Department of Housing and Urban Development) Operation Breakthrough, which has not only struggled against established pro-

cedures and union practices with token systems building, but has addressed itself to the academic equation of shortages, rather than to the actuality of human expectations. In this sense, industrialization is self-defeating. It either solves through standardization or it cancels out its advantages trying to specialize adequately. It is hard to have it both ways.

But perhaps the ultimate demonstration of the failure of the logic involved is in Safdie's Habitat proposal for Lower Manhattan. This is truly spectacular visionary architecture. Sail-like concretions of prefab units are suspended from masts 50-stories high. Adjusting the prefab concept of the New York City "givens" of high land costs and densities inevitably created this extraordinary, unbuildable result.

If, in addition, one looks carefully at these "systems," their simple logic is found to be extremely complex in terms of what must be done to construct them. This is actually custom design. Because these houses are both more complex, in this sense, and more unconventional than ordinary houses, their concept is simple only when figured in terms of a mass production *fait accompli*. Clustered and sometimes cantilevered, their totality is an elaborate and costly undertaking. It is just plain cheaper, if not nearly as exciting, to build conventionally.

One comes out of the Safdie show feeling distinctly schizophrenic. On the one hand, one would like to see these elegant, brilliant, sensitive schemes built; on the other, one doubts if it is remotely possible except under conditions of climate and labor and cost that do not hold for much of the industrialized world. Architecture's love affair with the factory and the megastructure is running into serious trouble.



Jordan Gary Mertz

In her article on some handsome "architectural mythology," Ada Louise Huxtable ruminates on the myth of industrialized housing and of Moshe Safdie as its "living legend." Safdie is indeed the "living legend" of industrialization for breaking the ice in North America with Habitat, Montreal, and for being a consistent, articulate exponent of industrialized housing. His work is invariably fascinating, ingenious and innovative, and his housing is indeed human, intimate and personal. It is beautiful, but is it industrialized building? Does his work, none of which is built except Habitat, Montreal, represent system housing, either its promise or potential?

In initiating Habitat, Safdie developed new building techniques and methods, faced enormous political, social and economic difficulties, and met impossible deadlines. Habitat is undeniably handsome, elegant, and architecturally magnificent, but except for its excellent pre-fabricated bathrooms, it is custom-made, hand-crafted, and conventionally constructed. Its 158 units of nearly 350 modules with almost no system repetition, architecturally, mechanically, and structurally, did not allow for assembly-line production. While the hulls were pre-finished in the factory, about 10 percent of the building, the remaining work was done "in the air," conventionally.

Safdie's Lower Manhattan Habitat is truly visionary, but extremely complex. As with Habitat, Montreal, it is not designed

for mass-production or assembly-line techniques. To build it will require a degree of hand-crafting exceeding that now employed in conventional construction.

Without taking anything away from Moshe Safdie and his brilliant, sensitive schemes, his projects, built and projected, are not system building; and for Ada Louise Huxtable to equate industrialized housing with Safdie's work is to ignore the reality of industrialization in favor of what is the actual myth: Safdie as a designer of industrialized housing.

A cursory examination of housing construction in the United States may make it appear that industrialized processes in housing have not gotten off the ground. This is particularly true if one focuses on the large urban centers, unquestionably the area most in need of housing. However, outside of these areas, unheralded, industrialization is being used. Mah-Le Messurier is building its sixth project in Memphis, Tennessee, and a national, low-rate motel chain is building wood modules and concrete-panel systems in eighteen Southern states. There are architects and systems built and building world-wide which meet many of the criteria of creative architecture while resulting in increased productivity, improved quality, and savings in time and money. These and other unheralded projects demonstrate that industrialized housing can be flexible, specialized, regionalized, and architecturally varied.

Conventional construction processes have not and can not meet the United States housing needs, except in the field of luxury housing, now or in the foreseeable future. Inflation, abetted by union regulations, building codes, and lobbyists for the status quo in the construction industry have made it all but impossible to produce low and middle-income housing without massive federal subsidies, conventionally or perhaps, industrially. The question remains how to

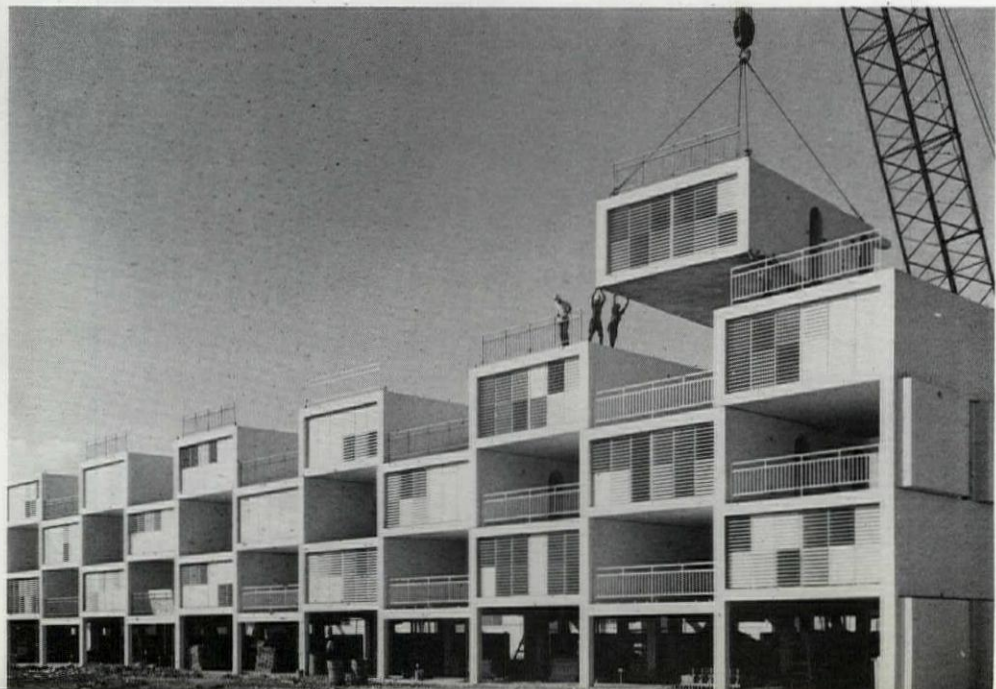
produce housing in quantity, in the most economical manner.

The main cost of housing, about 52 percent of the total, is still the end product, or living unit. The interest rate accounts for 25 percent more. Industrializing its production, therefore, can effect almost 80 percent of the total building cost. By automating the building process, up to 50 percent of the time required by conventional construction can be saved. Such savings in time mean savings in interest payments and expedite owner occupancy and recovery of costs through rental returns. While the cost of materials may be the same for conventionally built housing and industrialized housing, savings in labor costs can be realized in system housing, from about 2 percent with the most elementary site-casting process, to about 10 to 12 percent for concrete panel systems, to up to 25 percent for more sophisticated, automated, full-module, high-rise box systems with considerable prefinishing, like Shelley Systems (70 percent prefinished in the factory). Enclosed, factory production improves quality as well as production quantity. You get high quality thus, for less money than with conventional approaches.

The "logic" of system building, while certainly open to dispute, is neither unsound nor abstract. We do indeed possess the industrial expertise to apply mass-production to the construction of housing. The mobile home industry, which is 100 percent pre-fabricated, now accounts for about 40 percent of the entire housing production in this country. There is nothing unsound or illogical about asking: if mobile homes, automobiles, trucks, boats, airplanes, and space vehicles, all of which equal or surpass the complexity of housing, can be produced in a central, national industry, yet meet mass market tastes and regional values, why can not, should not, the housing industry be organized into a



Shelley Systems, Jersey City, 1974 (left) and Puerto Rico, 1969 (below)



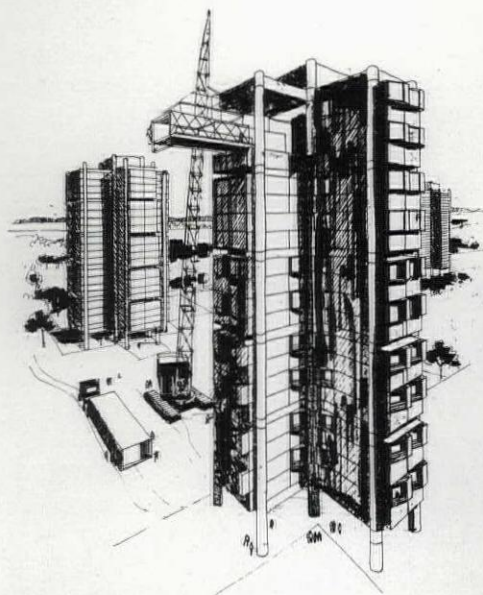
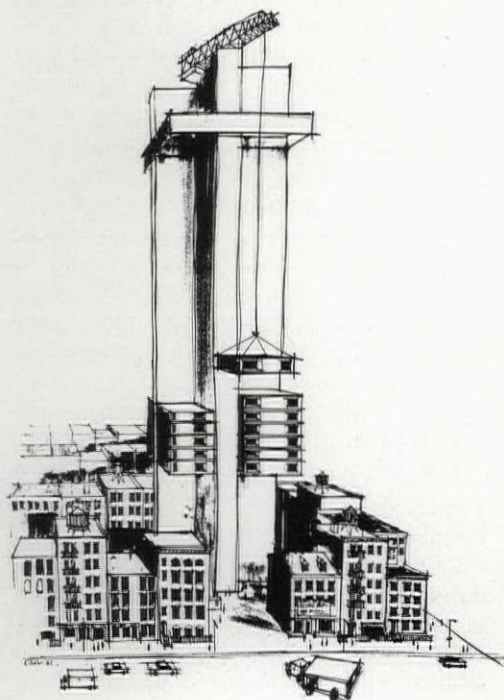
David Pellish

"coordinate, vertical, production-shipping-assembly format?"

Assembly-line production can be set up as a reasonable investment. Transportation costs, both long and short range, are negligible. All systems do not require heavy initial outlay, and even the most sophisticated systems can be amortized over a project of 2,000 units and turn out a product that is cheaper than one produced conventionally. It is not a revolution that is required to reorganize the housing industry, but rather negotiation and alteration of the restrictions which prevent or inhibit such organization to the detriment of conventionally-built, as well as industrialized housing. For example, the construction trade unions have been forceful in their opposition to industrialized housing processes and products. Their influence, especially in the major urban centers, has prevented the incorporation of efficient, economical methods and materials. Outside of these centers such methods and materials are, however, being used by union, non-union, and mixed union and non-union groups. Without a revolution, "Operation Breakthrough" participants, struggling against established procedures, with only token prototypes and declining federal commitment and resources, succeeded in changing building codes and zoning regulations, in having transportation restraints lifted, and in having more efficient, economical materials and processes accepted, e.g., flexible conduits and plastic piping. The extensive use of systems in the last twenty years in the construction of industrial buildings, garages, office buildings, and its increasing use in housing and motels, coupled with the enormous number of prefabricated components available and specified in housing construction, suggest that the "revolution" has already occurred, although the "old-regime" through the major construction trade unions and the stick-built construction lobbyists, abetted by President Nixon and his administration, are still protesting.

The architect's "love affair" with system technology and housing via Moshe Safdie is in trouble, as Ada Louise Huxtable points out, but because of Safdie, not systems. Industrialization, systems, and prefabricated housing is happening right now, worldwide. It is reducing costs, improving quality, saving time, affecting interest costs, and expediting owner occupancy, and that is the actual handsome architectural reality.

Suspended Structures proposal for New York, 1968



National Homes proposal for Breakthrough, 1970

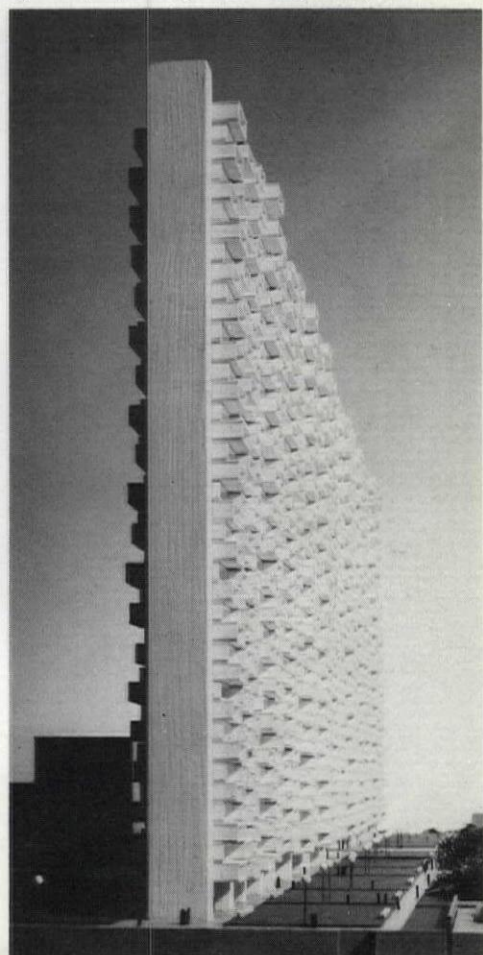
It is ironic that partisan debates among housing advocates are still continuing at a time when Washington has apparently shifted housing priorities in the United States to the rear burner. Although housing costs have gone through the roof, theoretical arguments over industrialized building systems persist.

Rather than continue these self-defeating polemics, it is time for those concerned with mounting housing costs to accept the fact that there is no single solution to these problems. No one will argue that mortgage interest rates have hit astronomical levels and must either be reduced dramatically or subsidized by the federal government. High interest rates may have the greatest impact on housing costs, but reducing those rates will not be the panacea.

It is often forgotten that interest rates do not stand alone as a cost element. They are a percentage of the mortgage, which is dependent upon actual costs of construction. Between two-thirds and three-quarters of the mortgage represent "brick and mortar" costs. Unfortunately, there has been little effort to check these spiraling construction costs, while national debates drone on about high interest rates.

It would be more realistic, and certainly more productive, to consider obtaining cost-savings via the cumulative route. Instead of seeking dramatic savings in any single cost element, it would be more prudent to reduce costs, however moderate, such as land, fees, premiums, closings, construction, and interest rates.

Systems proposal by Jordan Gary Mertz, 1962



For example, Senator William Proxmire has been waging a noble struggle in Congress to reduce closing costs. Such costs, which must be paid before assuming title to a property, include bank handling fees, title search and insurance costs, lawyers fees, etc. They are not the largest burden the home owner must bear, but eliminating excess in this sector can be significant when added to similar reductions among the other housing cost elements.

Contrary to the exaggerated arguments of their critics, those urging the adoption of industrialized construction techniques do not claim that they have developed a new approach to Utopia. By reducing construction costs 15 percent, as will be described more fully later, they have demonstrated that they too can contribute to the joint effort in obtaining cumulative savings for housing construction.

Those familiar with all aspects of the building industry also know very well that there can be no single solution to high construction costs. The constraints confronting this industry have been almost legendary, and many successes have been illusory. Knowledgeable housing construction experts are instinctively reluctant to claim that they have the long-sought solution to rising costs. They know better than that. This field is too complex, and the industry is too fragmented, to accommodate any patent medicines wrapped with glib phrases and fancy artistry.

In view of all of these problems, the semantic debates over systems building are ludicrous distractions from our main objective: reduced housing costs. Glamorous phrases, such as industrialized building systems, which now fill the technical literature, have inspired intense academic arguments between the zealots and their critics. But, somehow the true meaning of this new religious fervor is not understood by those who influence housing construction.

The primary objective of industrialized building systems is to transfer as much construction work as possible from scaffolding

at the construction site to off-site plants. By shifting to mass-production of standardized components, which could be quickly assembled on site, it is possible to reduce costs substantially. Unfortunately, many ardent proponents of this approach, as well as their dyed-in-the-wool critics, have lost sight of these basic principles.

Perhaps, many were carried away by the wave of enthusiasm generated by Operation Breakthrough. At the beginning of that HUD program, some attempted to alert the building industry that the waters upon which HUD had embarked were filled with hidden shoals. They seriously questioned whether industrialized building could be adequately demonstrated under the terms of that operation. For example, one Operation Breakthrough producer was requested to set up a new plant in a city of very limited market potential in order to produce a total of 182 dwelling units composed of precast concrete modules. That company would have been doomed to bankruptcy if it had complied with HUD's directions at the time. The much-heralded program was destined to fall short of its targets, because its administrators were unfamiliar with both the building industry and the basic principles of industrialized building. It is interesting that no mention was made of

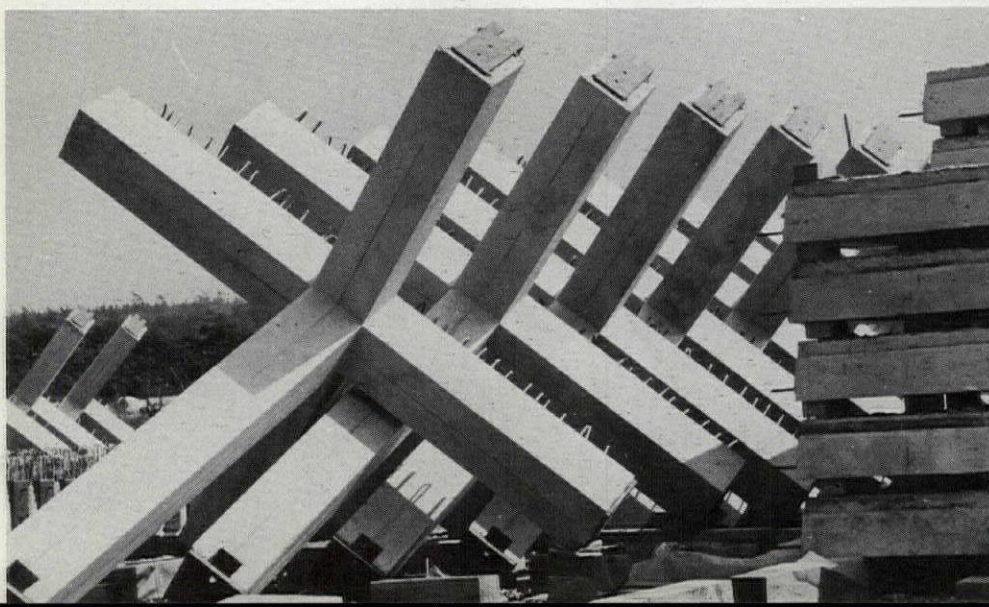
the potential cost-savings of industrialized buildings after the first year of Operation Breakthrough.

Somehow, Madison Avenue adopted the precepts of industrialized building with greater religious zeal than the technical experts who originated these new approaches. Press agents, stock brokers, and self-serving publicists naively proclaimed the coming revolution in the building industry, with industrialized building as its prophet. Too many who should have known better, swooned to such melodious claptrap!

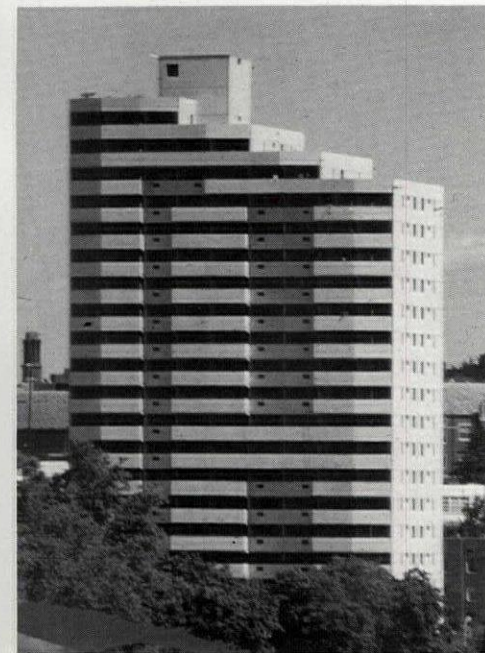
Certainly, those who knew the building industry and understood the principles of industrialized building should have made greater efforts to clear the air. Their silence made it relatively easy for skeptics to set up straw men that could be demolished with a few deft phrases: For example, referring to Habitat as a "custom-made, almost hand-crafted prototype" and then making the contradictory statement that such housing designs were "meant to demonstrate the practicality of systems building." If industrialized building systems are based upon *mass-produced, standard components*, how on earth could a "custom-made prototype" serve as an example of that concept? The only "practical" purpose it could serve was that it could stand up on its own foundations and show how handsome it looks.

Instead of concentrating on new heroes and the so-called mystique surrounding industrialized building, it would be more productive to determine the circumstances in which these new construction techniques could contribute cost-savings to housing. Certainly, the needless debates over revolutionizing the building industry should cease now, once and for all. Such hyperbole is meaningless in an industry that affects one tenth of the nation's economy.

Componoform project, Cambridge, Mass., 1969



Modular Communities project, Yonkers, N.Y., 1971



The fact is, industrialized techniques have been introduced in the American building industry without fanfare. The construction unions and building code administrators, who are usually characterized as the industry's major villains, have been assisting in introducing these construction innovations. In many instances, the expertise they contributed to such endeavors was responsible for their success.

There have been countless developments throughout the building industry which would substantiate these statements. I will merely cite some examples with which I've had direct experience during the past few years. There are many others that could illustrate the new approach.

The New York State Urban Development Corporation (UDC), under the leadership of Edward J. Logue, has used its large-scale housing construction program across New York State to facilitate the use of cost-saving industrialized building techniques. Instead of treating each new project on an ad hoc basis, UDC set out to organize its own construction program as an aggregated market.

- In New York City, UDC was instrumental in obtaining prefabricated plumbing walls—with the active assistance of the local and national leadership of the Plumbers Union. The UDC and the union started with a single project with repetitive plumbing subsystems and employed union members in a new plant set up to assemble the prefabricated

plumbing walls. The concept is now accepted for all construction in the city, without the participation of UDC.

- In Syracuse, a 20-story apartment building, successfully demonstrated the use of standardized exterior brick wall panels, which were prefabricated in a temporary plant set up on the site for that purpose. The brick walls were only 4-in. thick, as opposed to the standard 8-in. walls in conventional construction, and the bricklayers reportedly tripled their normal productivity by working inside all year around. Here again, the union leadership favored such innovation. UDC also introduced a new plumbing system that eliminated 30 percent of the vertical piping normally required in conventional construction.

Those unfamiliar with industrialized building usually equate it with precast concrete building systems. Actually, this concept refers to the repetitive use of standard components so as to reduce on-site work. Nonetheless, UDC has employed a wide variety of precast building systems in over 3,000 New York dwelling units and found that industrialized building systems can indeed produce cost-savings.

UDC has conducted intensive cost studies in an effort to obtain cost-savings wherever possible. Whereas conventional structure, enclosing walls, and other related construction components would have cost \$12 to \$13 per square foot, the corresponding precast industrialized building systems cost UDC about \$9 to \$10 per square foot. Savings in these areas, ranging between 12 percent to 15 percent were obtained from the very beginning.

A recent report by the Joint Center for Urban Studies of MIT and Harvard University has been used as an argument against industrialized building. The Joint Center study was reported to have claimed that

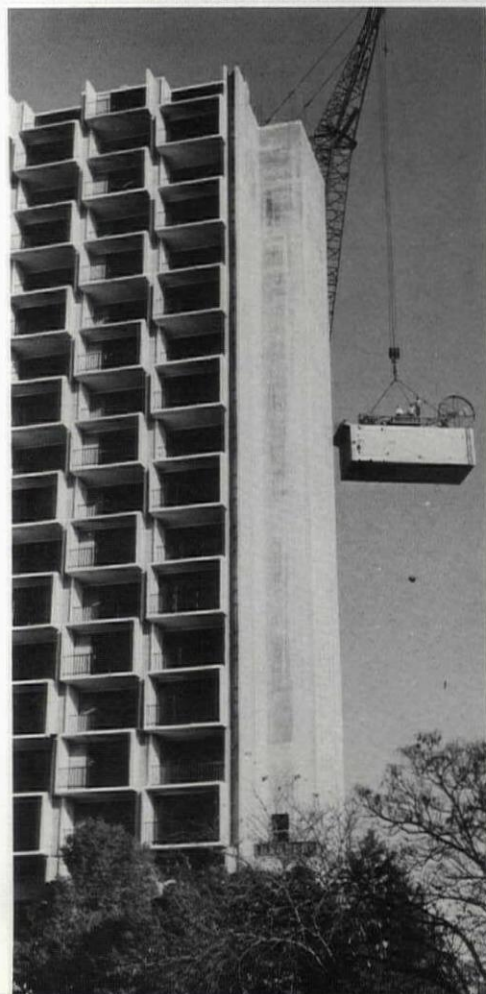
the need for a wide variety of tastes in different places for different people made it impossible to generate centralized solutions produced by industrialized building systems. That statement is without foundation for many reasons. The most obvious reply is that building systems are never intended to stamp out houses, like a cookie-cutter.

The issue of industrialized building techniques is no longer an academic question. The building industry has already demonstrated its capacity to absorb this new technology in the normal course of doing business. Alas, one cannot be sanguine about progress to date. As is true with any innovation, there have been many problems and the cost-savings have not been as great as some had hoped.

