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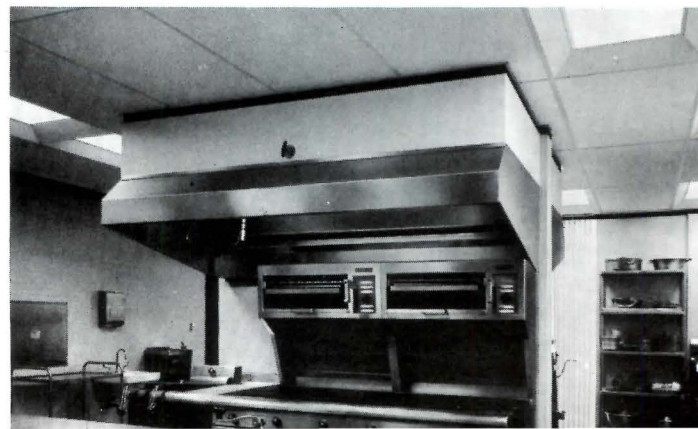
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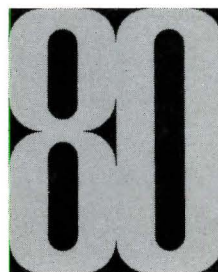
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Cover: Photograph of Disney World by Casey Blake (p. 24).



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YEAR
OF
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1892-1972

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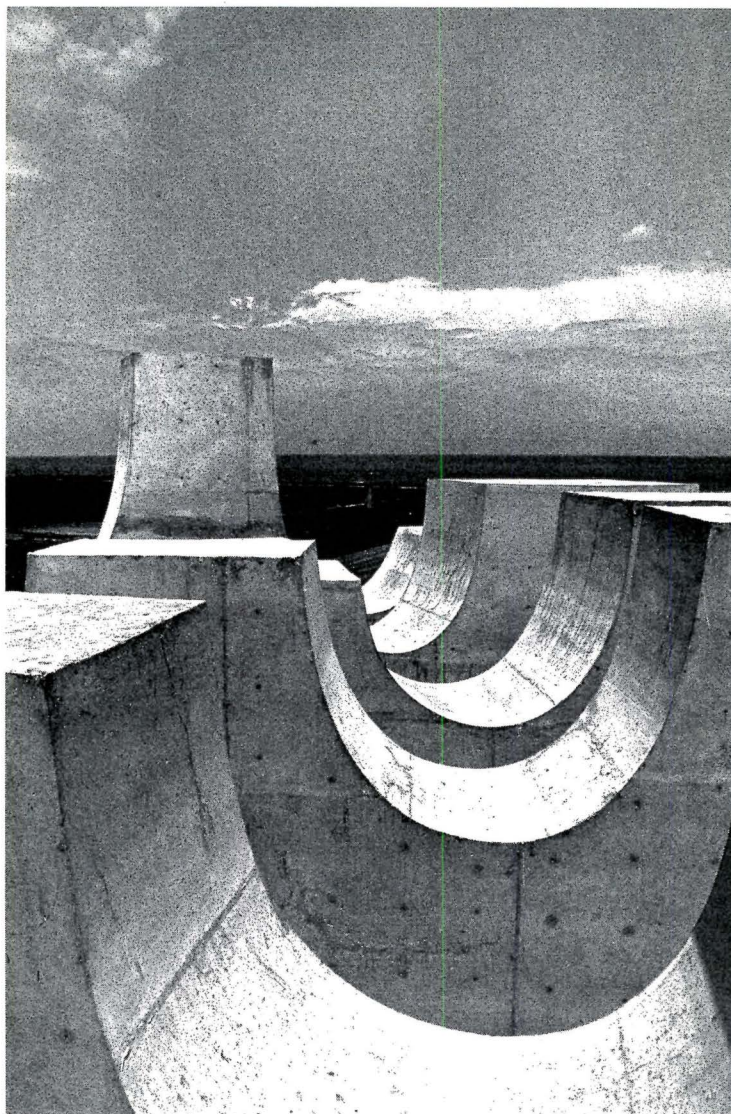
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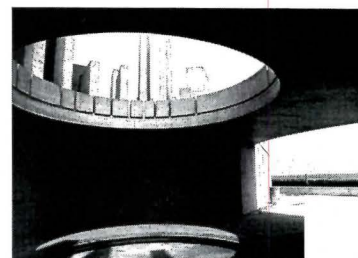
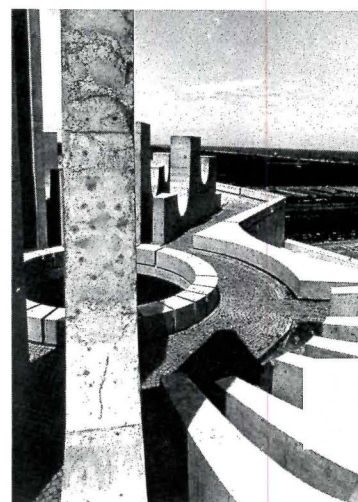
YPSUM
BUILDING AMERICA