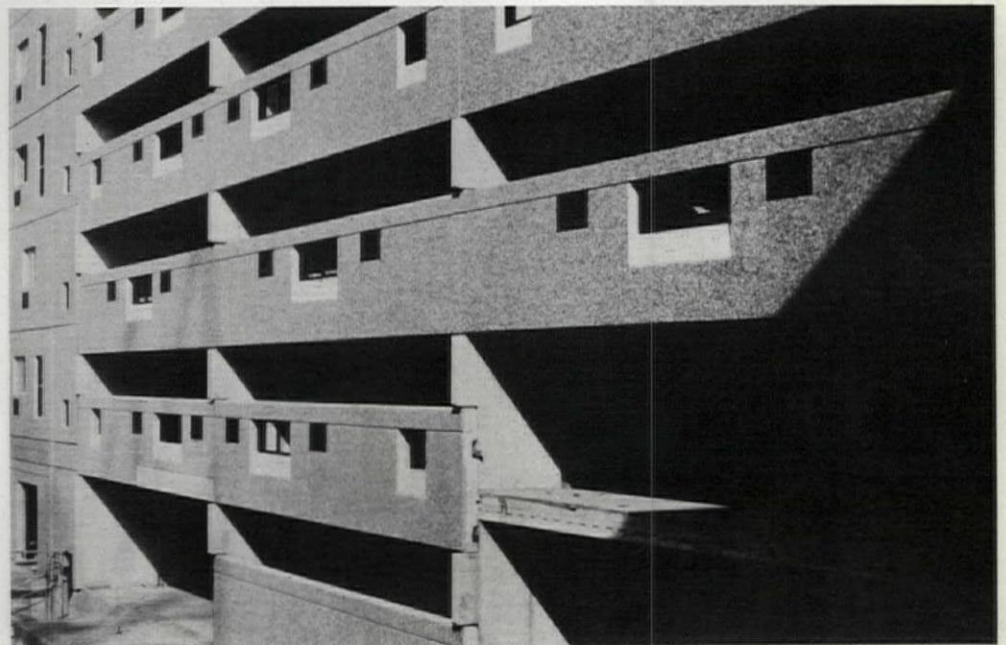
One problem has been the inability of architects and engineers to relate the process of industrialization to building design. Their principal failure is their reluctance to stay within the design disciplines required to obtain maximum cost-savings through systems building. For example, one UDC building constructed with a precast building system was so designed that each wall panel at the gable ends had to be treated as a custom-made element. In another building there were 188 different types of floor components, each type requiring a different size configuration. Of that unusually large number, 78 types required only one to three individual castings.

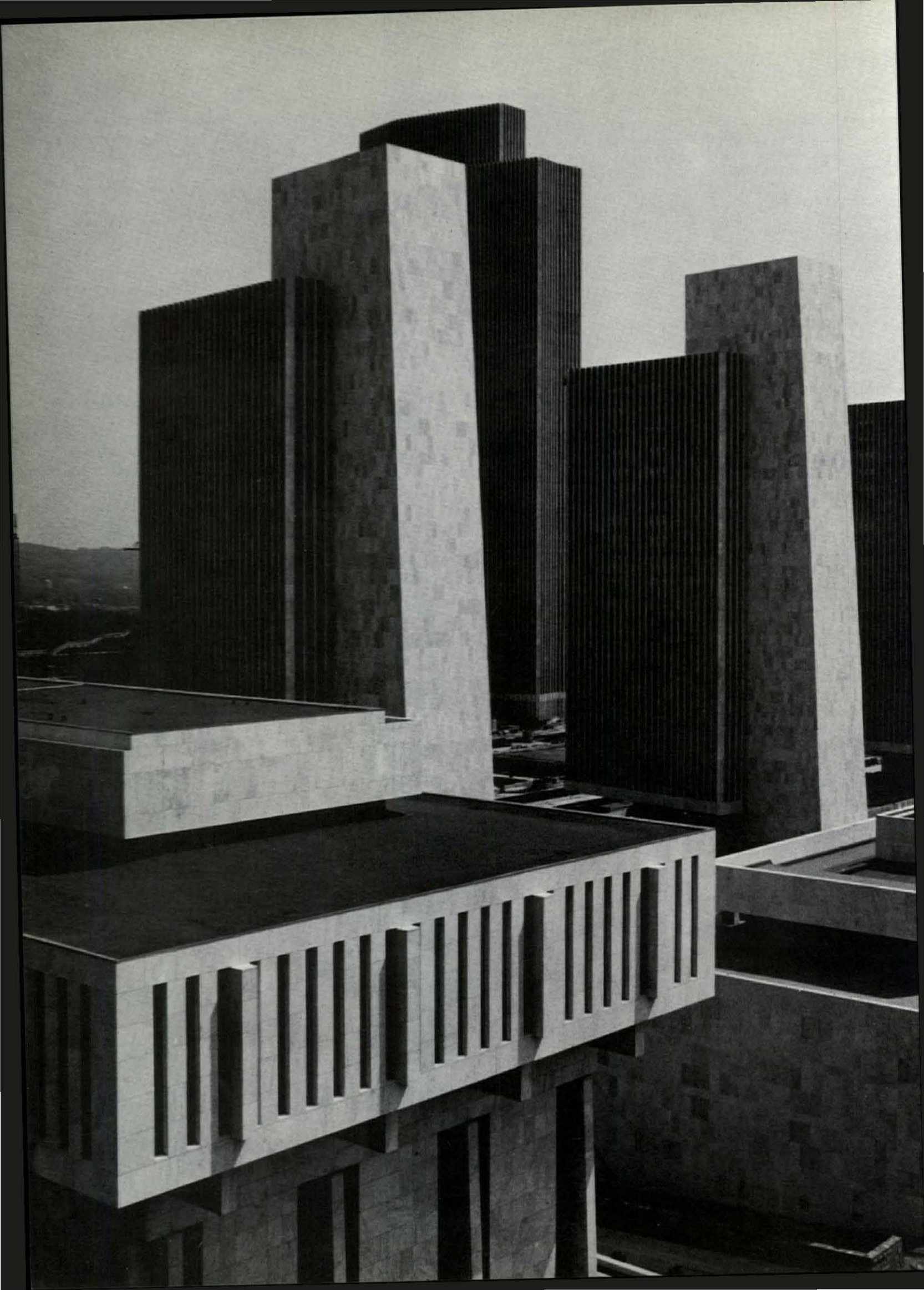
These problems are not insurmountable. Before long, we may expect that building systems producers and large-scale users, such as UDC, will join together in developing design guidelines that will facilitate maximum cost-savings. It is inevitable that industrialized building systems, along with other technological innovations, will be used more and more in the nation's effort to check increasing construction costs.

Hilton Palacio del Rio Hotel, San Antonio, Tex., 1968



Jespersen-Kay systems project for UDC in Rochester, N.Y., 1973







ALBANY MALL

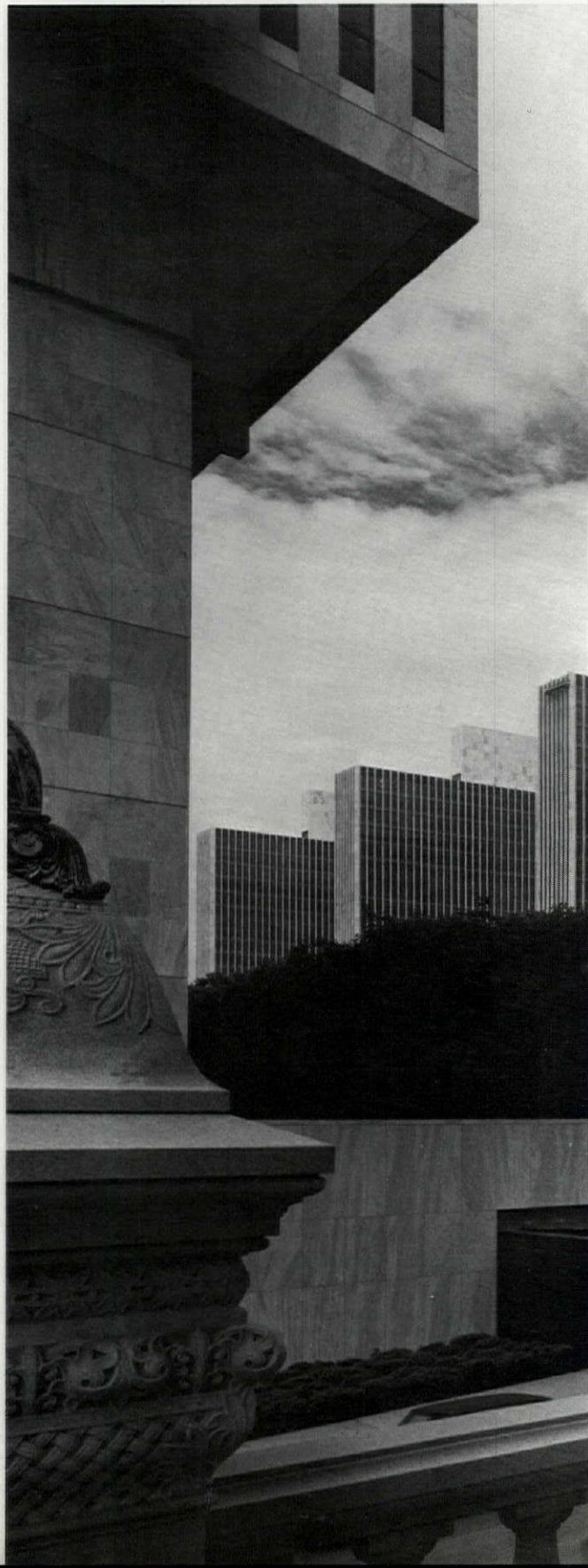
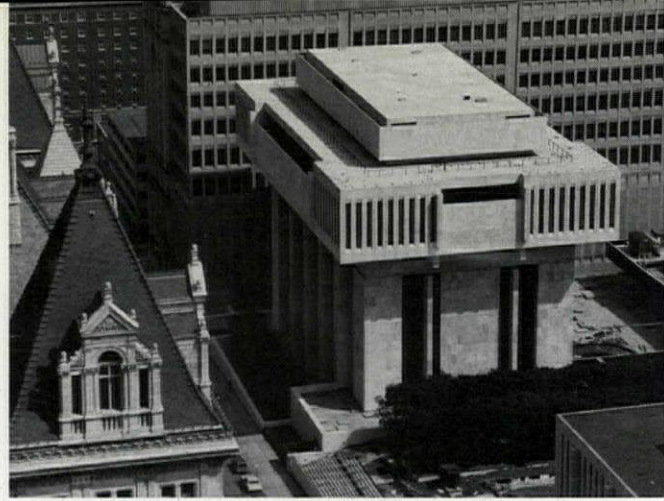
by Nelson A. Rockefeller

In Albany, New York, construction of the mammoth South Mall state office building project is in its seventh (and perhaps final) year. Proposed in 1962 by former New York Governor Nelson A. Rockefeller (with a projected cost of \$250 million), it is now estimated that it will cost something like \$1.6 billion. Last November, while still Governor, Nelson A. Rockefeller formally dedicated the complex and named it "Empire State Plaza." The following description of the buildings, presented without comment, is taken from Rockefeller's dedication speech.—ED.

"Here above the majestic river that Henry Hudson sailed 364 years ago, the people of New York State are creating the most beautiful state capital in America. . . . But what has risen here is more than buildings to house the services of government. Empire State Plaza is a unique concentration of great architecture, great art and of New York's great place in America's history.

"This is one of the most exciting and creative periods in the history of American architecture. . . . This is also an exciting era in art. New York is the center of the contemporary movement in the art world. And, therefore, it is eminently fitting that these great artists should be represented in this state capital complex. Accordingly, the greatest collection of New York State contemporary art has been assembled and will be permanently on display throughout the Empire State Plaza.

"Another point of great cultural interest is an excitingly creative museum—under the direction of the Board of Regents and the State Department of Education—which is also taking form



in the Cultural Center at the end of the Plaza, opposite the Capitol. This will enable New Yorkers and visitors from throughout the country and the world to live the state's natural, cultural, economic and social history—the geology of the Catskills before man ever set foot on them; the life of the Indians along the Mohawk; New York City as a tiny Dutch colonial port, the early milling industry around Syracuse and winemaking in the Finger Lakes region.

“Visitors will even experience a powerfully life-like re-creation of the historic howling hurricane which struck in the Adirondacks with such devastation in 1950. And in the gallery terrace, museum visitors will experience changing exhibitions.

“Throughout human history, the flourishing of great civilizations has been synonymous with the flourishing of great art and architecture. Winston Churchill once said: ‘We shape our buildings. Thereafter they shape us.’ Churchill was reminding us, of course, that we will get the inspiration and spiritual rewards out of our buildings that we put in them. Mean structures breed small vision. But great architecture reflects mankind at its true worth. When men and women have earned their bread, clothed their bodies and sheltered the family,

“—something within us still hungers for a higher meaning;

“—the stimulation of the senses;

“—the lifting of the spirit;

“—the satisfaction of our inner being.

“This noble hunger of the soul distinguishes man from all else in creation. This need is the dividing line between lesser beings and human beings.

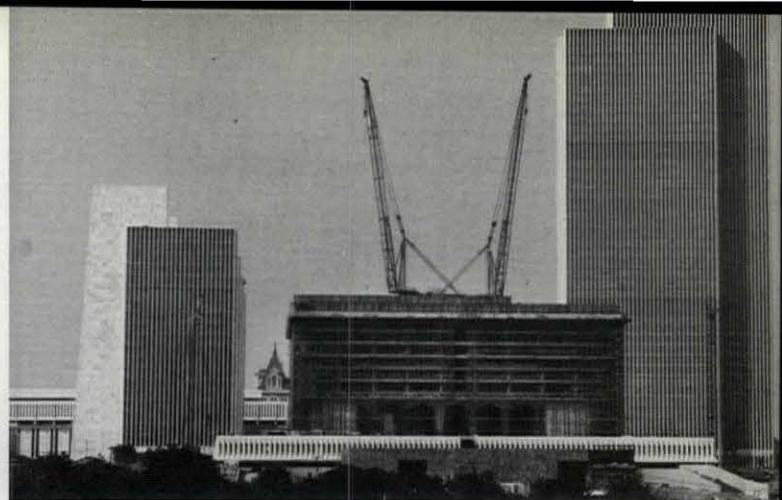
“What we are recognizing in these buildings is that we have an aesthetic nature—that we have cultural values, and that these values are what lift us above the scurrying ant heap of those absorbed only in survival, and make us a society touched with Divine Grace.

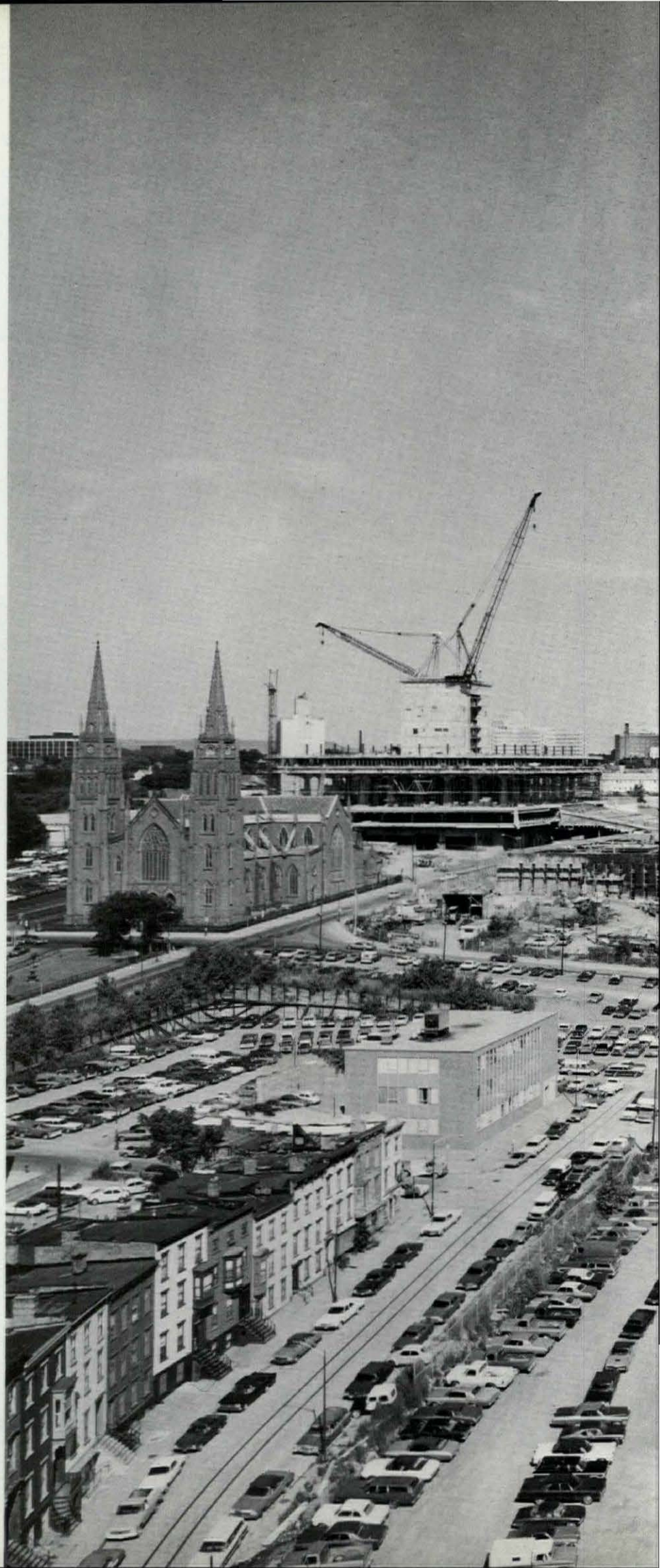
“Our architecture is one way in which mankind expresses its unique capacity to create. . . . In Churchill's phrase, we are shaping ourselves as we shape these buildings. We are creating a capital that expresses our faith in ourselves and our belief in the future,

“—one that will fulfill us aesthetically as well as serve us practically;

“—one that will speak of the dignity of man;

“—and one that provides another link of continuity between ourselves, those who came before us and those who will follow us in the majestic river of New York's history.”





Facts and Figures

Empire State Plaza, Albany, New York. Owner: State of New York. Architects: Harrison and Abramovitz. Construction management: George A. Fuller Co. Engineers: Ammann and Whitney (structural); Syska and Hennessy (mechanical and electrical).
Photographs: John Veltri, except last page.



ANTIQUES

Some, if not most of the best “modern” chairs available today around the world have one thing in common: they are not “modern” at all, having been designed anywhere from 40 to 100 years ago. Herewith a report on this remarkable collection of sit-me-downs—on who designed what and when, and who makes them now.

Every one of these chairs was designed prior to 1935—and *almost* every one of them was designed by an architect. This is a curious fact, once explained by a veteran of the Modern Movement, in these words: “Function, form, and realization—these are the stages you go through when you design a building. But when you don’t have any commissions (and we didn’t, in the 1920s and 1930s) you look for that sort of exercise in other fields, where you don’t need a rich client. Function, form, and realization are very easy stages in the design and making of furniture.” And so the Breuers, the Le Corbusiers, the Aaltos, the Mies van der Rohes, and all the rest, spent many of their early years, when there were very few, adventurous clients for buildings, keeping in trim by designing chairs.

But why do their chairs of the 1920s and 1930s fascinate us so today—and delight us more than most of the recent crop of furniture design? The reason is that these chairs were designed by people who understood the essential qualities of modern spaces—movement, airiness, unclutteredness. Modern rooms were, by economic necessity, becoming less spacious than the grand quarters of earlier days. To make these smaller spaces seem airy and light, the furniture that was needed had to be lithe and transparent. So these chairs were designed not in a vacuum, but as integral parts of the architecture they would inhabit.

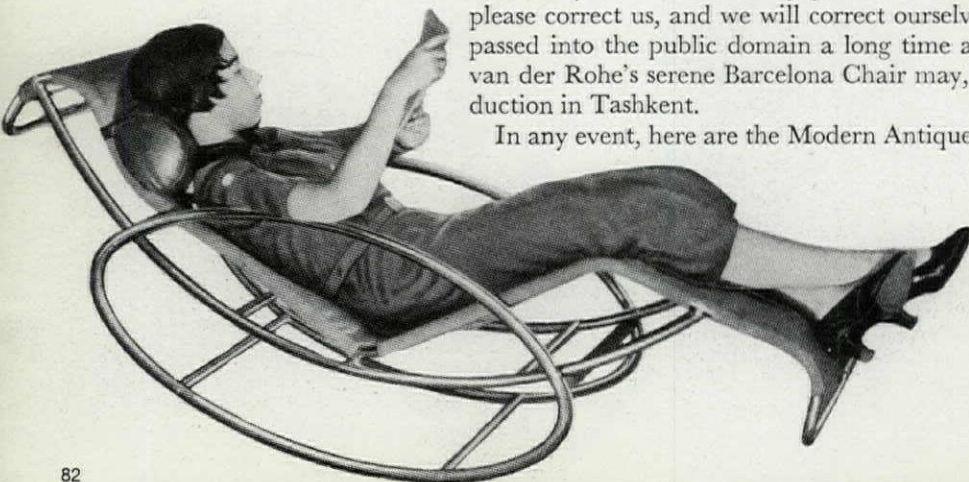
This gallery of modern antiques is perhaps remarkable in one further respect. These masterpieces of modern design were produced when their creators were no older than most undergraduates at today’s schools of architecture. Marcel Breuer invented tubular steel furniture when he was all of 23 years old. Gerrit Rietveld built his constructivist red-blue chair at the age of 19. Alvar Aalto, however, was a mature 32 years old when he revolutionized wood-technology in the design of furniture. And Le Corbusier and Charlotte Perriand were actually in their early forties when they designed some of the most stylish furniture produced in this century. Still, most of the innovators were very young indeed.

One hopes that there are potential Breuers and Rietvelds at our schools today—but there is not enough evidence that this is so. The most creative “new” designer of furniture, in the world, is (and has long been) Charles Eames—also an architect, by the way—who *looks* as if he might be in his thirties, but, frankly, hasn’t been for some time.

Enough of such speculation. Marcel Breuer, in a hilarious sketch done during his Bauhaus days, suggested that the Chair of the Future might be a compressed air jet, emanating from a nozzle built into the floor. It could work, of course—except that some very light-weight people might find themselves uncomfortably ballooned into the upper reaches of architectural space.

Meanwhile, we can rejoice over what we have inherited from the recent past. In this story, we have attempted to identify not only the designers and their priorities (some of which are controversial); but also today’s manufacturers—many of whom produce almost identical versions of the original antiques in workshops that stretch from Italy and the U.S. to Japan. If we failed to give credit where credit was due, please correct us, and we will correct ourselves in print. Many of these classic designs passed into the public domain a long time ago; and so the very best version of Mies van der Rohe’s serene Barcelona Chair may, very well, unbeknownst to us, be in production in Tashkent.

In any event, here are the Modern Antiques—a very sprightly collection of veterans.



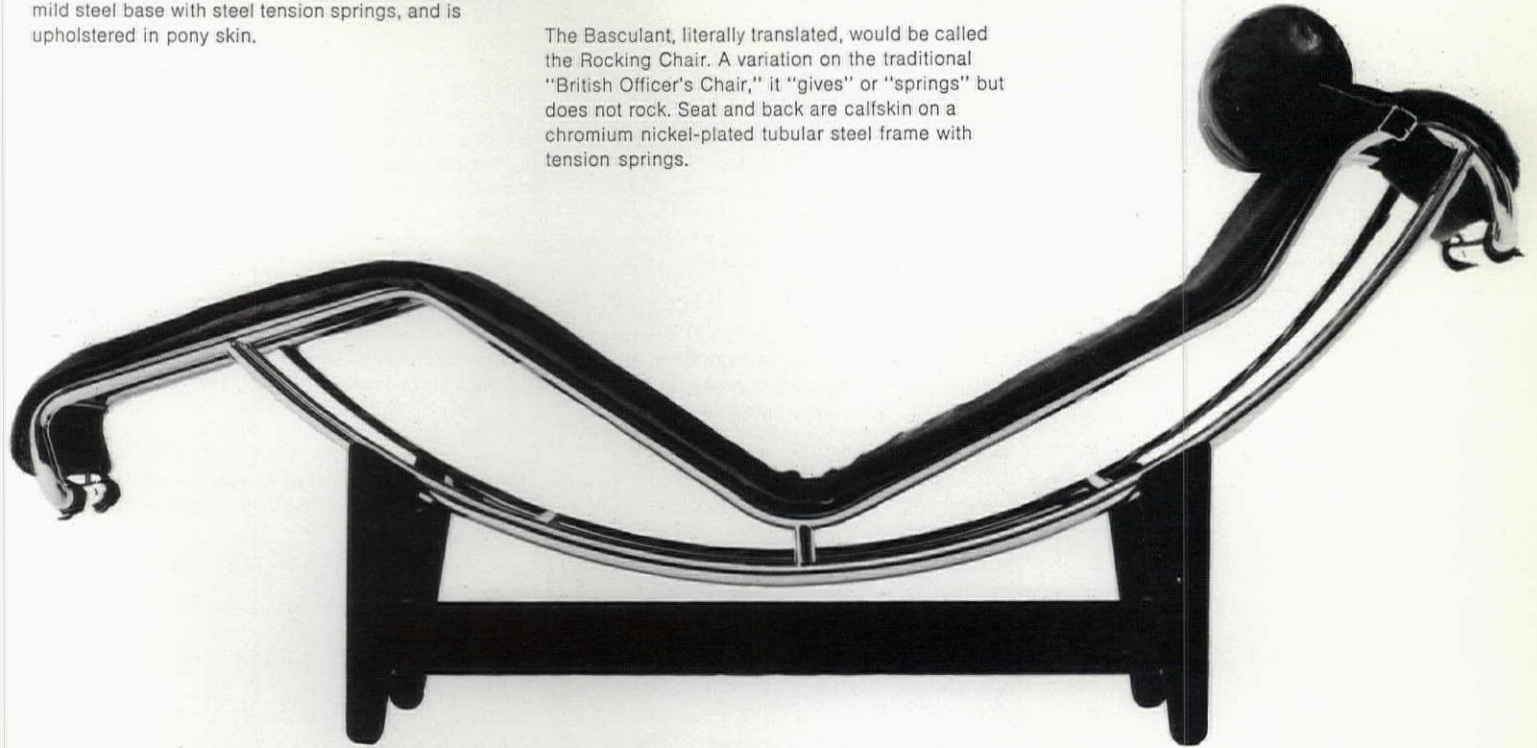
In 1928 Le Corbusier, in association with Charlotte Perriand, produced three important chairs, each one totally different in concept from the others.

The luxurious Chaise Longue is an undulating chromium-plated steel tube frame on a self-adjusting mild steel base with steel tension springs, and is upholstered in pony skin.

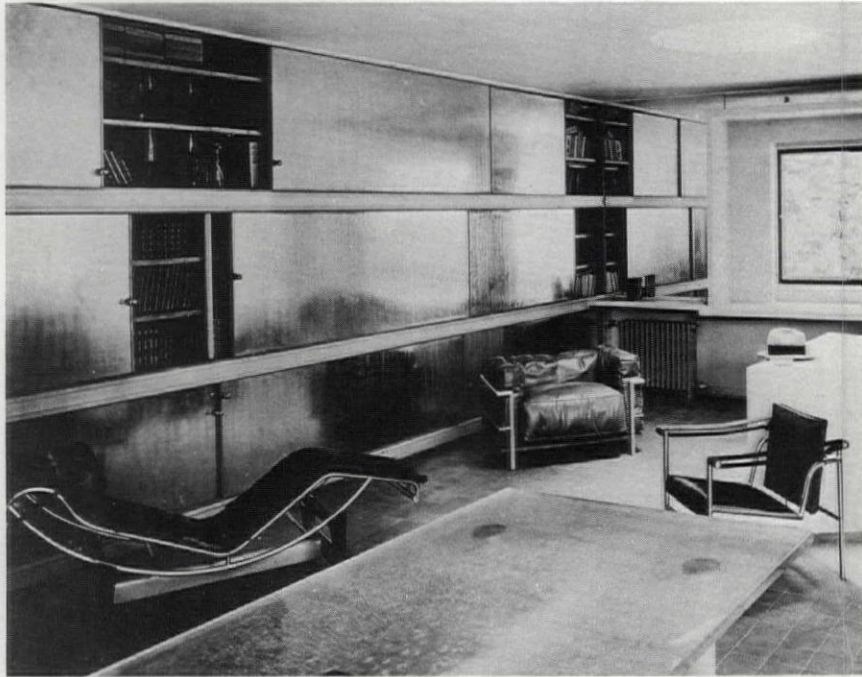
The Grand Confort, or Cube Chair, is made in two sizes, narrow and wide. The tubular steel frame is chromium nickel-plated, and the thick soft cushions are traditionally covered with leather, though occasionally the chair appears with fabric upholstery.

The Basculant, literally translated, would be called the Rocking Chair. A variation on the traditional "British Officer's Chair," it "gives" or "springs" but does not rock. Seat and back are calfskin on a chromium nickel-plated tubular steel frame with tension springs.

All three were designed in France and used for the first time in furnishing a villa in Ville d'Avray; and all three were originally built by Thonet. Since 1956, they have been made with slight variations by Aram and Cassina, and others.



Chaise Longue



The Grand Confort, or Cube Chair



The Basculant

Gerrit Rietveld designed the Red Blue chair (which is also black and yellow) in 1917-18 in Holland. First built by G. A. Van de Groenekan, De Bilt, it has now been revived in Cassina's Masters Collection. The design is based on a 10-cm. module, approximately three times the width of the posts and rails. Reyner Banham, in "Theory and Design in the First Machine Age," writes that the germ of the idea must have come from Frank Lloyd Wright, with "European abstracting"—"The form, a 'Morris chair' with a high plank back, is Wrightian, as is the use of plain machine-cut rails, such as Wright had valued in his own furniture. . . . The lines form rectangles by touching tangentially and continuing an arbitrary distance beyond the point of interception." Architect Tod Williams, who built one as a student project in school, describes it as "a full piece of architecture . . . it was like making a house . . . uncompromising . . . a history lesson, an art lesson and an architecture lesson all in one."

Rietveld's Zig-zag chair, 1934, was originally conceived as being cut from one piece of wood. However, Rietveld was unable to execute it that way. The chair is solid beech with a conventional dovetail and appears to be uncomfortable; actually it has a gentle "give," though not enough to make the sitter apprehensive of collapse. The Zig-zag does not impose itself in a room; it retreats modestly into the background removing very little space with its presence. The design is a Cassina revival.

Alvar Aalto designed Armchair 41 (also called the Aalto Scroll Chair) in 1930 for the TB Sanatorium at Paimio, Finland. The seat is of special pressed 3 mm. plywood, molded on two different forms, a method arrived at after three years of experimenting by Aalto, who made his own plywood. The seat-back is practically unbreakable, though delightfully bouncy. This chair, birch laminated frame with pre-formed seat, was the first of the pliant chairs without a rigid frame. It might well be acquired as a piece of sculpture even if one doesn't need another place to sit. It was first made by Huonekalu-ja Rakennus-tyotehdas Oy, Abo; now by Artek, Aalto's own firm.

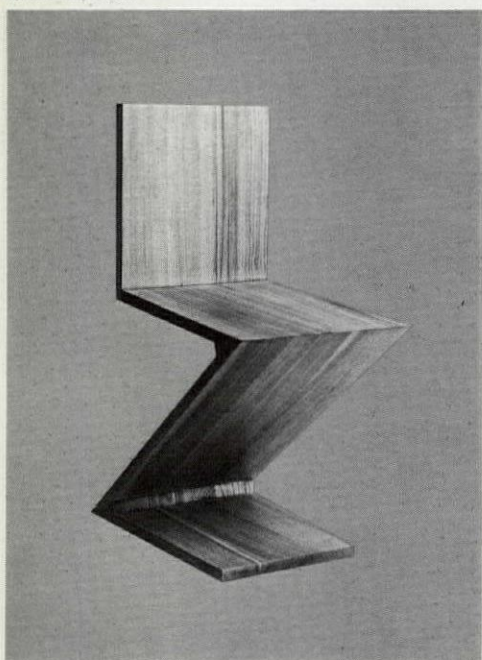
The Swedish architect Bruno Mathsson, convinced that the usual chair required that the sitter become adept at the act of sitting, did research on the physiology of postural adjustments. He felt that sitting should be effortless and maybe even comfortable, and began to work with what he found to be the ideal malleable material, laminated bentwood. The T 102 chair of 1934 (the arms were added in 1941) used webbing instead of upholstery and was at first considered "too daring" by the Swedes. Since no one would make it for him, he built his furniture himself, a few pieces at a time. Mathsson has said, "The business of sitting never ceases to fascinate me." To this day, each piece is custom-made and signed by Mathsson, who considers a piece not presentable until it can be turned upside down without hesitation. His chairs, all sparse and clean lines, were eventually identified as "Swedish Modern"; and in 1934 the Museum of Modern Art in New York acquired several of his models. Swedish art critic Gotthard Johansson said of Mathsson, "He is beyond doubt one of the strangest people working in the Swedish arts and crafts industry. He has designed only a limited number of models, but these have been worked out so thoroughly that they can almost be called 'inventions'." All his chairs are made in his own factory in Värnamo, Sweden.



Red Blue chair



Aalto Scroll Chair



Zig-zag chair

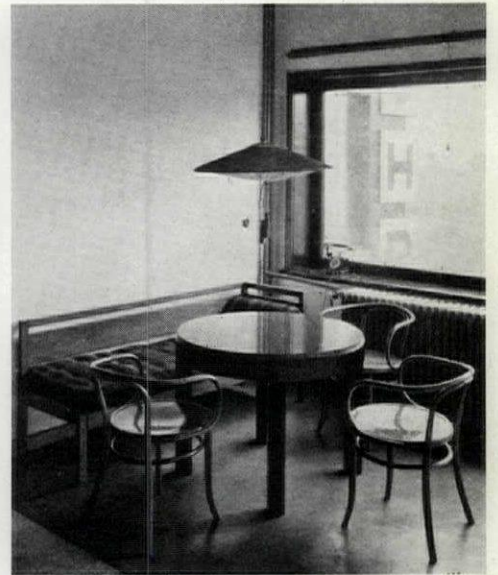
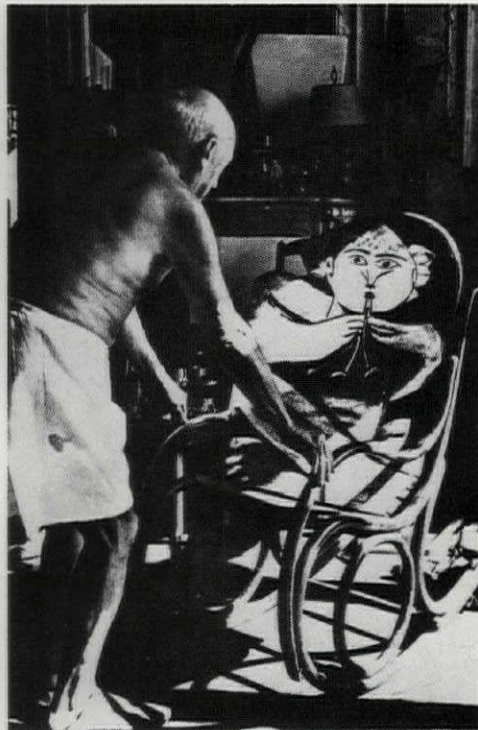


T 102

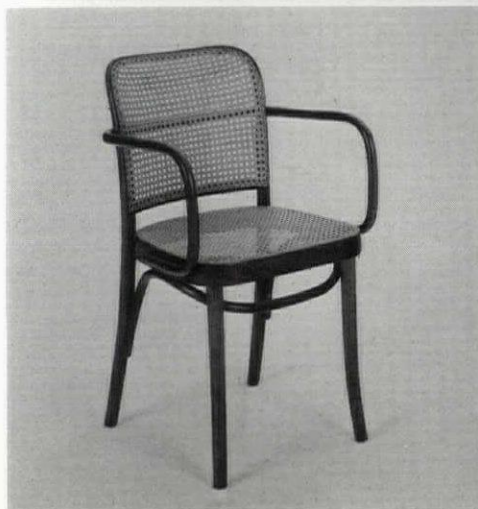
Michael Thonet, cabinetmaker of Boppard, a small town on the Rhine, invented, in the 1830s, a new method of bending wood which allowed him to create unusually graceful and elegant chairs which were extremely light. So successful was the idea and the hundreds of variations of design, that his chairs can be found in virtually every country. Reyner Banham, in "The Chair as Art," writes: "This Rhineland cabinetmaker went to Vienna to decorate palaces and finished by inventing the bentwood chair on which cafe society has sat, and largely still sits, all over the world. He made it dirt-cheap; he made it by the million; he came as near as any human has to making chairs as common and unremarkable as the bums that were parked on them. And now he is

remembered as the designer of the most sought-after rocking chair in the world, the favored bentwood throne of the leaders of modern design." The Vienna Cafe Chair, mass produced since 1850, is hugely popular a century and a quarter later. Then a sort of formal uncle to the gay Vienna Cafe was presented by Thonet at the Prague Exhibition of 1851 where it won a Gold Medal. Michael Thonet, whose reputation was that of an autocrat, credited the design of the Prague Chair to "staff design," as was his custom in those days.

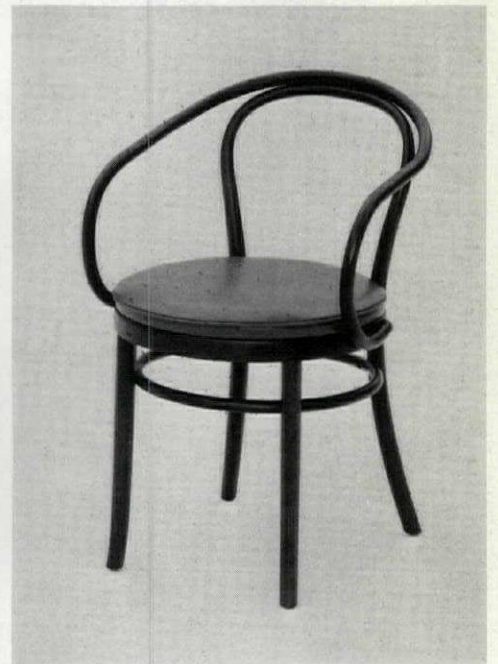
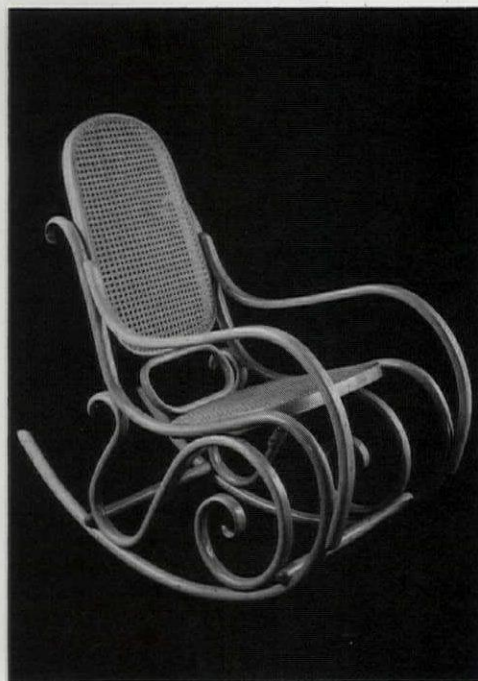
The Desk Armchair, put into mass production in 1870, was also credited to "staff design," though it may have been designed by one of the five Thonet sons, August Thonet. This chair is sometimes called "the Le Corbusier" because he selected it in 1925 for the interior of his Pavilion de l'Esprit Nouveau, and because he used it so frequently thereafter in his interiors. The design is reduced to six elements: the round seat, the two front legs, the round leg brace, the member which forms the rear legs and supports the back. Le Corbusier, calling it the "most common and least costly of chairs," has been widely quoted as saying: "This chair possesses nobility."



Cafe Chair



Prague Chair



Desk Armchair

A dramatic change in chair design took place when the Bauhaus moved from Weimar to Dessau in 1925 during which event Marcel Breuer bought himself a bicycle. It was an Adler make, and it had the usual chromium-plated tubular steel handle bars. While riding he realized that this type of tubular steel could be bent into continuous loops to form the supporting frame of chairs and tables. So Breuer designed the first chair of chromium-plated tubular steel. Its seat, back and arms were stretched canvas. When the Bauhaus buildings were completed in 1926, Breuer furnished the school buildings, as well as the masters' houses, with his tubular steel furniture, including an extremely simple stool made of a continuous steel tube topped with a wooden seat—a first inkling of the next revolutionary step: the tubular steel cantilever chair. This "handlebar" chair, the first one with resilient structural frame of continuously bent steel tubing, was used in the furnishing of Wassily Kandinsky's staff house on the Bauhaus campus at Dessau in 1925 (it has ever since been called the "Wassily"), and was presented in the Werkbund Exhibition in Stuttgart, 1927. In the beginning, alternate versions used different arrangements of the tubes, particularly in the back. Breuer describes the Wassily: "The body

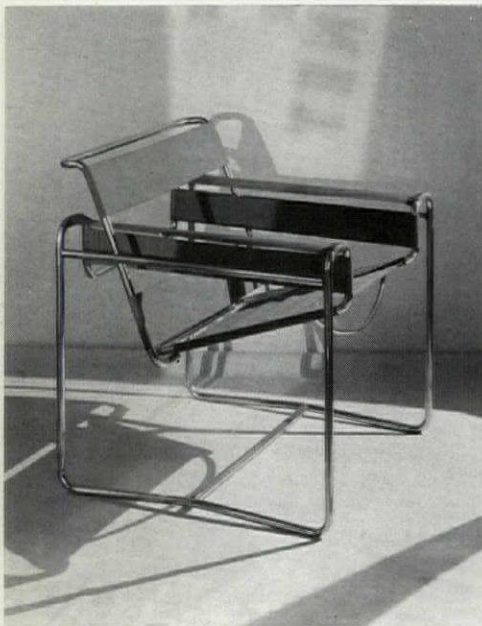
is supported on all sides between bands of fabric or leather under tension. In place of legs, the chair has 'sled' supports and slides easily." First made by Mannesmann Steel, then Standard-Möbel, Berlin; the Wassily is now manufactured by Thonet and Gavina.

As it happened, the first cantilever chairs were designed in 1926, not by Breuer, but by the Dutch architect Mart Stam, who had seen Breuer's tubular steel furniture in the Bauhaus, and by Mies van der Rohe. Breuer produced his version a year later. The Breuer chair, more angular than that designed by Mies, has been the model for thousands of copyists the world over. It was first manufactured by Mannesmann Steel; since 1956 it is being made by Gavina, Milan, who call it the "Cesca", after Breuer's daughter, Francesca. With a very slight variation, it is produced by Thonet.

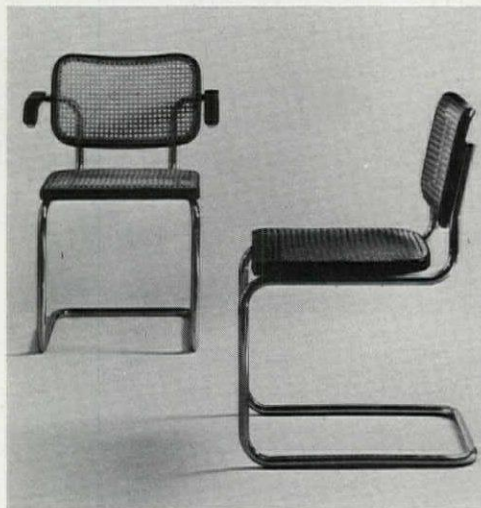
By 1935, the variations on the tubular steel cantilever having been temporarily exhausted, Breuer, now in England, produced the Chaise Longue of bent laminated beechwood with a padded plywood seat.

He designed it while working on indoor-outdoor environments where the bedrooms opened out onto patios. The contours are engineered to support all parts of the body, resulting in a completely resilient chair with or without the foam rubber upholstery. Jack Pritchard whose company was (and is) called Isokon, built it for him. It is now manufactured by Knoll International.

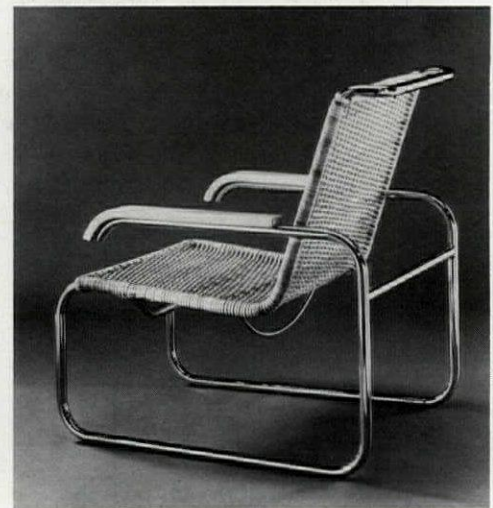
Breuer's Lounge chair of 1930 evolved from both the Wassily and the cantilever, with its chrome-plated frame and natural woven reed or leather seat and back. It was originally made by Thonet, and is still being made by Thonet, Germany.



Wassily



Cesca



Lounge chair



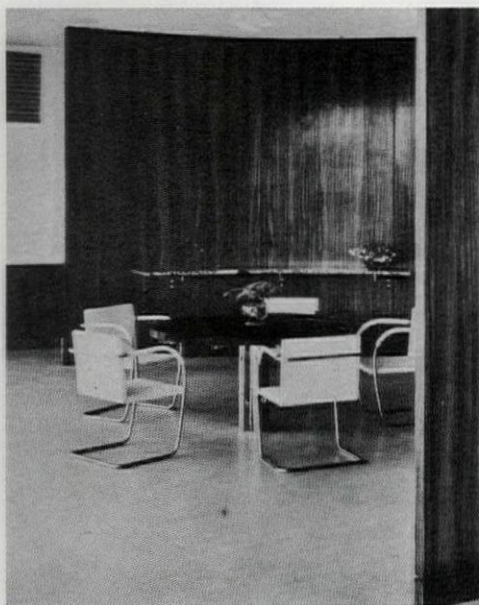
Chaise Longue

Mies van der Rohe's first and most famous chair is the resilient cantilever he named the MR. (*Playboy*, in a caption beneath a swinging bachelor interior, renamed it "the Mister chair".) The MR, with its elegant semicircular supports, was first exhibited at the Paris Exposition de la Mode in 1927. It was originally built in 1926 by Joseph Müller in Berlin, and later by Thonet. It is now also made by Knoll International and other manufacturers. It comes with and without arms, in leather or natural cane, and even appeared for a while during the '30s with patterned fabric.

Mies introduced the Brno chair in 1930 as one of a series of chairs designed for the Tugendhat house in Brno, Czechoslovakia, now a children's sanitarium. Mies designed not only the house and the furniture, but also every detail including the light fixtures, the curtain track holders and the heating pipes. Philip Johnson wrote in "Mies van der Rohe": "The relation of one piece of furniture to another, of one group to another, and of the groups to the walls and partitions is so carefully calculated as to seem inevitable. No other important contemporary architect cares so much about placing furniture. Mies gives as much thought to placing chairs in a room as other architects do to placing buildings around a square." The Brno is chromium nickel-plated steel with leather-covered upholstery, reproduced since 1950 by Knoll International.

"The curving contours of Mies' chairs are always generous and calm. Being a large man, he thought of furniture in ample terms. The Barcelona chair, the most beautiful piece of furniture he has ever designed, is large enough for two people to sit in. The single curve of the back crossing the reverse curve of the seat expresses 'chair' better than any other contemporary model!", wrote Philip Johnson in "Mies van der Rohe". Mies was Director for the German Government Pavilion at the Barcelona International Exhibition of 1929, and the chair was designed for its interior. The seat is one square meter in plan. The frame is chromium nickel-plated steel with leather covered cushions, and is manufactured by Knoll International.

Photographs: Page 82 Thonet. Page 83 (center) Thonet. Page 84 (top right) *Design Quarterly*; (bottom center) Museum of Modern Art. Page 85 (top photos) Thonet. Page 86 (left) Paul Grotz; (center and right, top) Thonet.



MR



Brno chair



Barcelona chair



IMPRINT

People and the places they build

Text and Photographs by Jan Wampler

For the last year I have been on a search throughout the U.S. to find places built without the help of architects, without the help of money and without the burden of the great american dream. I have found many men and women who have ignored the dream. Instead they are taking care of themselves in this plastic land. They have thought for themselves. They have fed themselves with what is at hand. They have built for themselves and in most cases used what the good people of the american dream discarded. They have worked on their own and have not known of each other. They have left an imprint of their thoughts and feelings on the land.

They have shown that people are capable of building a house for themselves that transcends merely functional needs. It has become a home sensitive to their feelings—a statement of their lives. These men and women would be opposed to the idea that their places could suit anyone but themselves. Yet, they believe that many other people are capable of expressing themselves through their homes.

These places should not be thought of as folk architecture or folk art but simply as an expression of people's feelings. Although the work shown here may represent extremes of expression, this work shares with all architecture imprinted by people the need to say that someone is here.

I have visited about a hundred men and women similar to these shown here and have spent many hours talking with them about their places, their dreams and their thoughts about life in their land. I have also talked with hundreds of others who have told me not of their dreams but of their discontent with the american dream. They have been searching in their minds for an alternative.

Architects can help provide an alternative, not by designing the finished products we are accustomed to, but by sharing technical skills in designing frameworks that will stimulate expression. This can mean simply the provision of materials for people to build with, or can be carefully designed physical frameworks which encourage the imprint of people living there. With some help, people are capable of thinking and building for themselves.

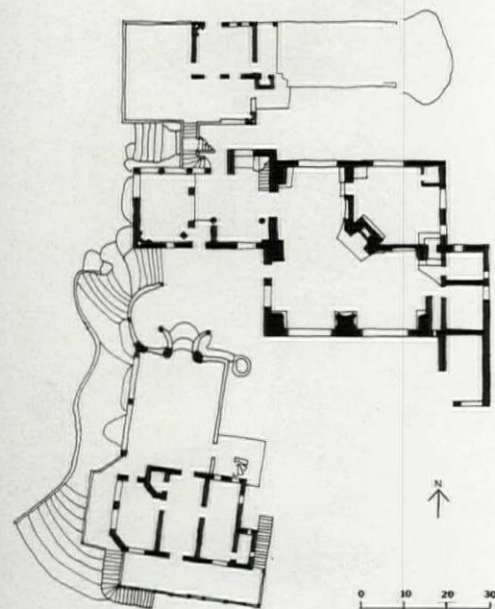
Hundreds of people have helped me in my search by taking time to talk and to show what there is to see. To all of these people I am deeply appreciative. This work was financed by a Wheelwright Traveling Fellowship from Harvard University. K. Ruedisueli, N. Goodwin, B. Garrett, M. Kennedy and P. Mackins assisted in preparing this material. Most of my quotations come from conversations with these men and women; some come from papers and pamphlets.

Jan Wampler is an Assistant Professor of Architecture at MIT, teaching a design studio exploring ways in which people can participate in shaping their environment. He also has a small architectural practice attempting to design for community needs. This article is extracted from a traveling exhibition shown at MIT and Harvard this spring. Wampler is presently writing a book on people who have "imprinted" their homes.

BOYCE LUTHER GULLEY
Phoenix, Arizona

Boyce Luther Gulley was born in 1883 in Arkansas. He lived in Seattle operating a shoe store until 1927. Then he moved to Arizona for his health, leaving his wife and daughter in Seattle. There he worked on fulfilling a promise to his daughter to build a castle. He continued work on the castle until he died of cancer in 1945. He built about a room a year until it had eighteen rooms on several levels. The materials he used were just what he could find. Stone from the nearby mountains, wood from railroad cars, overbaked glazed tiles, refrigerator trays, and automobile parts. His wife and daughter had not seen the castle until after he died. Now his daughter lives in the home he built for her.

"You know, not only do houses look alike, but people are beginning to look alike."





ROMANO GABRIEL

Eureka, California

I asked at the Volkswagen garage if they knew of the man who had built a wooden garden. It had to be in this area, not more than a couple of blocks away. But the men at the garage hadn't heard of it; they thought the man next door—who had lived there all his life—might know. He was sure it was Romano's place but thought it had been torn down; the town considered it an eyesore and firetrap, and had been trying to get it removed. If it was still around, then it would be up the hill and he pointed out where it might be. I walked up the hill and down the streets not knowing exactly what I was looking for, but knowing I would know it if I saw it. Then there it was, only two blocks from the garage. The sun made one of its rare appearances in Eureka and the colors were bright against the blue sky. A wooden garden.

Romano Gabriel came to the U.S. in 1913 from Italy. There he had helped his father who was a furniture maker. In the U.S., he served in World War I and then moved to Eureka. He has been a carpenter, having built nine houses in his spare time—and has worked in the lumber yards and as a gardener. He built his present home and then slowly built his garden, working on it for the last 30 years. The first objects he built were trees and flowers, some that move in the wind. Later he added animals, some that turn on carousels. Finally he made faces of people he had heard of or known.

"My idea was just to make these things, I just wanted to make something different. I just made up pictures out of wood. I don't buy any materials, I take all the boxes and lumber down in the store, they are all ends of fruit boxes.

"I make one piece at a time but I have not made things now for four or five years. No more room, no more boxes. Now all the boxes they come in paper, no wood.

"I used to be a gardener here in Eureka. Eureka is bad place for the flowers, the salty air and no sun. So I just make this garden."





ART BEAL

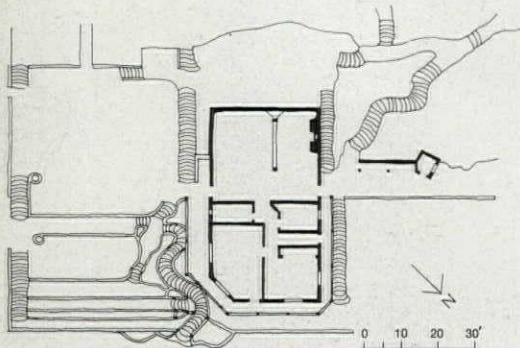
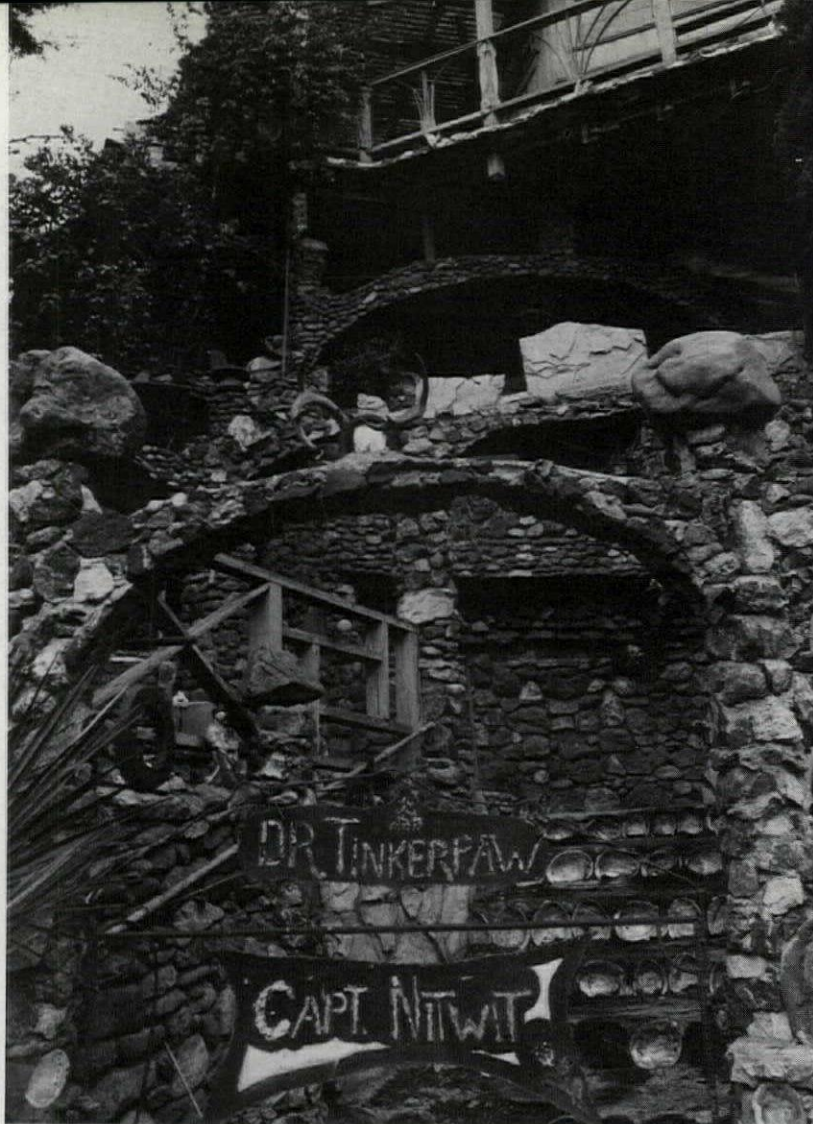
Cambria Pines, California

Art Beal, Dr. Tinkerpaws and Captain Nitwitt are all the same man. Beal, because it was his father's name; Tinkerpaws, because he tinkers with his hands; and Nitwitt because he lives on Nitwitt Ridge. He was born 77 years ago in San Francisco. He has been building for 45 years in Cambria Pines. During that time he did not buy any materials, except for a little "baking powder and flour"—cement and sand. He has grown his food, even sharing it with his neighbors. Now some of his good neighbors think his home is an eyesore and should be bulldozed. His home is built up the side of a rock cliff 250 feet high. There are eight or nine levels connected by stairs, and two or three rooms on each level. His materials were castoffs: abalone shells, beer cans, tires, car wheels, pots and pans.

"Well you see the majority of people today, they're born in these man-made mountains of concrete, steel, asbestos and asphalt. They get out and maybe they go to school and get down there and go to work. At the end of the week, here little doggie, here is your bone, now last it until next week. Well, they're like a canary in a cage. You turn them out here in freedom. What do they know. They starve to death in the midst of plenty.

"It was in 1928 when it all began. Nobody was here then. This hill was hidden far back in the woods. So, I created my first one-room shack. But that wasn't enough. I put up another and another and another. I can't stop now.

"Time means nothing to me. The tide comes and goes. Time never returns. I'll worry about time when I'm in the marble orchard."



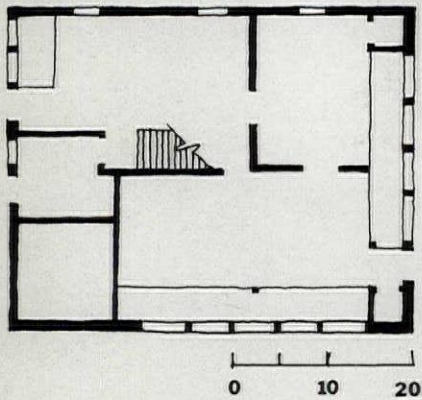


ELISE QUIGLEY

Eureka Springs, Arkansas

Lise Quigley wanted a new home, a home that was close to nature and large enough for her growing family. She knew that her husband would not build a new one as long as the old one stood. So one June morning in 1942 when her husband went off to farm Lise and her children tore down their old house. At the end of the day when her husband came home the house was gone and she had moved into the chicken coop. She designed the new house in her mind but since she couldn't explain it to anyone she built a model of her idea out of cardboard and matchsticks. From that model, she and the family built the home with wood from the farm and with rocks she had been collecting since she was nine. For three years she built the two-story walls from her rock collection. In the walls are rocks from all over the country, petrified wood, fossils, an Indian grist stone and toy marbles that belonged to her sons. She wanted a home that would make you feel as if you were living in the world—not in a box. To do this she made two foundations, an inner and outer, four feet apart. Between the two she planted tropical trees and plants that reach up the two stories. Like living in the woods.

"We really live off what God put in the world. You can practically live off a cow. She'll raise your meat, and if she's a real good cow, she'll raise an extra calf for taxes. You can get all the milk and butter and cottage cheese you can use."



DAVID BROWN

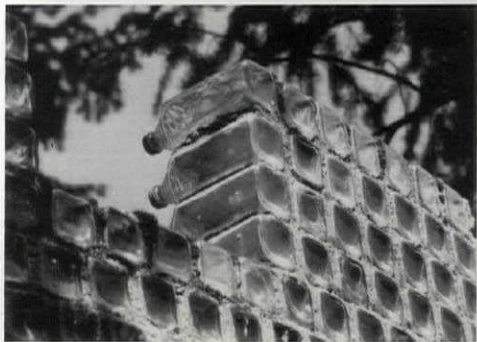
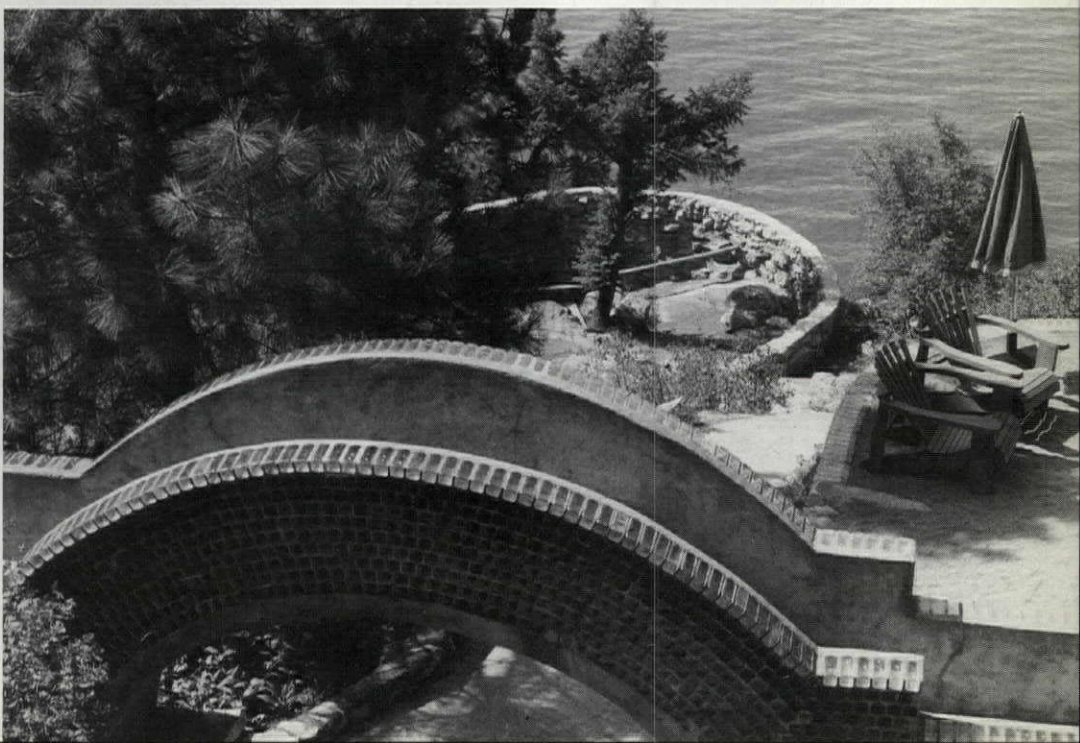
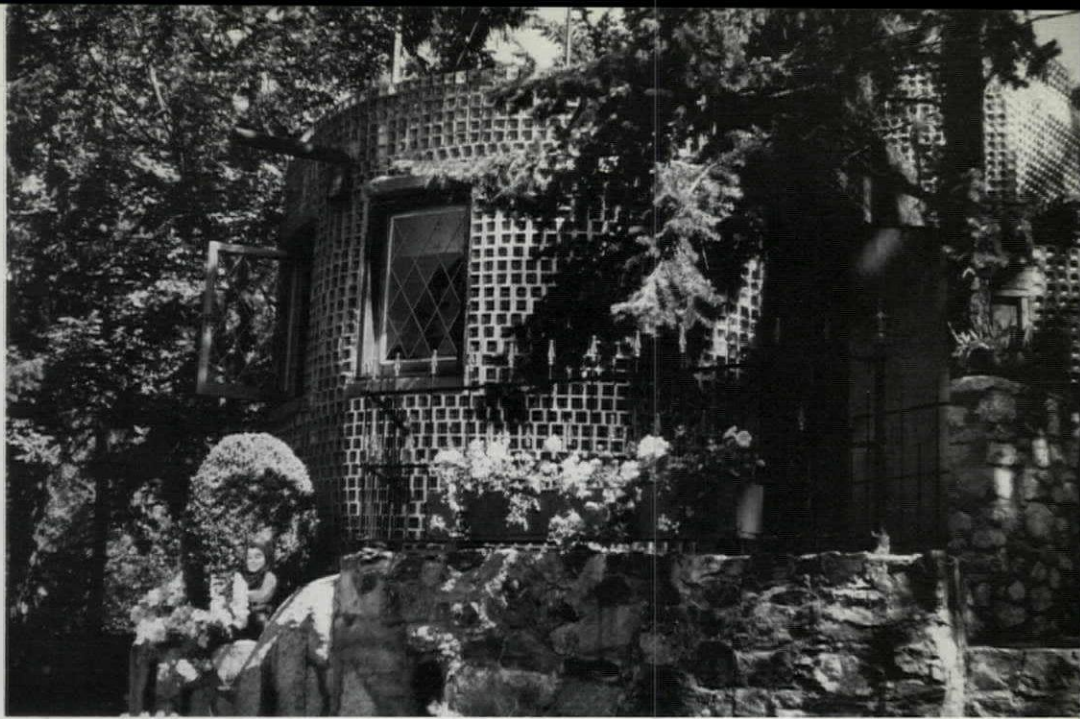
Boswell, British Columbia

To get there from the west you take highway number 3 across Canada. It is a small road winding around the mountains and lakes that ends at Lake Kootenay. A boat is waiting there. You drive on to spend an hour going across the lake and meeting the people you have seen on the road. Days afterward, as you see their cars on the road, you stop and greet them like old friends and exchange stories. All because they didn't build a bridge.

On the other side of the lake is a home built of bottles. David Brown started work on the home in 1952 after retiring from the funeral business, and continued for the last 17 years of his life. To many, it was a strange home; Mr. Brown built the home of bottles he got as a mortician. Funeral homes were always discarding the empty embalming fluid bottles, and Mr. Brown thought they could be used to build a home. He traveled through Western Canada collecting 500,000 bottles from friends in the funeral business. He then proceeded to build a home in a cloverleaf pattern with main rooms circular in shape. After building the home he continued to build lookout towers, bridges, and walls down the hill towards the lake. Now his son continues building in the tradition his father started.

"Dad was just building a home, that's all he was trying to do, not make an attraction. Just meant to be our home. But then so many people started to stop. He loved people. People wanted to know what he was doing, he got a kick out of people laughing at him.

"We are building more to please ourselves. But if someone takes a picture of part of it then we know we have accomplished something because someone enjoys that part of it. That's how we get our praise. We watch that part of it, they put their kids beside to take a picture. You know then that you have done something nice."



BALDASARE FORESTIERE

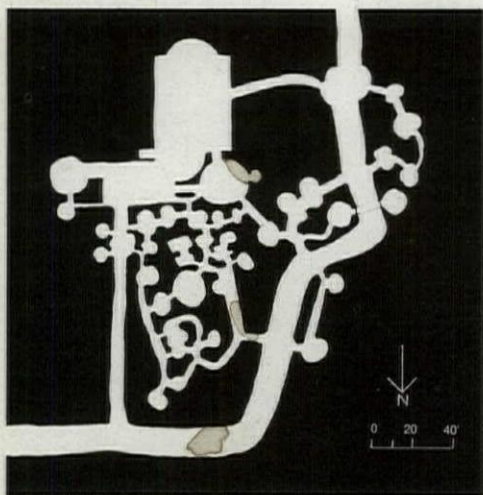
Fresno, California

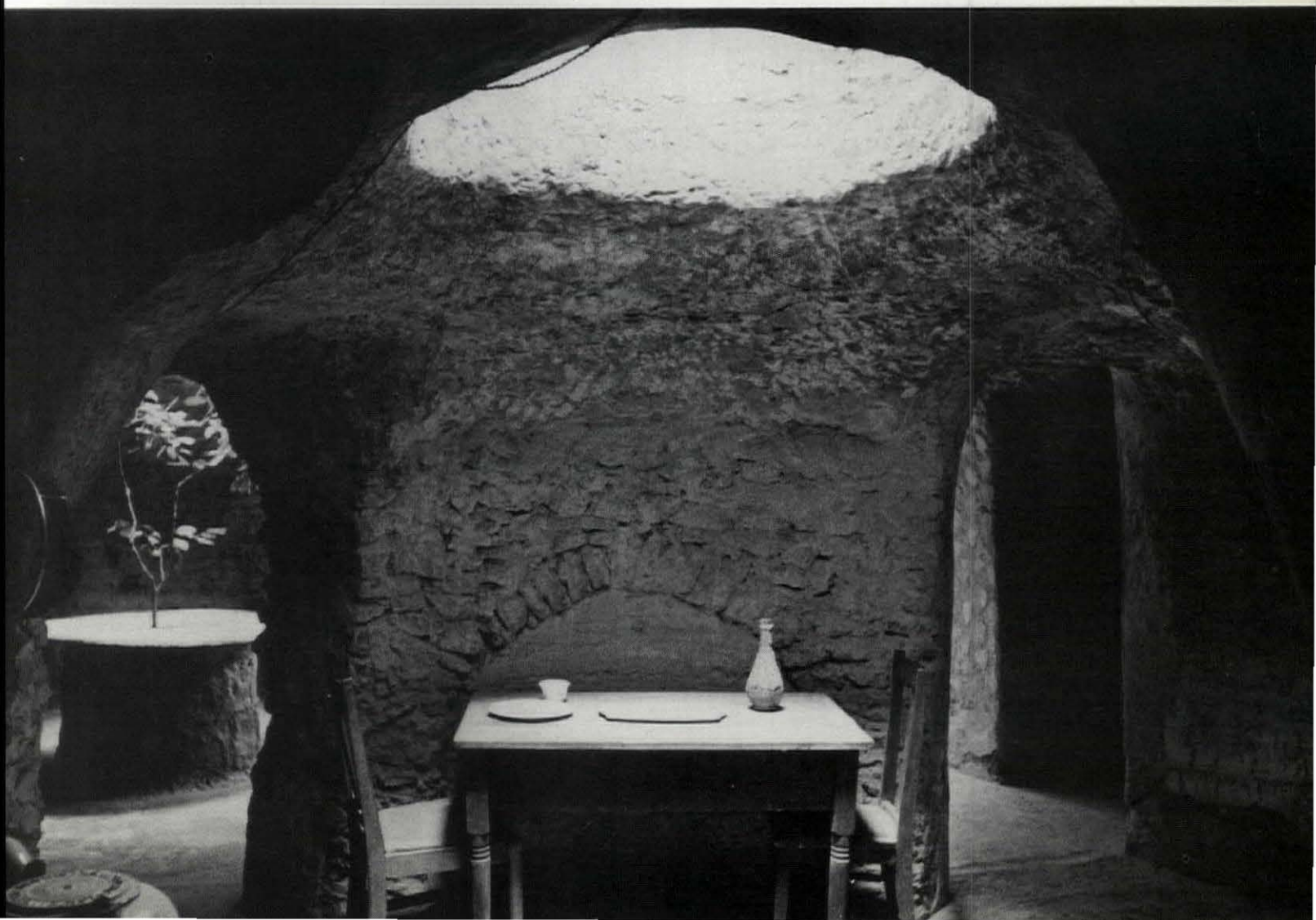
Baldasare Forestiere came to the U.S. from Italy in 1902 when he was 21 years old. He first started digging underground by working on the Boston subway system. He soon found that working for wages did not offer the freedom he was looking for. From Boston he moved to California to start a fruit orchard for grafting citrus fruit trees. Finding the climate unlike that of the cool Mediterranean Coast he was used to, and finding the soil unfertile and encrusted with hardpan, he decided to make his home and orchard underground. For 40 years he dug underground making a home approximately seven acres in size. Since he was his own architect and designer he did not make a plan but planned as he dug.

His main tools were hand tools, a pick, a shovel and a wheelbarrow; a horse and a small scraper were used to move large rocks. He dug over 90 rooms, passages and courts, each with an open hole to the surface for light and water, and each with a fruit tree immediately below. He dug most of the rooms ten feet below the surface, a small lower level 23 feet below and another few rooms 35 feet below the surface.

His big dream was a restaurant underground. He dug an 800 foot automobile tunnel to service the restaurant, and had started a 5,000 square foot room, but he died in 1946 before he finished the project. "All that I have done is nothing, for it required very little money, perhaps \$300.

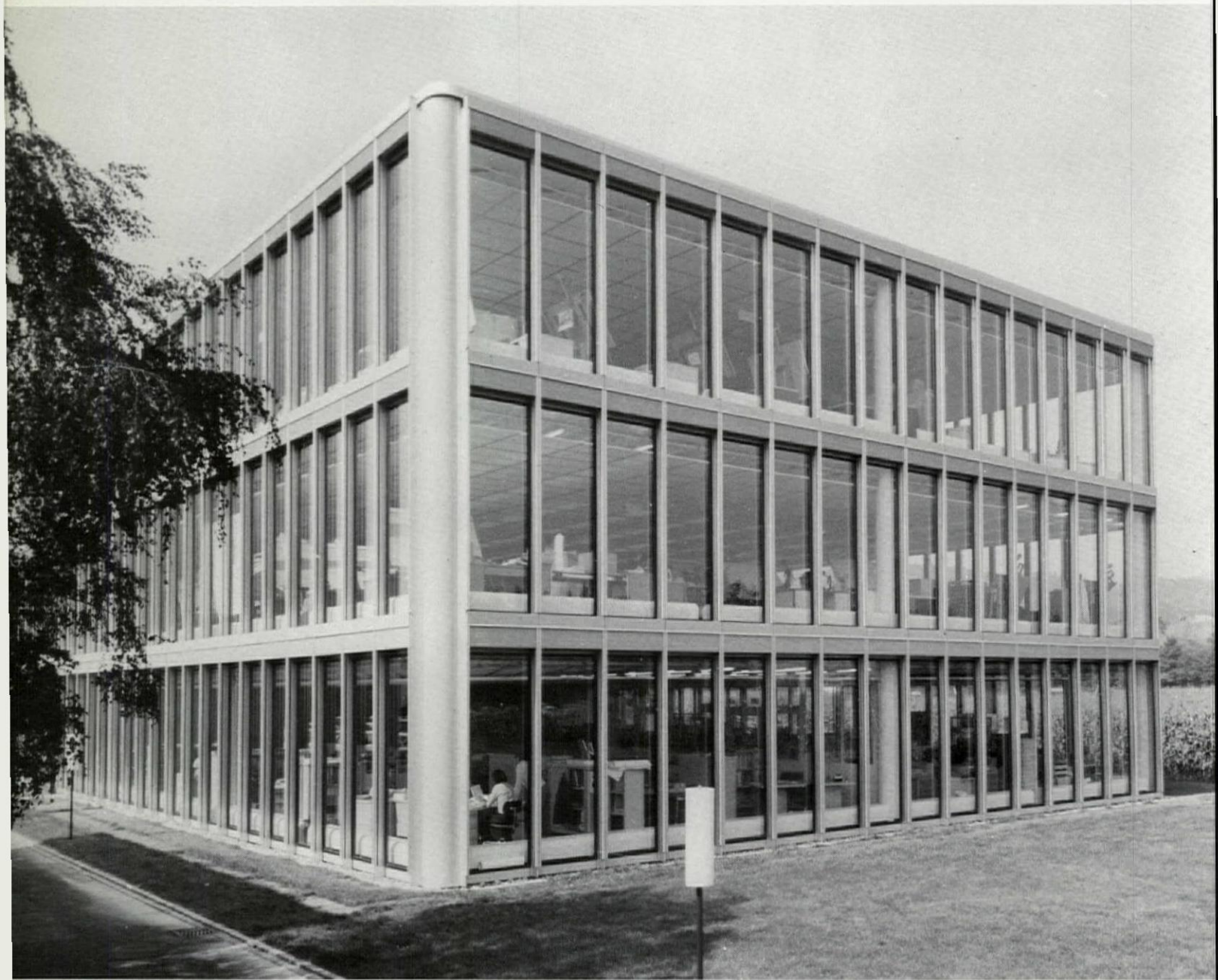
"I have been doing this for fun. Money? What do I want with money? If I had \$1,000,000 I couldn't spend it. Neither could you. Nobody could. I am broke but this cavern and all the work it represents is worth more than \$1,000,000 to me."





SWISS BLINDS

An office building that reacts automatically to the sun



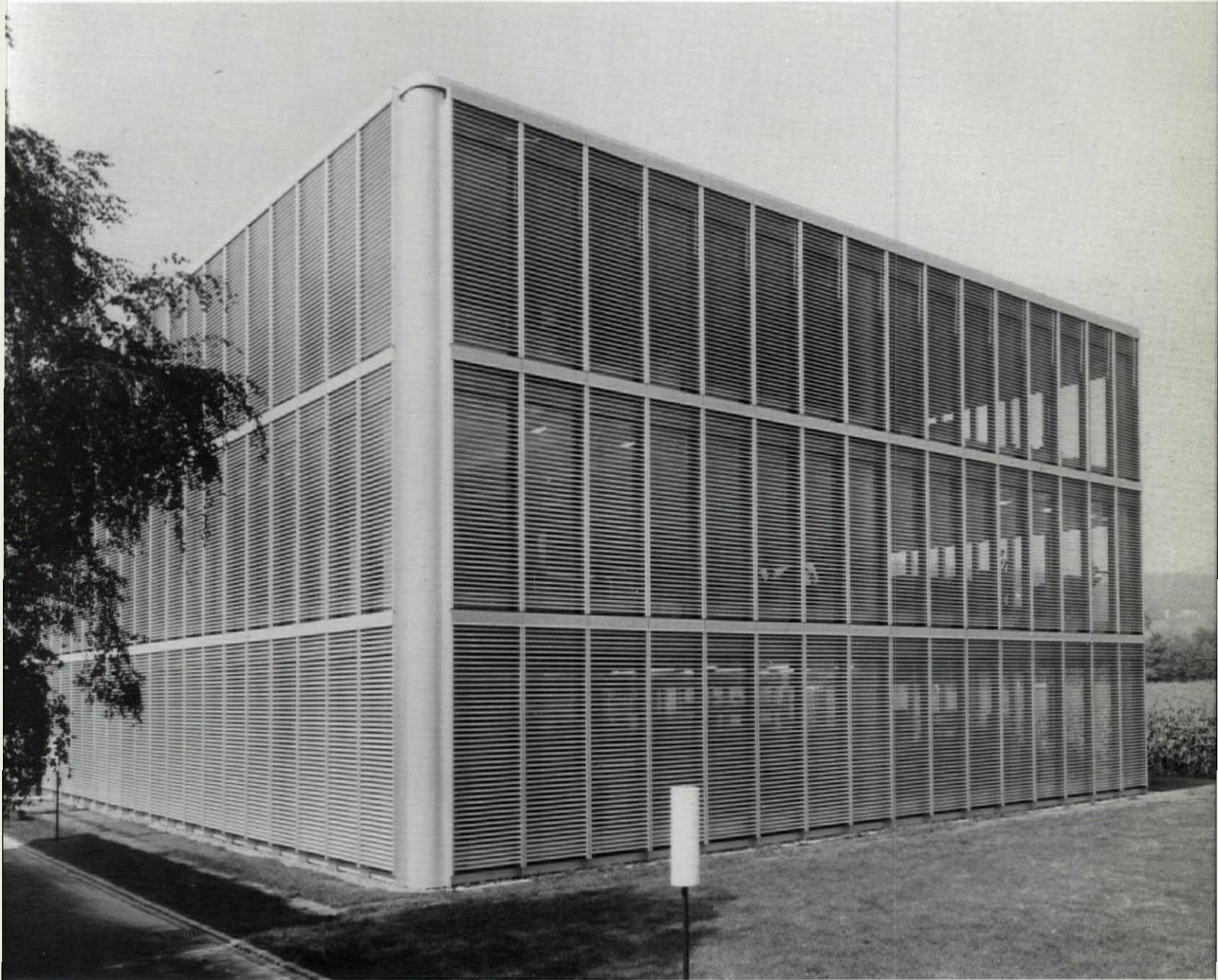
Venetian blinds, of a sort, have been in use since the 16th century in Venice, but they made a step forward in Switzerland in 1881 when Emil Schenker, a wallpaper manufacturer, began tinkering with sun control devices in his barn. Schenker's blind was patented in 1894, and his successors now operate more than a dozen offices in Switzerland and a flourishing factory in the Swiss town of Schönenwerd.

Adjacent to the factory is a new administration building for the firm, designed by architect Alfons Barth, its four facades completely covered with blinds. And not just manually operated ones—the Schenker blinds are opened and closed as needed by means of automatic electronic controls sensitive to exterior light levels. The computer in charge of this equipment has been given special instructions so that it is given

some rest on weekends through the year.

Because of the noise of adjacent railroad tracks, the interior is completely sealed. Inside the guides which hold the vertically telescoping blinds are floor-to-ceiling sheets of double glazing. Only the building's corners, faced with curved sandwich panels of aluminum and insulating foam, appear solid. Contributing to the light, elegant look of the building is the thinness of floor con-

A corner of the Schönenwerd, Switzerland, building for a manufacturer of venetian blinds. At left, the building's own exterior blinds are telescoped in their pockets, and, at right, they are seen lowered (electronically) against the sun.



struction that is seen from the exterior, an effect particularly striking at the roof line. All exterior elements, including the blinds, are painted a soft, clear yellow.

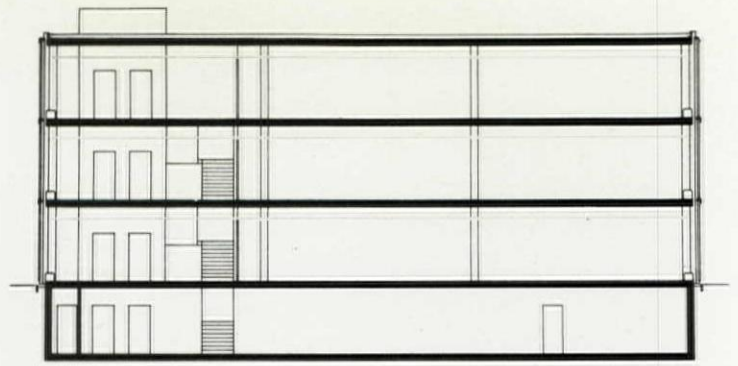
Remarkable also are the building's careful provisions for future expansion. The structure, which now supports three floors above grade, is designed to carry an eventual five, and the length of the building can also be extended from three 10-meter bays

to five. Fire stairs, elevators and mechanical equipment are already sized for such expansion, and all interior partitions—even around the toilet rooms—can be knocked down for future changes.

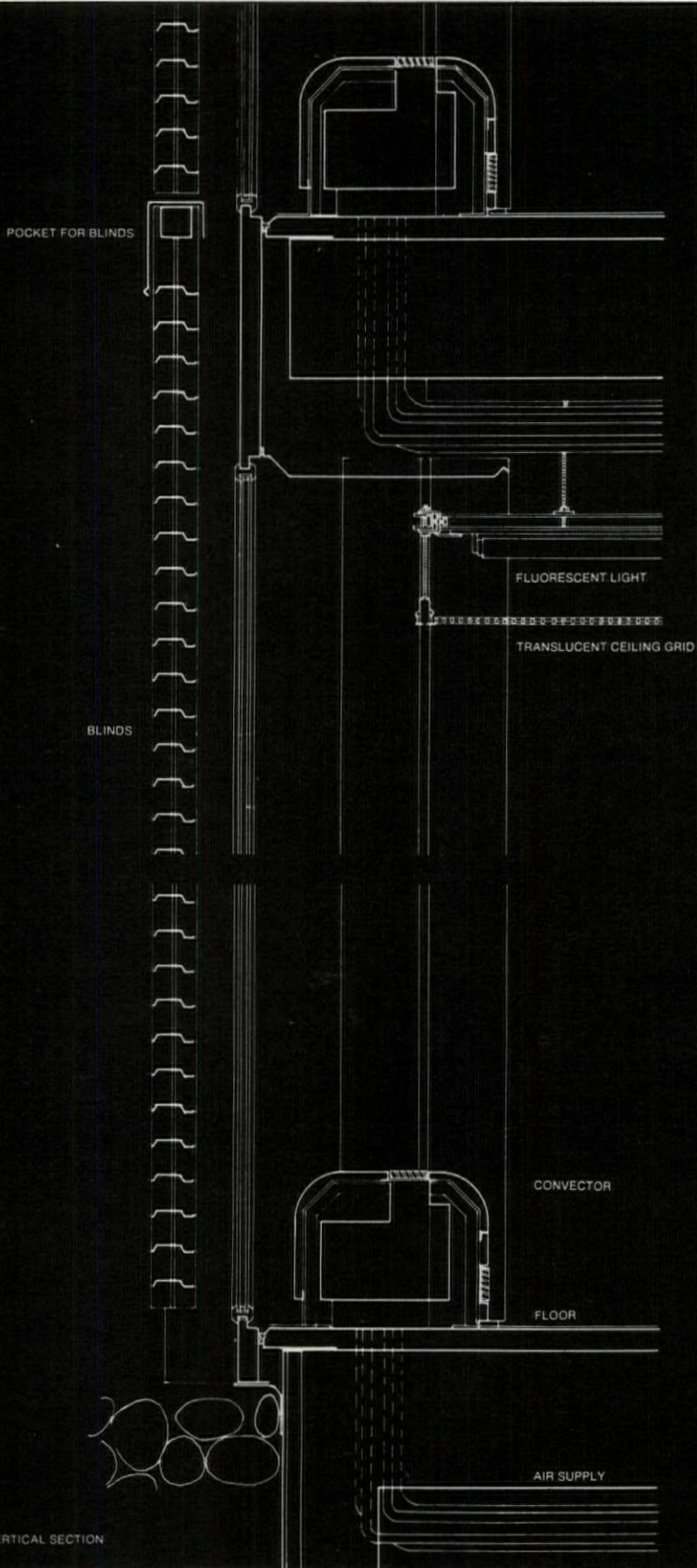
The manufacture of Emil Schenker's blinds, then, is administered from a building both eminently well-engineered and, with its own product so well displayed, eminently appropriate for its purpose.

Facts and Figures

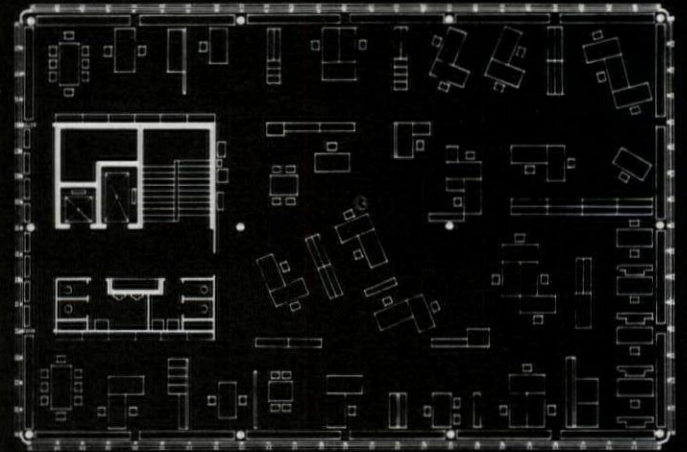
Administration building for Schenker A.G., Schönenwerd, Switzerland. Architect: Alfons Barth. Associate: Jacques Aeschmann. Engineers: J. Schleutermann (structural); Gode-Elstrom-Planung (electrical); H. Wegmann (heating and ventilating); Wullschleger and Rüetschi (plumbing).



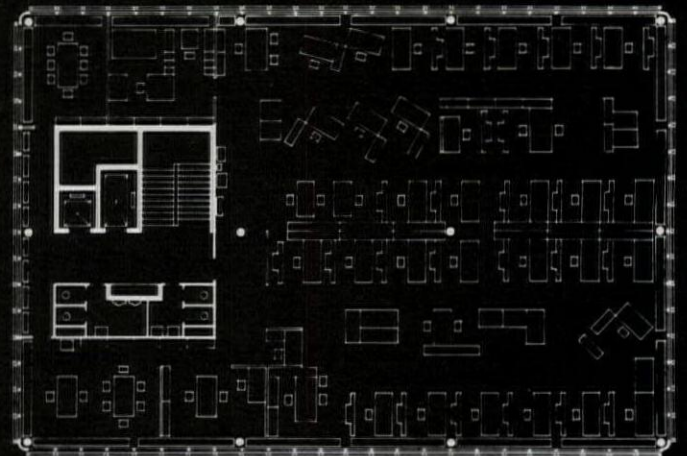
SECTION



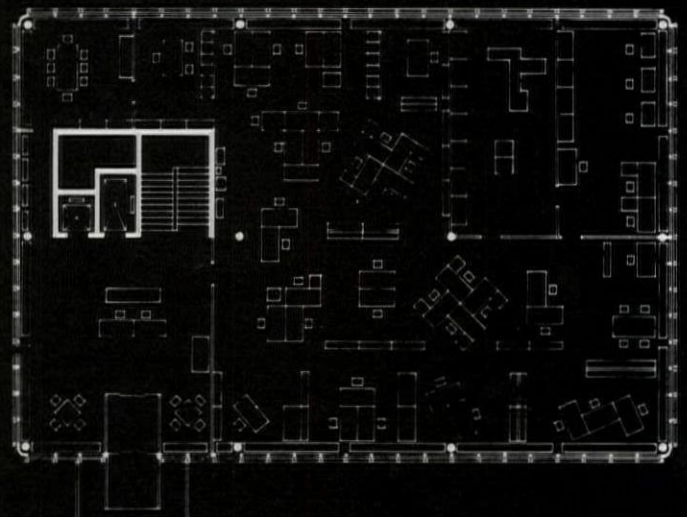
VERTICAL SECTION



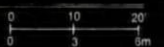
THIRD FLOOR



SECOND FLOOR

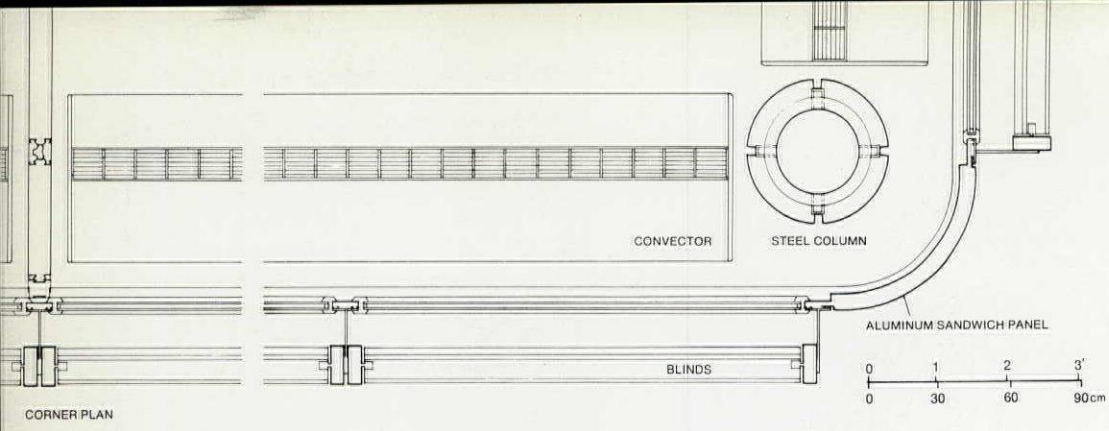


GROUND FLOOR



The building section at left is cut longitudinally through the three floors above grade and a service floor below grade. A typical interior view shows movable office partitions of glass on the same module as the exterior wall but without, of course, the metal blinds.

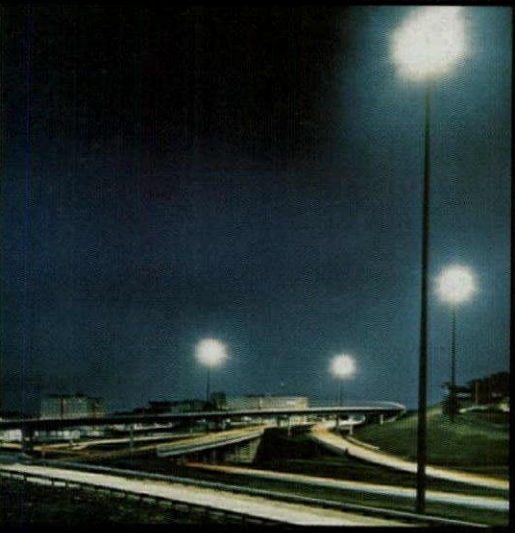
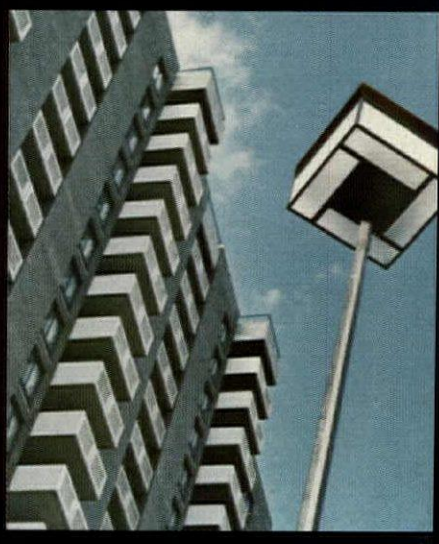
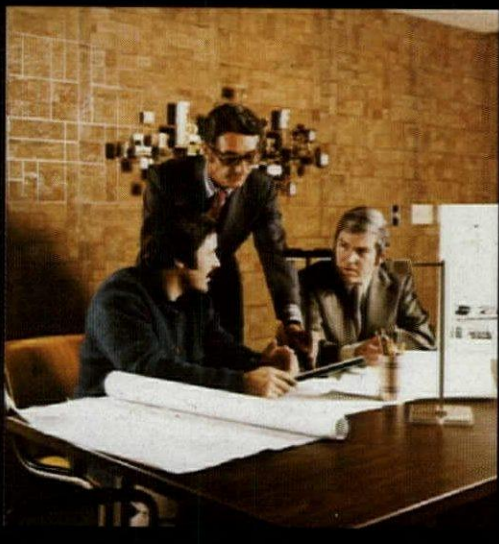
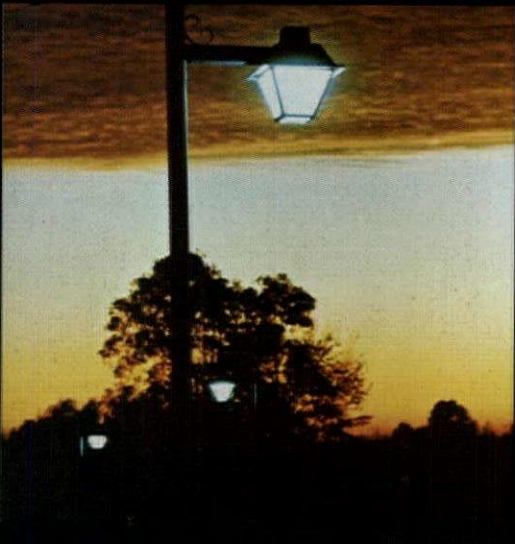




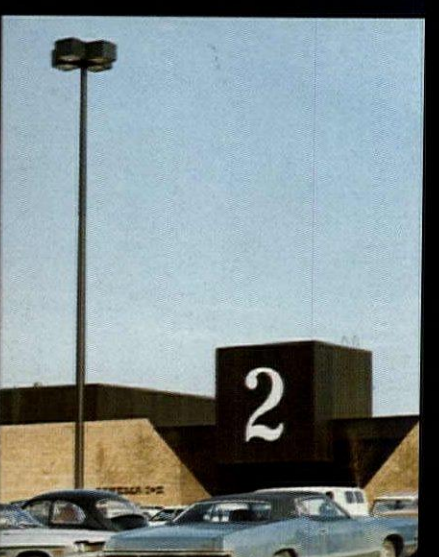
Left, a curved corner paneled with sandwiches of aluminum and insulating foam. Inside the panels, but standing free of them, is a cylindrical steel column sprayed with asbestos and wrapped with sheet metal. The night view below shows a section of the façade with two bays interrupted for the building's single entrance. Through the glass, convector units can be seen projecting above the floor.



Daylight
.is
given.



Night is
what you
make it.

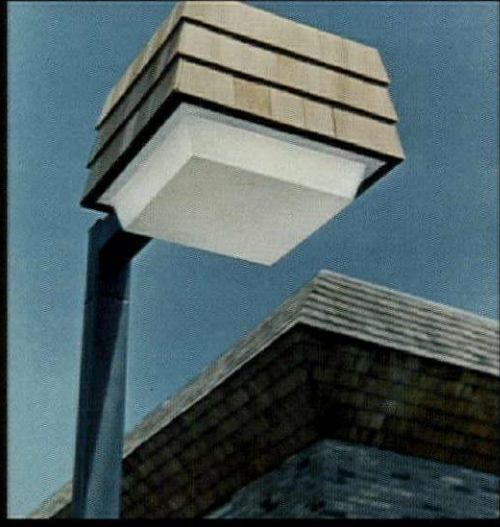




**Daylight
is given.**





**Night is
what you
make it.**



As business and leisure hours grow later all the time, you'll want to make it all you can. Good lighting welcomes people in, establishes a mood, and reflects your image.

Light lets you take liberties with a design. Or nature. Getting it right is a complex matter. It means blending aesthetics, technology, and economics, just so. It means coordinating with local authorities, your neighbors, and your building team. It means you need help. It comes best from a single, professional source.



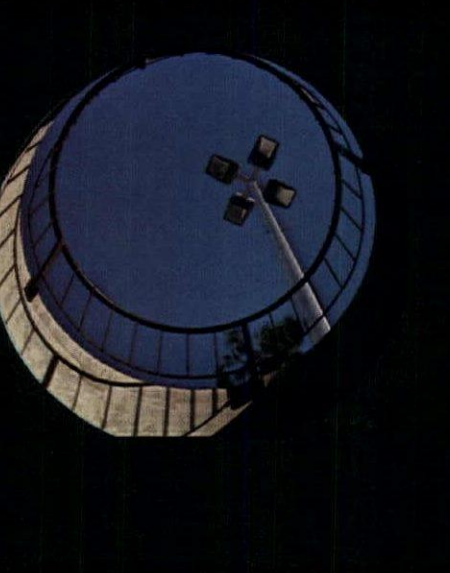
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Saving Grace

Grace Church, a Gothic Revival building designed by James Renwick Jr., and built in 1843, sits next to two structures, originally Federal in style, which were given Gothic Revival facades in 1880 by Renwick's office, to form a grouping on Manhattan's Fourth Avenue and Tenth Street.

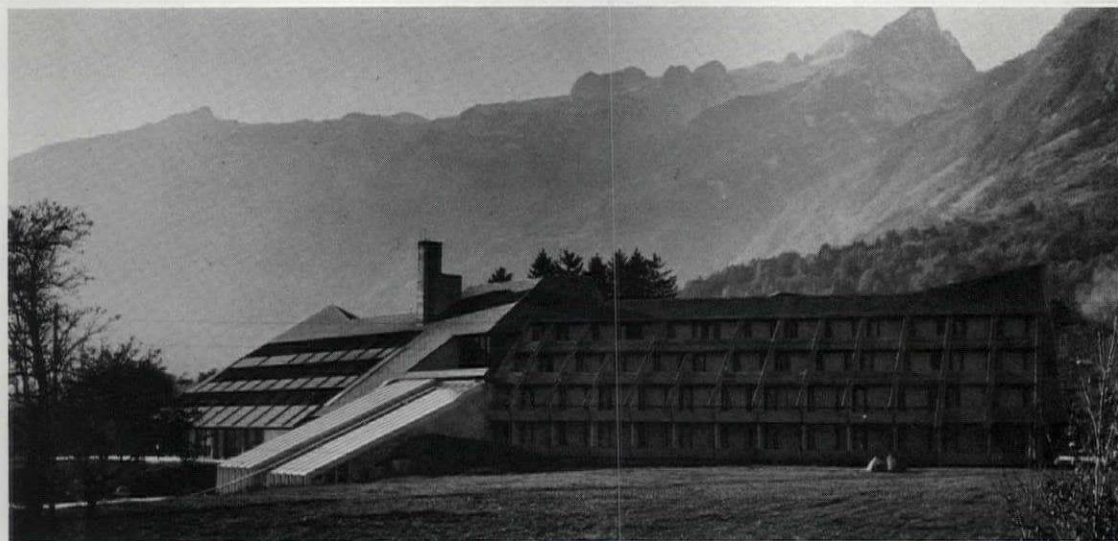
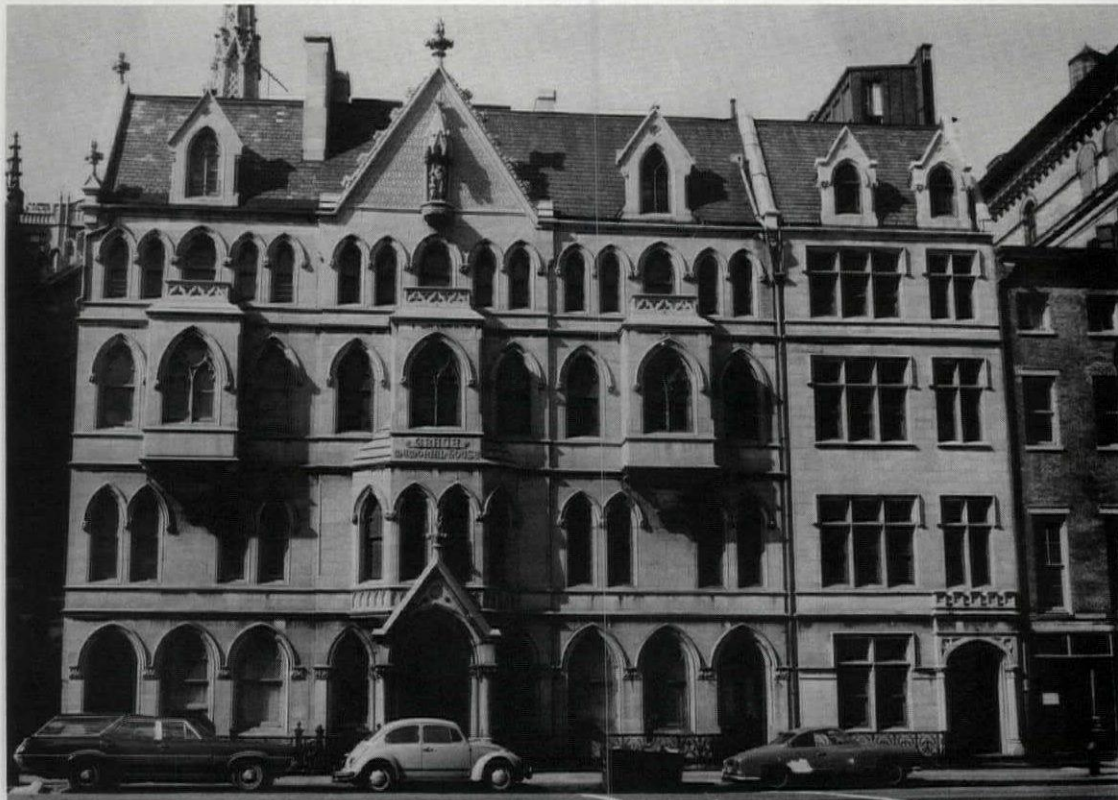
For many years the two buildings, Clergy House and Huntington House, were part of the Grace Church School. At the turn of the century the elegant Gothic Revival row was the center of the second richest parish in the city. The neighborhood has since suc-

cumbed to commercial interests and many of the parishioners have moved away. When it was decided by the Church about ten years ago to develop the school, those two school buildings, vacant since 1958, were regarded as unsuitable, and a reluctant decision was made to demolish them eventually.

Numerous attempts to save the structures were unsuccessful as estimated renovation costs mounted. After the rector of the church announced this spring that the two buildings were going to be torn down to make way for a new gymnasium/multipurpose space for the school, public pressure to preserve at least the facades grew

strong enough to attract considerable support from the community and from several foundations.

A private citizens' group, which calls itself the New York Landmarks Conservancy, has until November to raise the roughly half-million dollars which represents the difference between preserving the facades and new construction. Most of it is in hand already, and the group is optimistic that the rest will be raised by the deadline. Needless to say, both the rector of the church, Dr. Benjamin Minifie, and the architects for the renovation, Hutchins, Evans & Lefferts, are pleased that the facades may be saved. The rest of us are happy too.



Yugoslav design prize

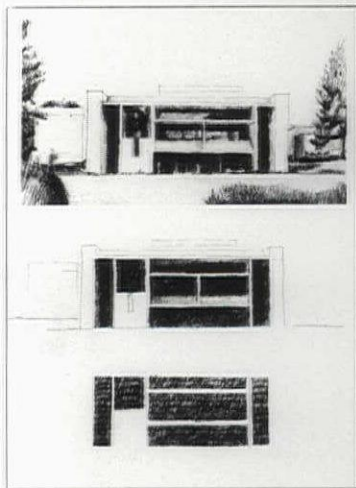
The Hotel Kanin in Bovec, Slovenia, has won this year's architecture prize from the newspaper *Borba*. The 240-bed hotel in the Alps was designed by Janez Lajovic.

The architect attempted to avoid the clichés of the International Style, also resisting the opposite pull to picturesque regional expression so popular in mountain

architecture, and found a simple and smooth accommodation to the landscape.—Lenko Plestina. *Lenko Plestina practices architecture in Yugoslavia.*

It Pei's to advertise

Cornerstones proclaiming architects' names are rare these days, but the message can sometimes still be delivered, however subliminally. J. Lengeling of Milwaukee, with the help of some rather willful abstracting, demonstrates in these sketches how such a message is delivered by the Des Moines Art Center. Architect: need you ask?



People

- Stanley Abercrombie, Senior Editor at PLUS, has been named to the Loeb Fellowship Program in Advanced Environmental Studies for 1974-75. The Fellows, who may audit classes, will spend a year at Harvard on a part-time basis while continuing their regular employment.

- O'Neil Ford, Texas architect, valiant defender of the earth in its natural state, and a friend of long standing of some of the earth's inhabitants, present company included, was declared a "National Historical Landmark" by the National Council on the Arts. An officially signed and sealed document was presented to Ford on the banks of the San Antonio River in May, and reads, in part "... whereas the Architecture and Environmental Arts Program of the National Endowment of the Arts has prospered in deed and reputation, and whereas the Alamo has not been torn down to park four Buicks, and whereas the freeway across Breckenridge Park stands like an embarrassed dinosaur at the gates of San Antonio, and whereas many great buildings exist across the land with architectural quality, human scale and compassion and respect for natural materials, and whereas all these things and more can be in part directly attributed to the imagination, perseverance and genius of one O'Neil Ford... This is the first such designation to our knowledge and is appropriate and fitting since Mr. Ford as a landmark person will give others a measure for their achievements."



- Julian H. Whittlesey, U.S. architect/planner/aerial archaeologist, planned to set off at the end of June, in a hydrogen balloon over the Alps, from Mürren, Switzerland to Italy. Horst Hassold of *Ballonfabrik* was the pilot. This trip was just for fun and was not related to any of the many aerial archaeology projects which are the day-to-day work of the Whittlesey Foundation. Shown is Whittlesey setting off last spring in "Cloud Nine," a Piccard balloon.

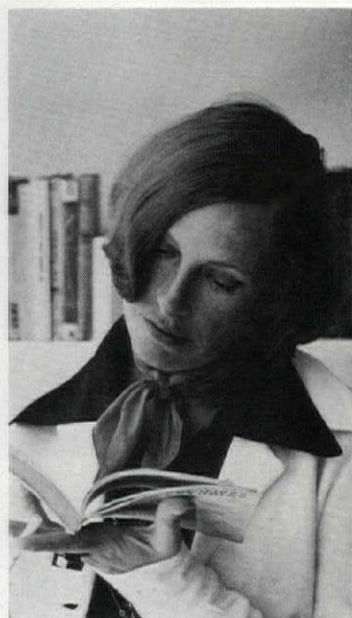
- Oscar Newman, author and director of the Center for Residential Security Design in New York, has made a BBC Horizon film, "The Writing on the Wall" which was enthusiastically received by the English viewers. Professor Newman's research into the relationship between highrises, crime and vandalism is set forth in his popular book, *Defensible Space*, which was originally titled *Architectural Design for Crime Prevention*.

The BBC film, with its dramatic shots of vandalism and the St. Louis Pruitt-Igoe apartment blocks being blown up, delivered his message very effectively: that people need more than security in the home; they need the feeling that some of the air space outside belongs to them, and that the grounds around them are part of their domain.

- Serge Chermayeff, Russian-born Professor Emeritus of Architecture at Yale University, gave the 12th annual Gropius Lecture at Harvard in May, on the subject of "Institutions, Priorities and Revolutions". Some of his remarks: *Professionals can no longer leave decisions on what to build at the mercy of investors nor the location of buildings to developers. You cannot leave the decisions of how to move from place to place to the mercy of the automobile industry, oil interests or highway lobbies.*

He cited the design for the University of Dublin by Giancarlo De Carlo as one of several examples of planning that includes "most of the components which can create a humane environment."

- Keith Knutson, biology teacher at St. Cloud State College in Minnesota, is building an octagonal house which he plans to heat with processed chicken droppings. Knutson believes the methane gas produced from the droppings is the solution to the energy shortage in rural areas. "There probably won't be enough manure to go around," he said. "Farmers could be faced with a problem in fertilizing their fields or heating their homes." Inside a nearby chicken coop, waste matter will be fed into a septic tank. Anaerobic bacteria will produce methane which will be drawn off the tank and compressed into storage bottles for ultimate use in Knutson's furnace.



- Edla van Steen, Brazilian novelist, joins PLUS as Field Editor for Sao Paulo. She is a former actress who has received numerous cinema awards for her work, is the founder of *Multipla*, the first Brazilian art gallery specializing in multiple originals.

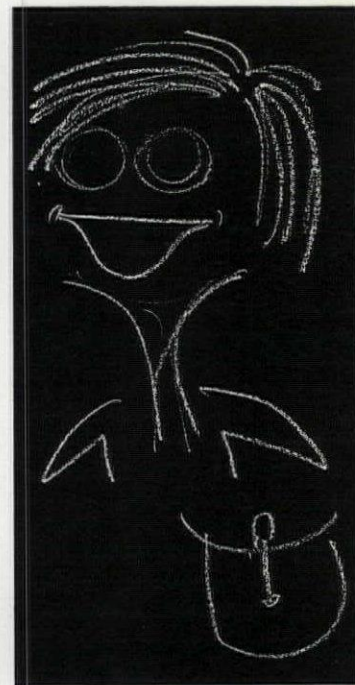
- James T. Lynn, U.S. Secretary of Housing and Urban Development (HUD), will be a co-director, with Thomas R. Boman, chairman of the Federal Home Loan Bank Board, of a new program designed to encourage neighborhood preservation efforts in the U.S., and not a minute too soon. The principal focus will be on city neighborhoods which are basically sound but beginning to show symptoms of deterioration. Initial funding for the program is a HUD "demonstration grant" of \$750,000, with an additional \$2 million set aside by HUD for next year, and they will begin with about 20 cities. Information can be obtained from the Urban Reinvestment Task Force, 101 Indiana Avenue, N.W., Washington, D.C. 20552.

- Louis I. Kahn, the late architect, was awarded a Doctor of Humane Letters degree posthumously

at Columbia University in New York in May. This was only the second time in that University's history that an honorary degree was awarded in absentia. (The first was given to the late Whitney Young Jr.) Mrs. Kahn accepted the award for her husband.

- Wallace K. Harrison, partner in the firm of Harrison and Abramovitz, was recently honored by the National Academy of Science on the occasion of the academy's neo-classical Washington headquarters having been named to the National Register of Historic Places. Not only had Harrison recently designed two new wings for the building, but 50 years ago, as a young draftsman in the office of Bertram Goodhue, he had also worked on the original building.

- Hiroshi Watanabe, an architect working in the firm of Maki & Associates in Tokyo, is joining PLUS as a Field Editor. He received his architectural education at Princeton University; at the School of Urban Engineering, Tokyo University; and at Yale. When asked for a photograph of himself he sent this sketch done by Paolo Riani.



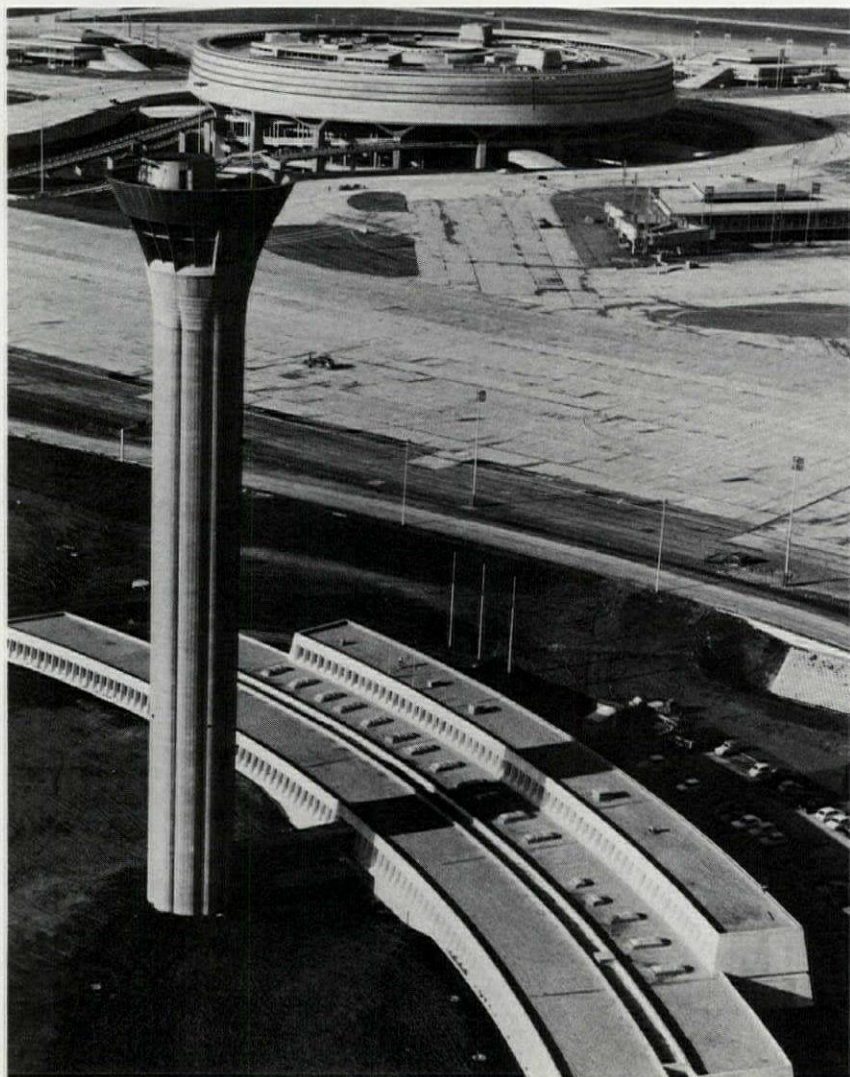
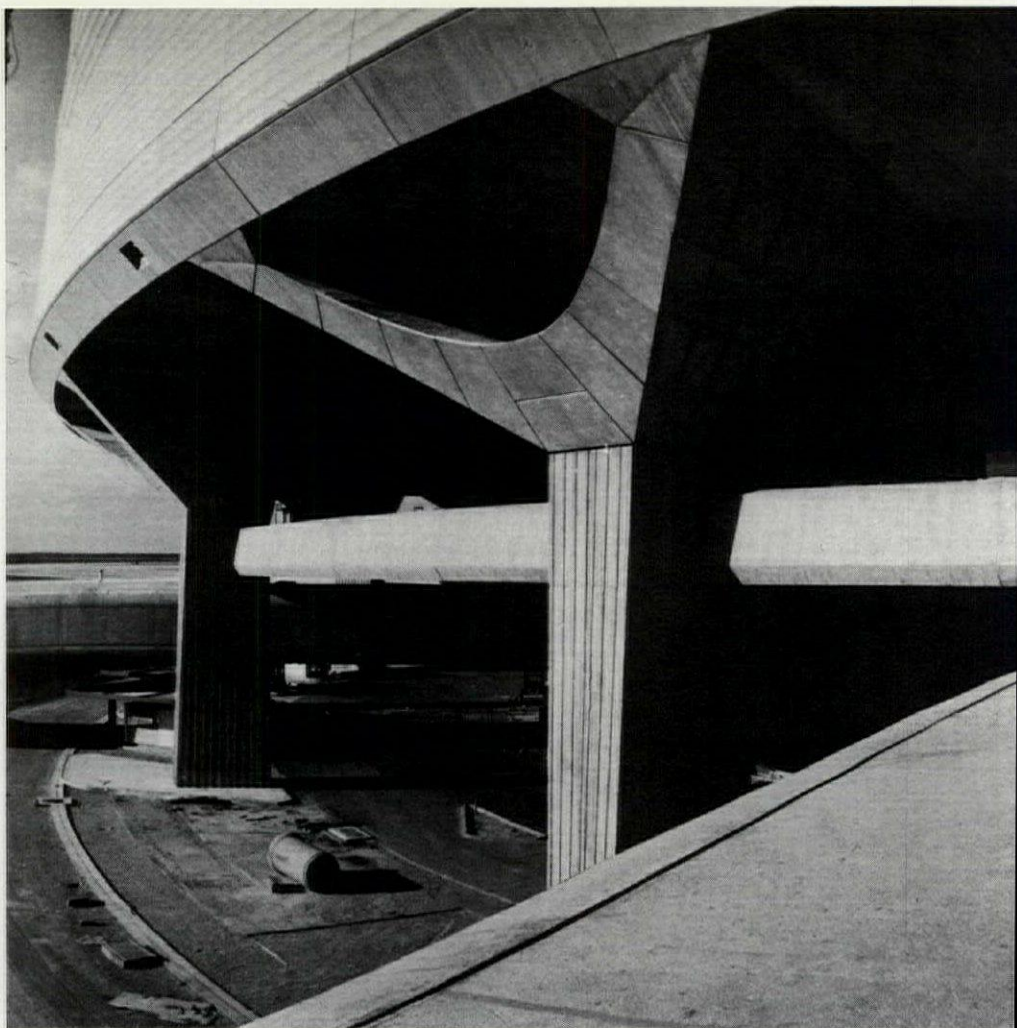
Photographs: Page 32 (left) George Cserna; (right) U.S. Navy. Page 34 (left) Virginia Dajani. Page 35 (top right) Sidney Kerner; (bottom right) Evelyn Hofer. Page 36 (top left) British Information Service; (middle left) Cartier-Bresson; (lower left) *Domus*; (right) Jacqueline Hyde. Page 37 (left) Stan Ries. Page 110 (top) Melvin Adelglass; (bottom) Ostar Sturm.

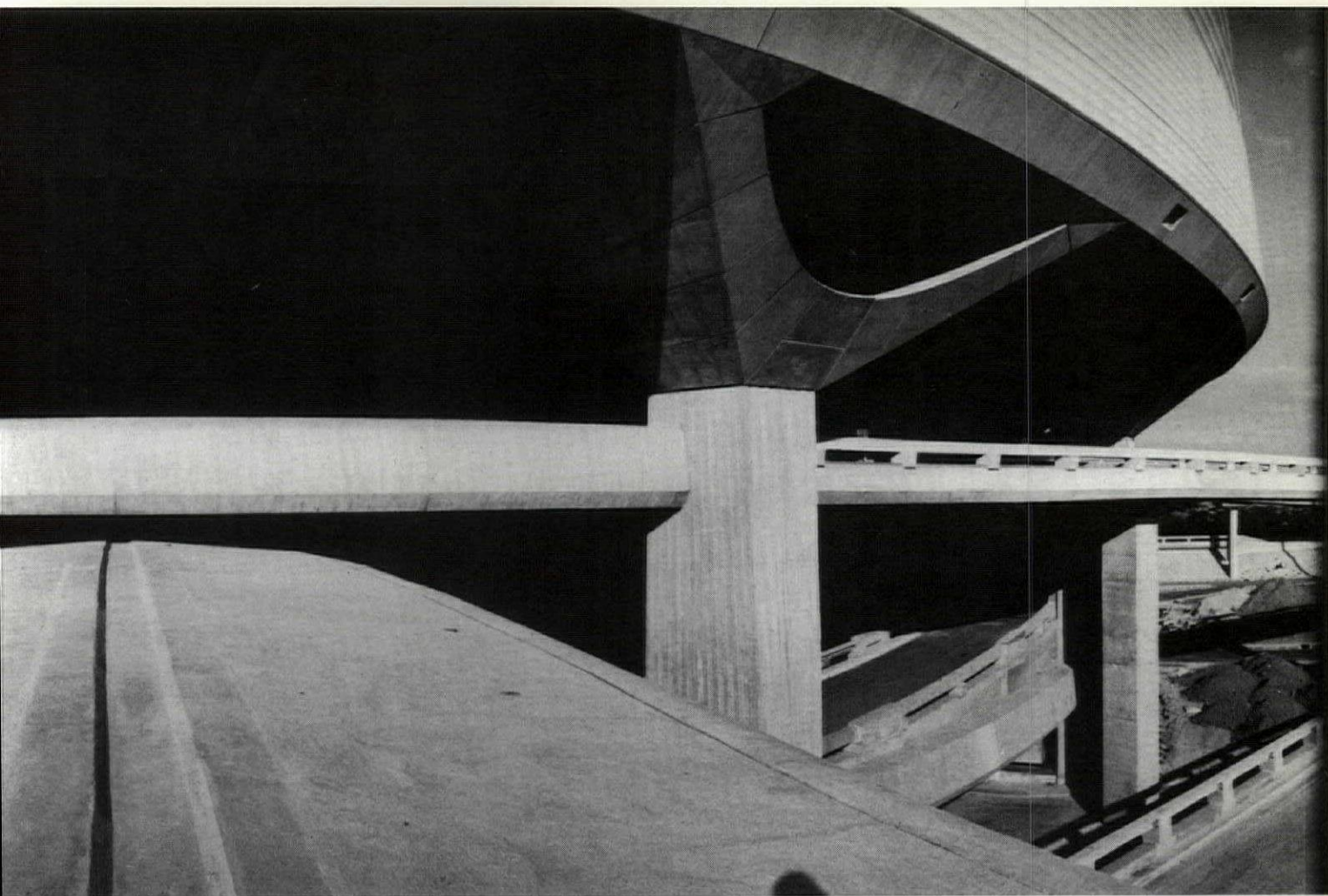
SURVEY

Brave new airport

PARIS—Charles de Gaulle Airport (CDG) is about 20 kilometers from the center of Paris, on the site of "Old France," a flat region with few houses. Aeroport de Paris, the government agency responsible for CDG, also controls Le Bourget and Orly airports. Phase I of CDG (nicknamed "Charlie Airport" by English pilots) was finished this spring. This phase includes Terminal No. 1 with its seven satellites (below right). When all phases are completed (in the late 1980s) there will be five such terminals.

Forty planes can be handled simultaneously at each terminal. High capacity aircraft can be boarded on two sides at once by means of passageways from two different satellites. Each satellite is a vast embarkation/disembarkation lounge connected with the aircraft by means of telescoping passageways. Terminal No. 1 can handle 8 to 10 million passengers a year, distributing them among the satellites in swift mechanized walks. Passengers arriving at the airport by car check in and hand over luggage even before parking. Inside the 11-level, cylindrical terminal, the concrete is rough, and there is no decor; all is austere simplicity. Cost of Phase I: around 2,100 million new francs.—G. de B.



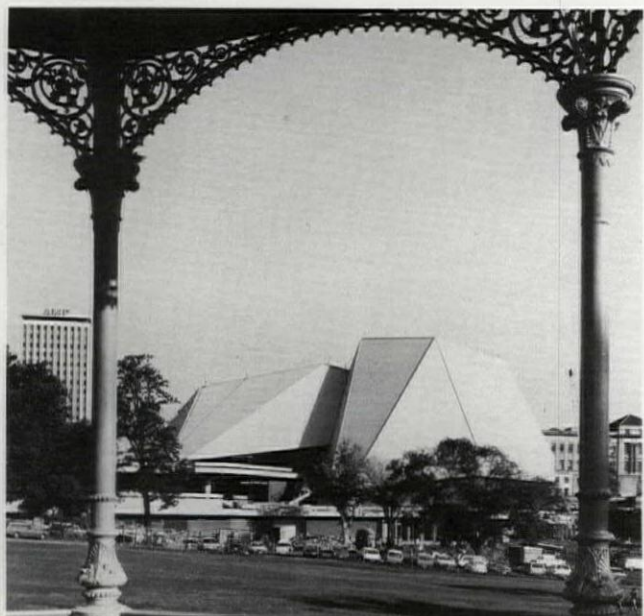
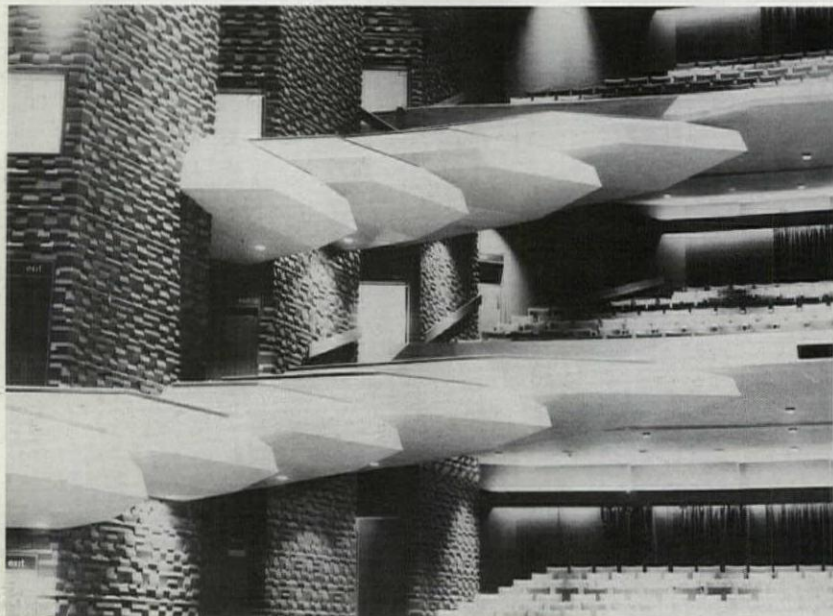
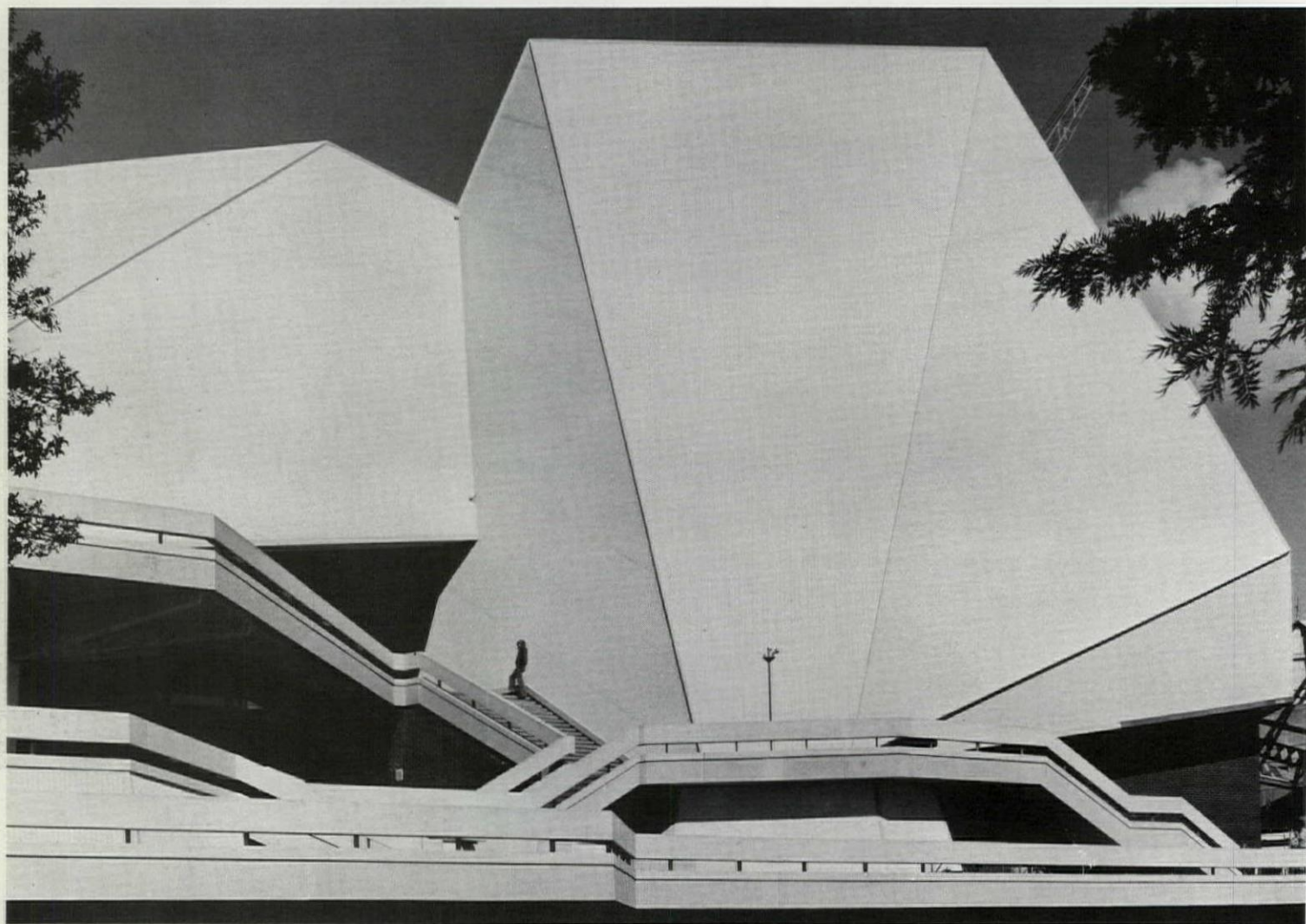
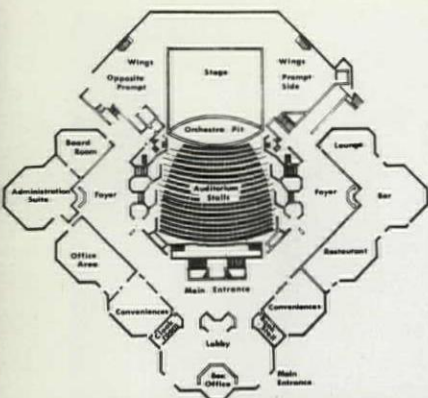


Gem in South Australia

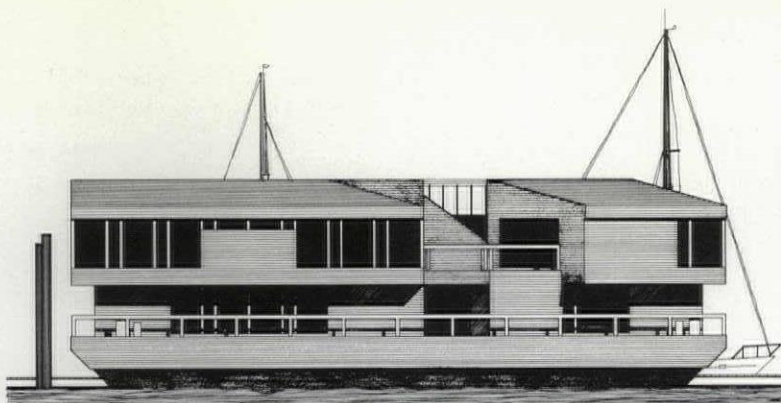
ADELAIDE—In a spacious garden close to the city center, the Adelaide Festival Theatre is sited on the Torrens River. The axis of the building is oriented at 45° to the main street grid, taking full advantage of the sloping site. Two separate envelopes, both white clean-cut concrete structures, enclose the 2,000-seat auditorium and the stagehouse. Each is high in the center, sloping down tent-like at the perimeter. The architects, Has-

sell and Partners, when asked to design a lyric theater for opera and ballet which could also be used for symphony concerts, feared that a dual-purpose theater would involve too many design compromises. After an around-the-world theater tour, they became convinced that it could be made to work, supplying both a stage and wing space of generous dimensions and a house acoustically suitable to both opera and chamber music.

They avoided the gadgets which absorb an undue proportion of the costs of so many theaters. Varying seat widths were computer-spaced to allow optimum sight lines; visibility from every seat is excellent and there is a surprising feeling of intimacy. The faceted walls are lined with gray-stained brown timber blocks. Extensive terraces and plazas around the theater are used for outdoor functions and exhibitions.—P. Boyd



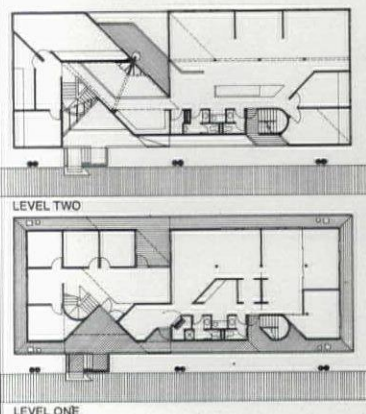
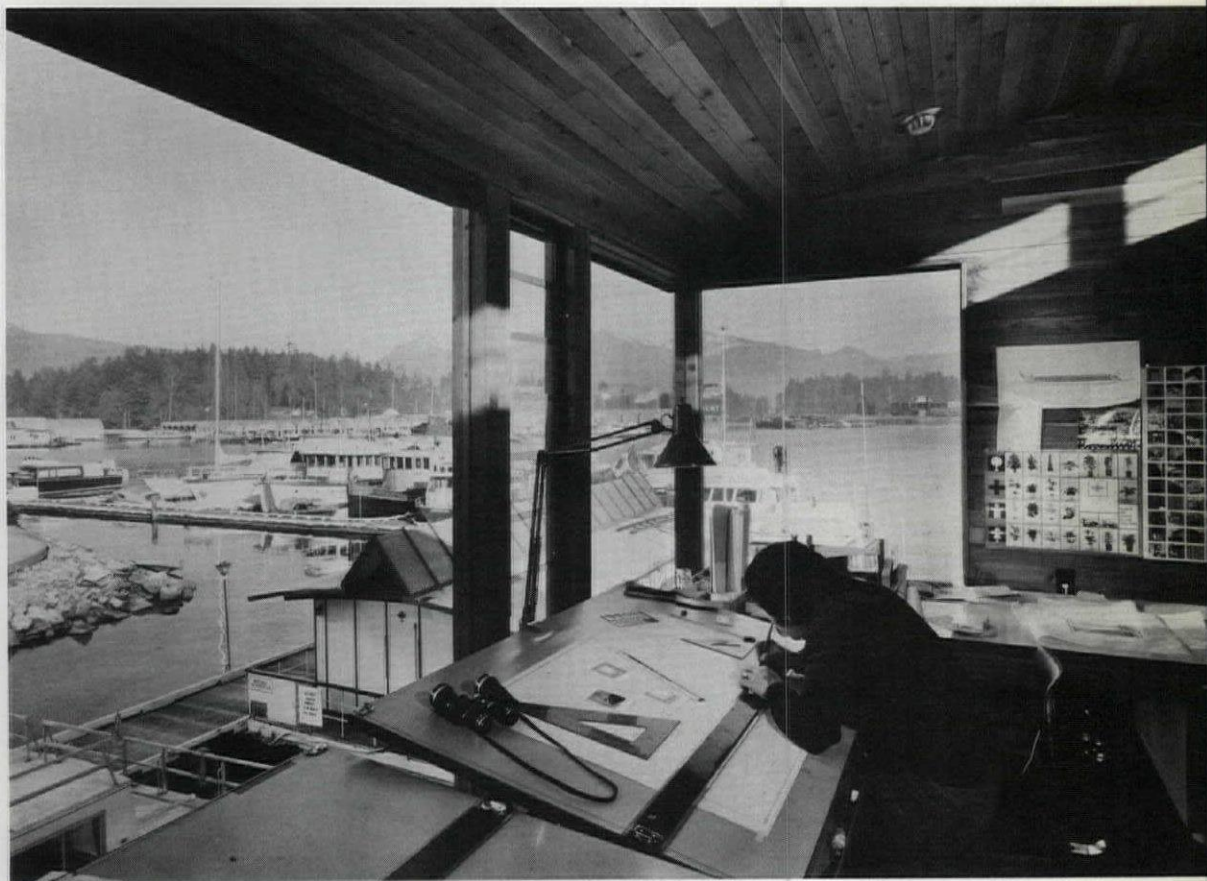
The WAG barge of Canada



VANCOUVER, B.C.—In Burrard Inlet on Howe Sound, in the heart of downtown Vancouver, a group of architects have their offices on a barge. Starting with the base of an old scow, probably used for transporting sawdust from the mills up the coast, they designed offices on two levels; they rent out part of the lower level (to the left in the drawing, above). The Western Red Cedar used inside and out is now weathering to a uniform gray. Windows are single-glazed—the winters are mild; heavy rain is the worst of the weather's threats. There is no need for air conditioning; breezes coming in off the Sound are sufficient.

Hanging plants which sway gently below the generous skylights convey the feeling of constant movement on the water. The offices are surrounded by fishing boats which seem to be coming right in through the window as they approach the docks.

The Waisman Architectural Group (WAG) chose the barge site because there is no other way of locating on the water in Vancouver. Railroad tracks run all along the shore, thus eliminating possible waterfront land use, though the city is now buying up the air rights over the railroad. The barge is connected by flexible pipe to the city main for water and sewage purposes. Should the architects decide to move, the barge could easily be disconnected and towed elsewhere.

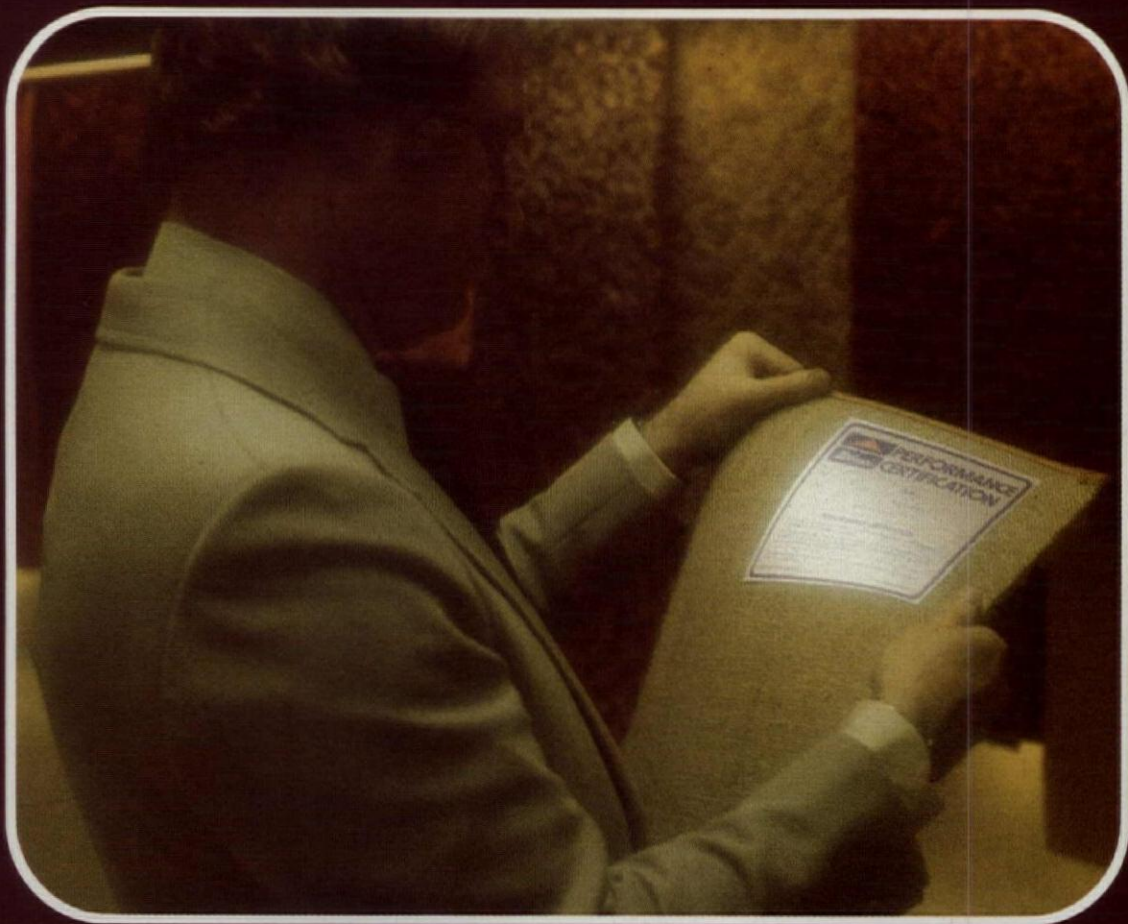


Photographs: Page 108 Jean-J. Moreau. Page 110 (top and left) Wolfgang Sievers; (right) Colin Ballantyne & Partners Pty. Ltd. Page 111 John Fulker.

FOOTNOTE

From a back cover of *Architecture in Australia*, by John Stanton.





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EXPANDING LIABILITY

continued from page 63

industry context are non-professionals, the architect-developer becomes more of a legal magnet than an architect engaged in conventional practice.

Suppose, for example, that a joint venture team comprising an architect, A, and an owner-manager rental agent, B, build and operate a \$2-million office building. Sometime after the building is occupied, the tenants complain about inadequate heating and airconditioning and threaten to break their leases. B may turn to A, charging him with sole responsibility for the HVAC failure, which he attributes to poor design. Yet under the concept of joint negligence, both A and B may be at fault—A for inadequate design, B for inadequate maintenance, as the building manager. As an independent agent offering design services only, the architect presents a much

smaller target for a professional liability claim than the architect joint venturer just described. If the cost of rectifying the defective HVAC system were \$100,000, there would be a tremendous difference between sole liability and, say, one-half liability, under the concept of joint negligence.

Construction manager

The advent of the construction manager marks one of the biggest evolutionary changes under way in the building industry, offering a lucrative opportunity to architects/engineers eager to expand their services. The CM approach attacks two major flaws in the conventional construction process: (1) lack of cost control, and (2) excessive time consumed by the serial sequence of decision, design, and delivery

stages. Cost uncertainty and costly delays are literally built into the traditional lump-sum general contractor approach.

But once again, the architect/engineer must move cautiously into this new service. So varied are the responsibilities assumed by the CM that professional liability coverage has been proceeding on a case-by-case basis. The architect/engineer should discuss with his insurer whether a prospective CM contract is covered. Even the states can't decide about the nature of CM. In New York, CM is considered part of an architect/engineer's normal scope of services; in California, it is not so considered. This difference has important implications for professional liability coverage, since there is no exclusion, per se, of CM services.

What creates professional liability hazards for architects/engineers venturing into CM is the deep involvement with scheduling, cost control, and job safety. The design professional who takes on CM work without checking with his insurer may find himself uninsured for this phase of his work. The architect/engineer CM must keep his responsibilities carefully circumscribed within the scope of professional services to qualify for professional liability insurance. If, like a contractor, he becomes a guarantor of construction cost, he disqualifies himself for professional liability coverage. He cannot make his fee contingent on his performance—e.g., sharing a percentage of savings below the original contract price, or a bonus for early completion of the work. Such fee formulas might tempt an insured architect/engineer to overlook potentially defective work whose correction takes money out of his pocket.

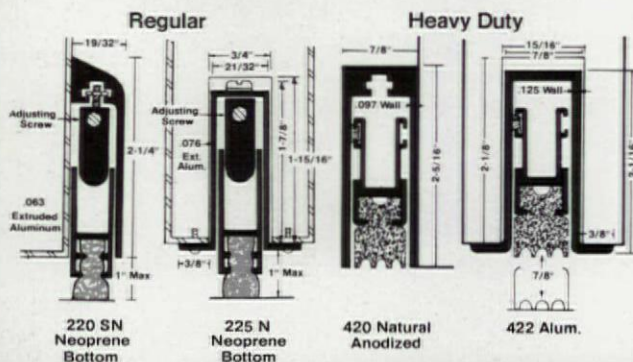
The new AIA Document, Standard Form of Agreement Between Owner and Construction Manager, has introduced order into the chaos of CM, establishing conditions for insurable, professional CM services. Architects/engineers venturing into CM should beware of departing from AIA Document B801.

Competence in rendering his services remains the architect's basic defense against professional liability claims. But it is no longer enough. A slight touch of paranoia is a healthy thing for design professionals practicing in today's hazardous legal climate. Especially in new areas of practice, the architect/engineer should check with his attorney and insurance agent before assenting to any doubtful conditions imposed by a client.

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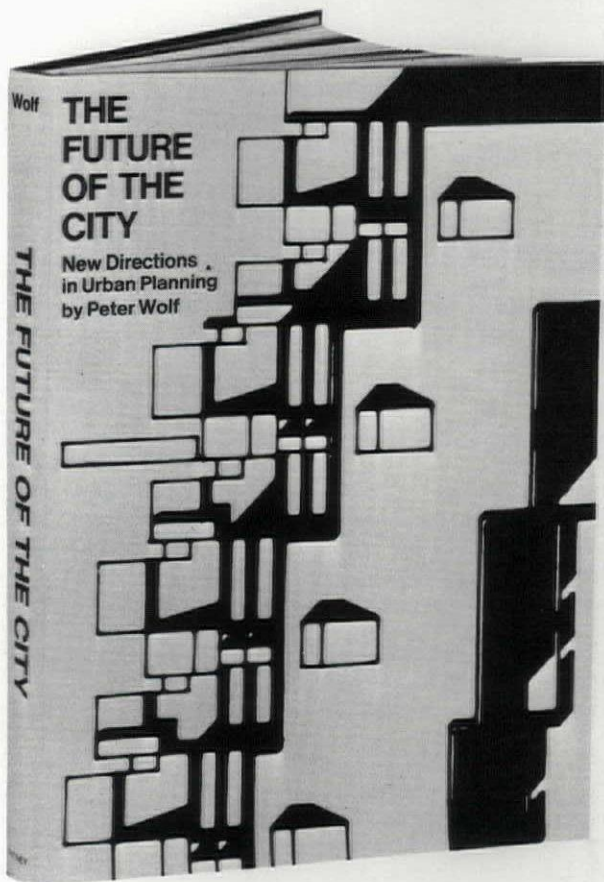


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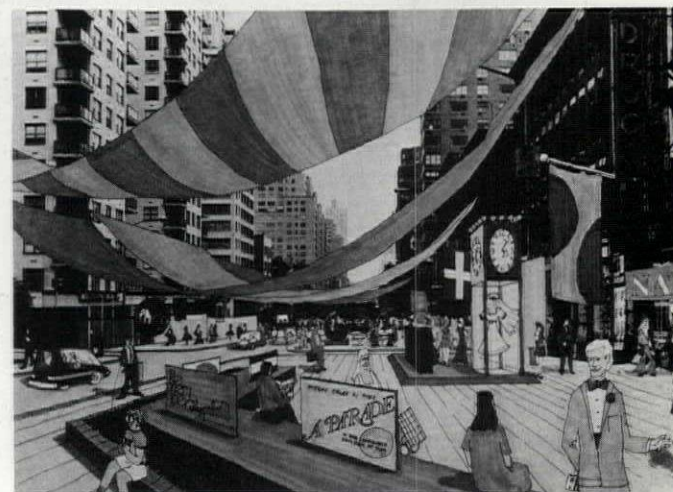
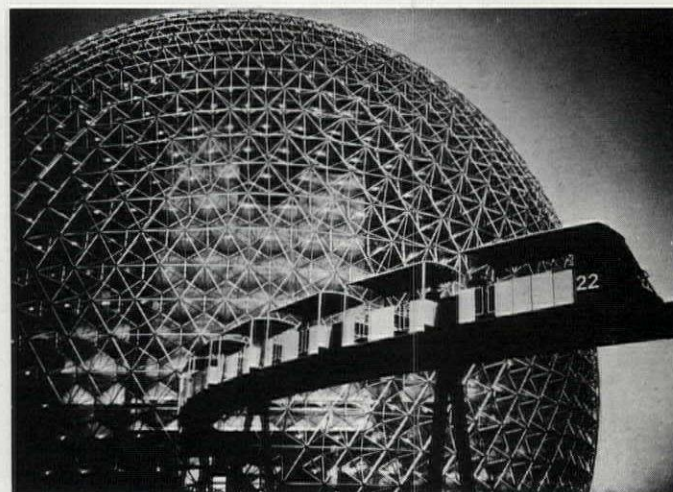
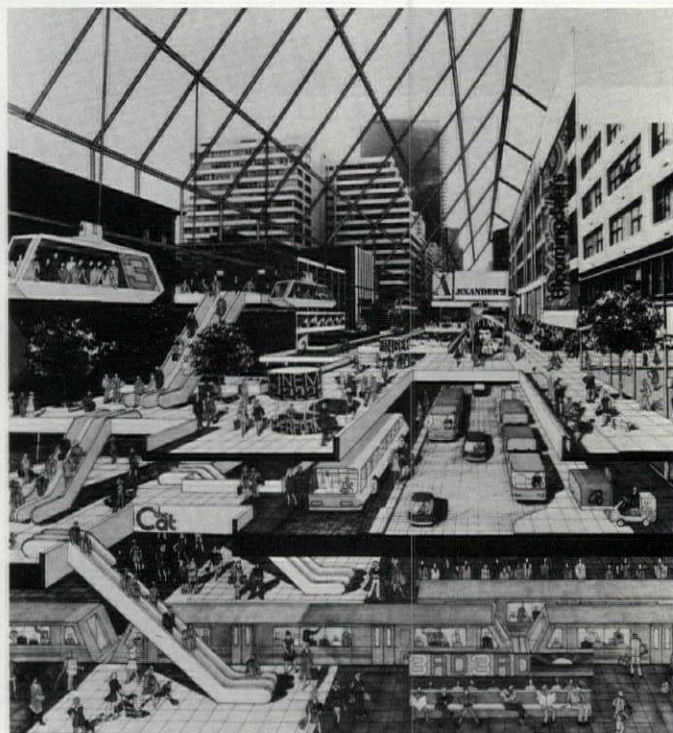


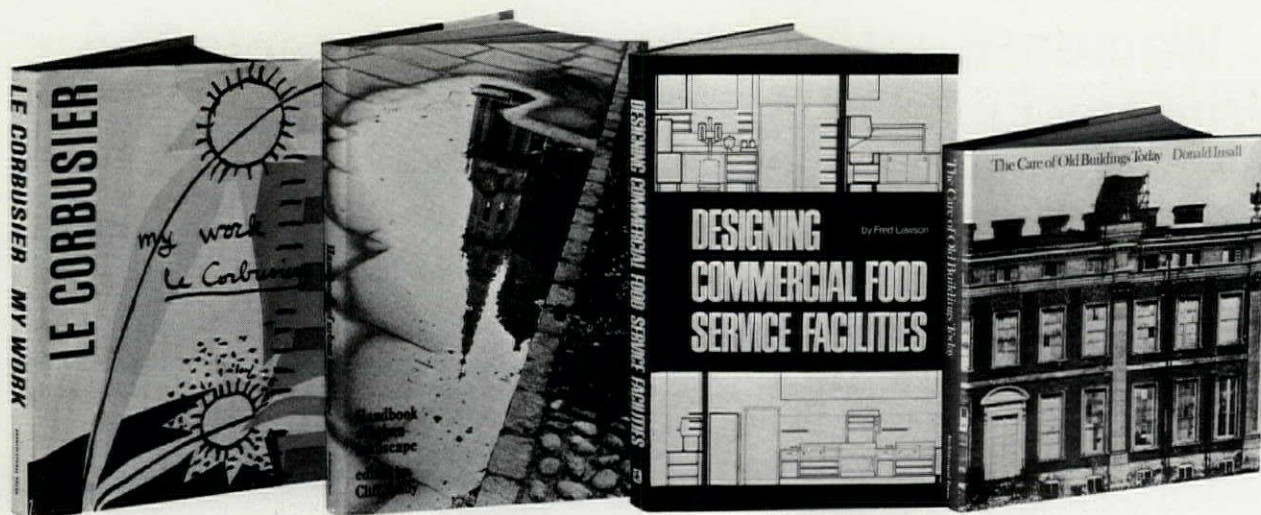
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Contents: Downtown. The Street. The Urban Highway. Public Transportation. Housing. The Urban Environment. Historic Preservation/Urban Conservation. Land Use Regulation. New Directions in Planning. Conclusion. Recent Projects: Evolution and Application of Ideas.





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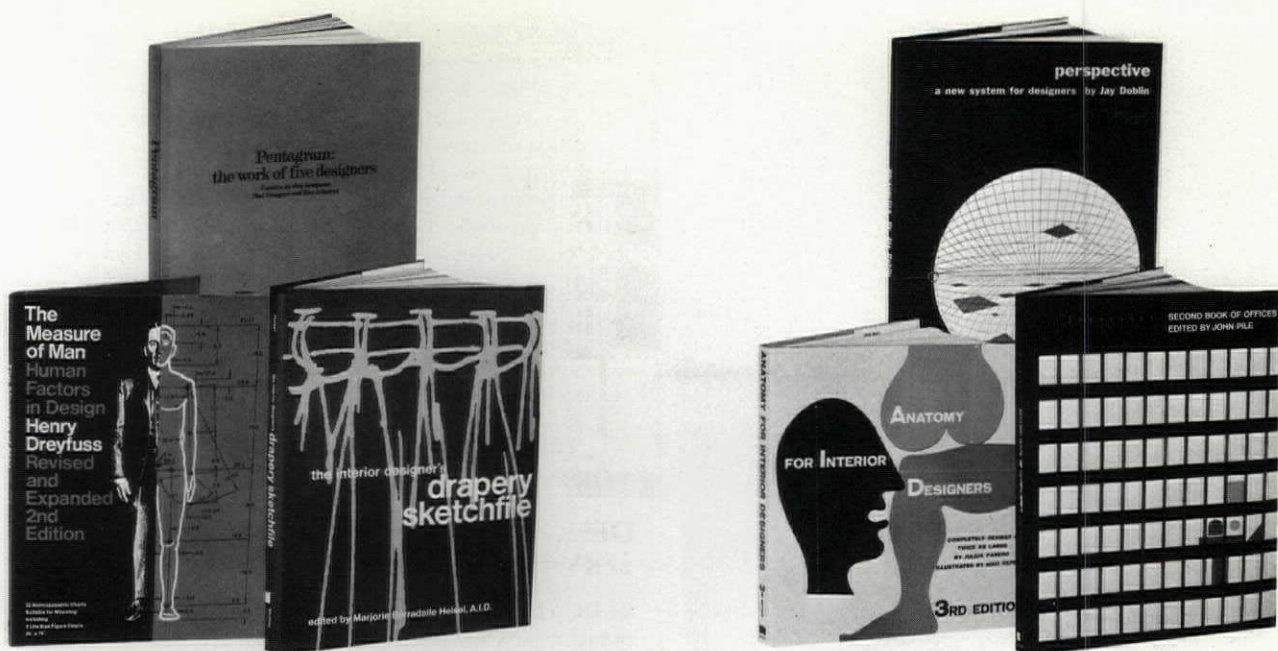
148 pages. 8¼ x 11¼. 90 black and white illustrations. 75 diagrams. Index. ISBN 0-8230-7146-4. **\$24.95**

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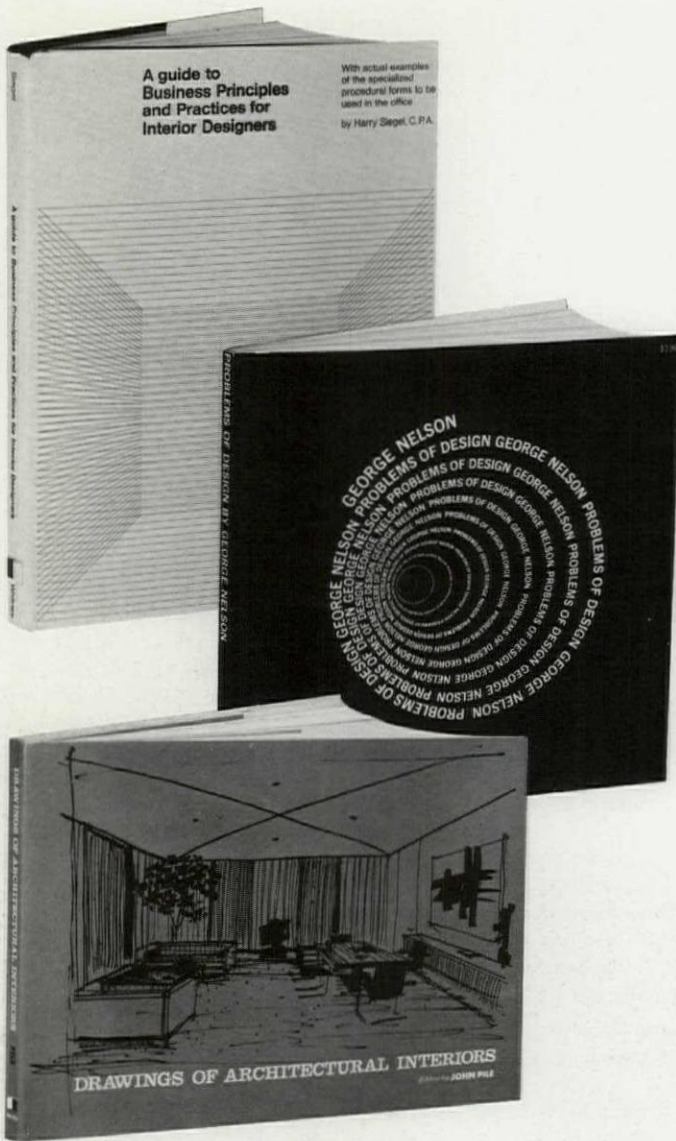
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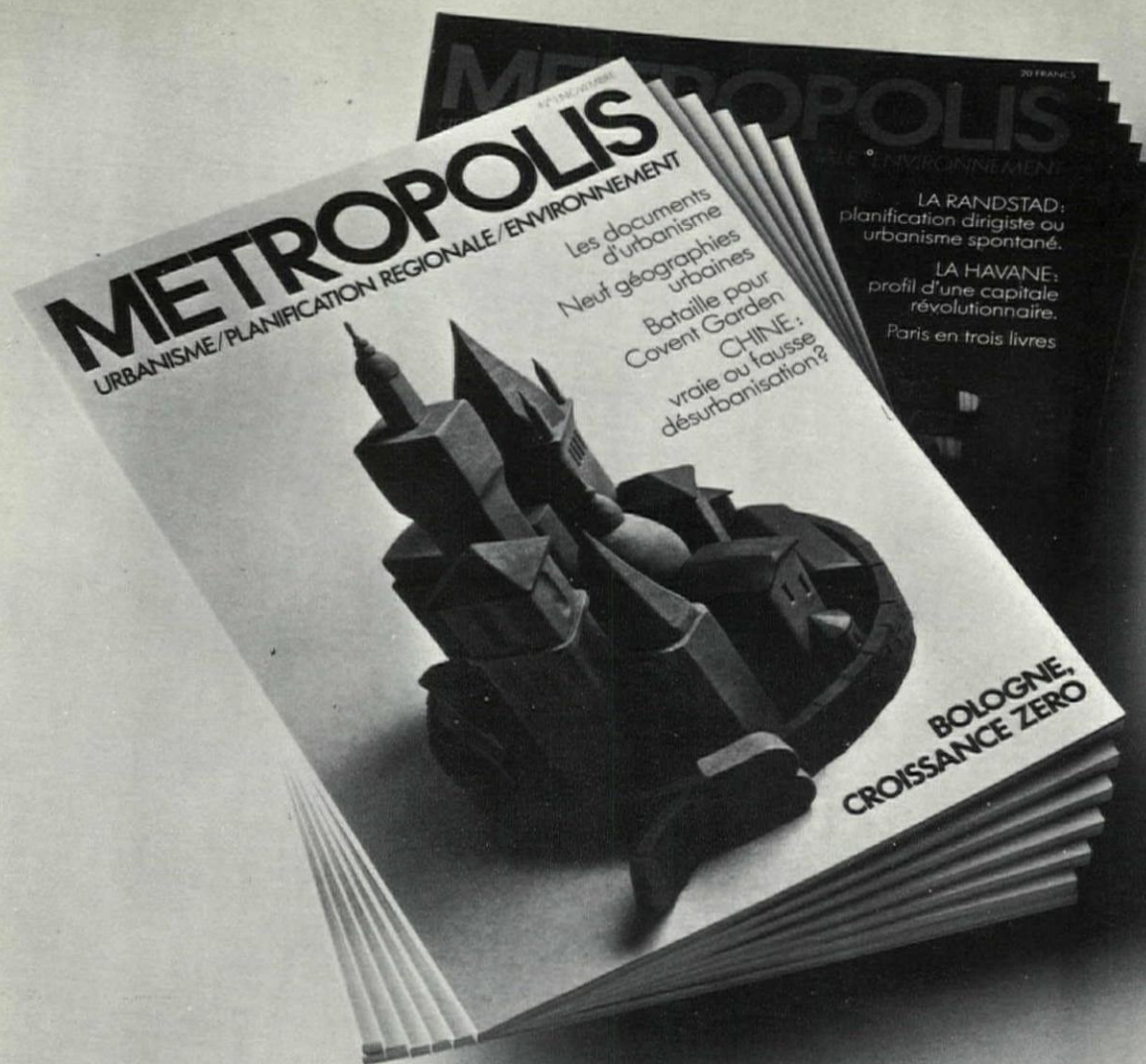
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Book Review

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So when, in 1857, the office of Superintendent of Central Park was created—the job entailed supervising the work force clearing the site—he had the necessary connections to obtain it. What counted most, apparently, was the approval of Washington Irving. The next step was his answering the invitation of Calvert Vaux to collaborate in the competition for the park's design. The pair's "Greensward" plan won in 1858. With the Civil War he left park business to work in Washington for the United States Sanitary Commission. Several years in California followed, and not until 1865 did he return to New York. He was still flirting with journalism when Vaux got him back to work in Central Park and to submit a design for Prospect Park. Olmsted, the *Spätreife*, as the Germans call the late maturing, had found his vocation at forty-three.

Mrs. Roper underscores Vaux's role at this juncture. "It was Vaux," she writes, "who had in-

duced him to enter the Central Park competition, Vaux who with patient craftiness maneuvered Green (a key figure among the Park Commissioners) into returning Central Park to the control of the landscape architects, and Vaux who secured the Brooklyn park work. It was also Vaux who persuaded Olmsted to return East, and finally, it was Vaux who insisted that Olmsted recognize himself not only as a social engineer but as an artist." (The Museum of the City of New York has mounted an exhibition devoted to Calvert Vaux this year, the 150th anniversary of his birth.)

Olmsted's subsequent career was astonishing. Not many men pursued one triumph after another to the very end of their careers. The most fascinating of his private jobs was working for George Washington Vanderbilt, the youngest son (not, as Mrs. Rogers states, the grandson) of William Henry Vanderbilt, a onetime neighbor of Staten Island. Mrs. Roper treats

the young Vanderbilt too casually. Like almost all Vanderbilts and a number of their relatives, he had the *manie de bâtir* as Saint-Simon said of Louis XIV. In New York he commissioned the Fine Arts Building by Henry Janeway Hardenbergh on 57th Street which the Art Students' League now fills, he bought the land for Teachers College on West 120th Street at the suggestion of Dr. Nicholas Murray Butler, he paid for the former Jackson Square Library, designed by Richard Morris Hunt in Greenwich Village, and he built one of two surviving Vanderbilt houses left on Fifth Avenue, now the Olympic Airways Building, with Hunt & Hunt as architect. The commission from Vanderbilt was the landscape architect's dream, the grounds of "Biltmore" in Asheville, North Carolina. (Hunt obtained the commission to do the house.) The vastness of the operation, with more than 100,000 acres and its special spur railroad to transport building materials, is truly Vanderbiltian, as is the Vanderbilt touch of calling in John Singer Sargent to do the portraits of Olmsted and Hunt.

If that was not sufficient, Olmsted was landscape architect to the World's Columbian Exposition of 1893. Here he was back on a site for which he and Vaux had made a plan for a park (unexecuted, to be sure) two decades earlier. Admittedly the concept, the plan of the Court of Honor, is credited to John Root and the idea of having a uniform Classical style with common elevations came from the architects, Daniel H. Burnham, Hunt, Charles Follen McKim, et al. And it was the Court of Honor which made the Fair visually. But it was Olmsted and his young partner, Harry Codman, who pushed the device "of tying the Fair to the Lake..."

Unfortunately Mrs. Roper hedges in her description of the great Exposition. One cannot help but smile at her disapproval, as it is now somewhat dated. The old clichés of Secessionism emerge about the absence of originality at the Fair, on its not rivaling certain European efforts in its use of "inventive construction," etc. Even the old one about Hunt being given the dominating structure to design because he was "fashionable" is trotted out as if there was something wrong in being fashionable. The result is a blunt-

ing of her assessment.

This brings us to the weakness of her otherwise useful book. She seems preoccupied by that mythical figure, "Olmsted the Great American Sage." We also hear in detail of the voyage to Canton, the work on the Sanitary Commission, and the stay in California, when we would much rather learn how Olmsted and Vaux or Olmsted alone laid out a park. There is no discussion of the use of water, still or running, of evergreens, of "wilderness," of where a bridge or a building were to be placed. We yearn to know something of the artist and of how he handled his brush and palette.

One curious omission is her not reminding the reader that Olmsted and Vaux invented the device and the word, parkway. Admittedly both were prostituted in the 1930s in serving the automobile, but the word especially has survived to convey a gloss to what is, after all, just more concrete.

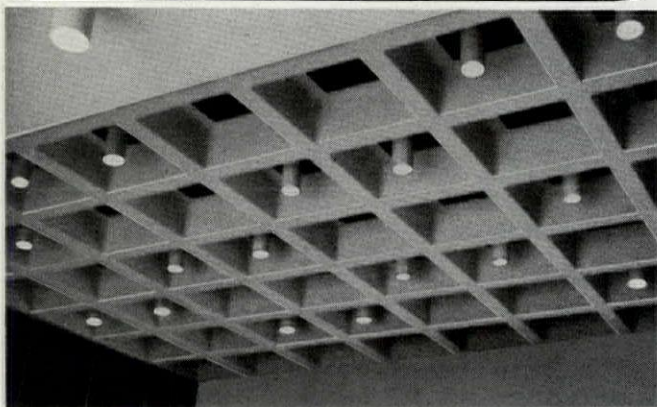
On the other hand, in her description of some of the jobs that followed on Prospect Park, she shows where some of his designs were not executed as he wished. In Montreal he was not consulted on the site of Mount Royal Park. A road was built in it even before he got an accurate topographical survey. The park commissioners made changes as the work progressed. In a word, while always credited to him, it is not his park.

It is a pity that the same searching eye could not focus on the transforming of sites. In the same way, in telling of the 1893 Fair, she failed to understand that the exposition had a big role in encouraging the use of ornamental bedding and show conservatories in public parks. Chicago's oldest show conservatory in Lincoln Park was built on the occasion of the Fair. Milwaukee's first conservatory, in Mitchell Park, was built a few years later. New York's first show conservatory was finally built in Central Park in 1899 (to be torn down in 1934) and that in the Bronx Botanical Garden several years later. Conservatories and greenhouses meant bedding in quantity, the *massif de fleurs* as adornment for the city.

Thanks to the Fair's influence, while bedding disappeared from Eastern cities it survived in the Midwest. I like to think that one of the reasons why the Milwaukee County Park System is the best

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Book Review

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in the country horticulturally is thanks to the Fair.

This brings us to an aspect of Olmsted barely touched on by Mrs. Roper and overlooked generally, namely that he did not like flowerbedding. Of course, in this he agreed with William Robinson, the long-lived Irishman who attacked conservatories, carpet bedding and, in fact, all flowerbedding except the herbaceous border. Obviously bedding has a place in "natural" park—there was one in Olmsted and Vaux's Greensward Plan for Central Park, but it was never planted. Olmsted favored wildflowers in wild settings wherever possible, to be sure, but he found no place for garden flowers—not even scattering daffodils or tulips across a lawn, as is done at Bagatelle and the Parc Monceau in Paris and Kew Gardens and Hyde Park in London.

In describing him as an American "sage" Mrs. Roper, if she makes much of his democratic outlook, does not note the fact that the demos love big flashes of color. Besides, bedding is an essential tool around public buildings, in residential squares, and even in certain limited spots in a picturesque park. Olmsted's failure to appreciate bedding was his Achilles heel.

After such a labor of love (the book is 555 pages long) it is a bit much, admittedly, to ask for another volume. Only Mrs. Roper begs the request. This second volume would treat of Olmsted the Artist in the Landscape. It need not be long and the text could be helped out by drawings, views, plans and even plant lists. There has to be an examination of the artist at work, for that is where the lesson of Olmsted lies. Mrs. Roper is the one person to produce the slim volume, a dessert after the main course.

The other volume, *Forty Years of Landscape Architecture*, is a poorly printed paperback of an original hardcover published in 1928. At least it has the virtue of containing several descriptions of how Olmsted and Vaux planned the Central Park, notably the text with the Greensward Plan.

VNR Metric Handbook by Leslie Fairweather and Jan A. Sliwa. Van Nostrand Reinhold, New York, 1972. 206 pp., illustrated, \$5.95.

This handbook is useful now to American architects working

abroad; if the U.S. ever gets around to converting to the metric system, it could be a fundamental tool for all American architects. The bulk of the book is an *Architectural Graphic Standards*-type catalog of information, with all measurements in the metric system; there are also more than three dozen conversion tables. Most of the material in the book was first published (as three special issues of the *Architects' Journal*) in England in 1968.

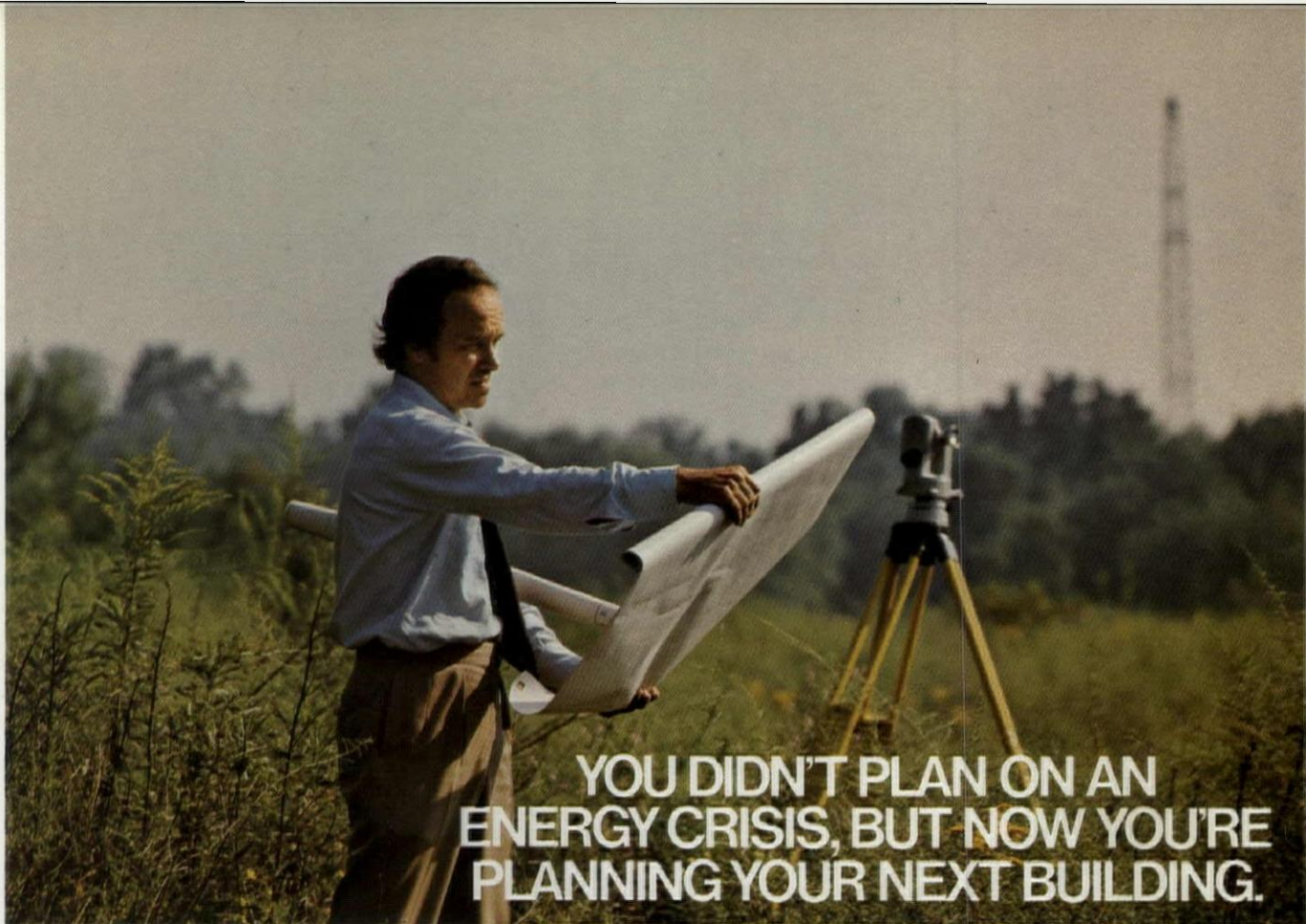
The Architecture of Ancient Greece, An Account of its Historic Development by William Bell Dinsmoor. Biblo and Tannen, New York, 1973. 424 pp., many illustrations, \$27.50.

First published in 1902, Dinsmoor's book on Greek architecture is still authoritative and still fascinating. This latest version is a reprint of the 1950 third revised illustrated edition.

Architecture of Middle Tennessee, The Historic American Buildings Survey edited by Thomas B. Brumbaugh, Martha I. Strayhorn and Gary G. Gore; photographs by Jack E. Boucher. Vanderbilt University Press, Nashville, 1974. 170 pp., \$17.95.

When we think of buildings in middle Tennessee (the area around Nashville), we think first of the mid-nineteenth century work of William Strickland, who came from Philadelphia but who is buried in Nashville in a vault of his own masterpiece, the Tennessee State Capitol. Strickland is well represented in this handsome book (including his wonderfully entertaining adventure in the Egyptian Revival style, Nashville's First Presbyterian Church), but, as Thomas Brumbaugh points out in his preface, the book shows not only intentionally impressive structures but also more humble works—forts, barns, and tobacco warehouses.

Shown also is the endangered 1904 Ryman Auditorium. Recently replaced (by a new Welton Becket building) as the home of the Grand Ole Opry, it stands cavernous and unused, its future in doubt. Some fine photographs are supplemented with elevations, sections and detail drawings (but, unfortunately, no plans) from the Historic American Buildings Survey. Nashville's half-size replica of the Parthenon is never mentioned.



YOU DIDN'T PLAN ON AN ENERGY CRISIS, BUT NOW YOU'RE PLANNING YOUR NEXT BUILDING.

Which building material will you use?

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Compare the energy conserving capability of masonry, for instance, with double-plate glass walls.

At 4:00 P.M. on a hot August day in Washington, D.C., the heat gain through a square foot of west-facing insulated brick and concrete block wall will be 2.2 Btus an hour.

The heat gain through a double-plate glass wall in the same location will be 173 Btus a square foot in an hour. A big difference.

Project this differential over 10,000 square feet of wall. You come up with a heat gain through masonry of 22,000 Btuh, while the heat gain through double-plate glass is 1,730,000 Btuh.

In the case of the masonry wall, cooling equipment with a two-ton capacity can handle the heat gain. But with the double-plate glass wall, about 143 tons of cooling capacity will be needed.

An analysis of a typical 10-story building shows that over its useful life, the air-conditioning cost for a square foot of our masonry wall will be about 23 cents. For the double-plate glass wall, it will be \$7.60.

It takes a lot of money to buy, install and create space for all the extra air-conditioning equipment

required by the double-plate glass wall. A lot of money and a lot of energy to run that equipment.

Compare the heat loss in winter. It has a dramatic effect on energy consumption and building operation costs.

Our masonry wall, for example, has a "U-value" of .12. The double-plate glass wall has a "U-value" of .55. (U-values are used to determine heat loss through one square foot of wall area in Btuh per degree Fahrenheit differential across the wall.)

This means that the masonry wall is about 450% more efficient, on the average, than the glass wall in reducing heat loss.

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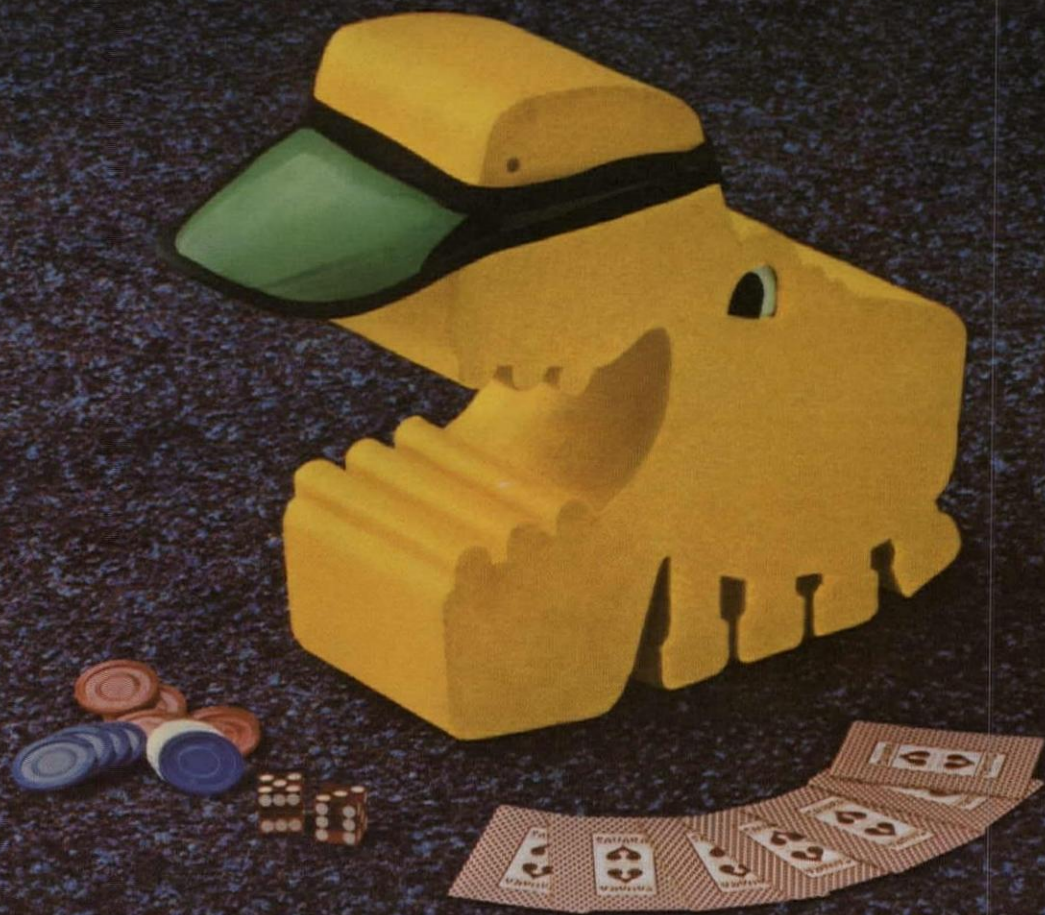
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