A QUIET PLACE IN ITALY

For the soldiers of the Yugoslav National Liberation Army who fell in Italy in World War II, and for the partisans who were caught by the Nazis in Yugoslavia and brought to prisons in Italy where they perished, the Government of Yugoslavia—in an agreement between them and the Government of Italy—has built a memorial near Barletta on the Adriatic to mark their common grave.

The sculptor, Dusko Dzamonja of Zagreb, Yugoslavia, has created in their memory this tomb of massive rectangular slabs and strong curves through which the sea can be seen. The walk is covered with square-cut granite set in semicircular

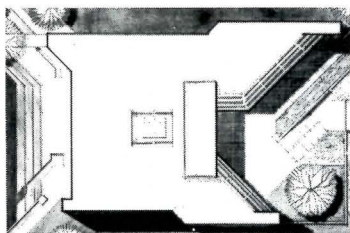


patterns, and from there one can look down into the crypt.

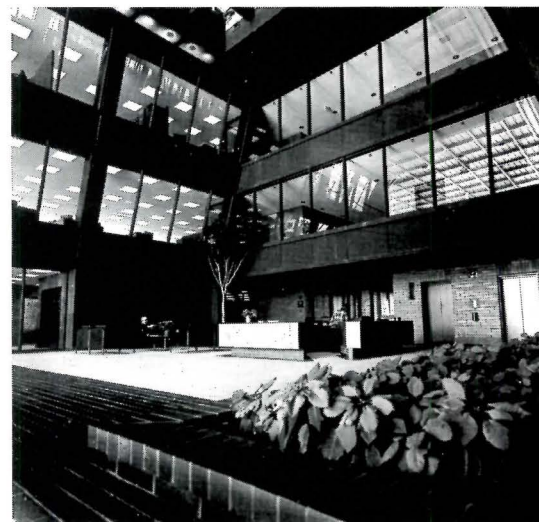
Surrounded by farms and pastures, in this quiet and peaceful place, one can stand among these powerful concrete forms and wonder: can this truly be the place where so many died so violently? But go down the steps to the lower level, into the dark and cool of the crypt—all is blood-red marble here, and inscribed on the walls are the names, row after row of names. Looking up, one sees the sky through the round opening in the ceiling. A worthy tribute to men who would not live under oppression.

RURAL SOPHISTICATION

With an almost spread-eagle-shaped plan, the new Wisconsin Farm Bureau Building in Madison is full of surprises. Almost a building within a building, the structure has a four-story-high atrium for (preferably Wisconsin) plantings, including trees which can grow as high as 40 ft. Two independent mechanical systems operate in the atrium and the building offices, which house the Rural Insurance Companies of Wisconsin (an affiliate of the Farm Bureau). Designed by Architects Peters & Martinsons, Inc., the building has curtain walls of solar glass and weathering steel, plus massive brick bearing walls. The multi-angled exterior, which stands in isolation on its site, encloses four floors of landscaped offices, plus a ground

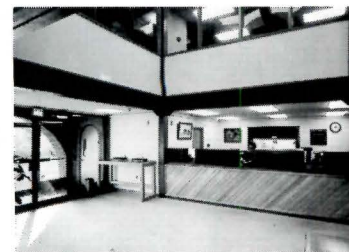


floor cafeteria, meeting rooms and other service areas. The partitions between some meeting rooms are movable and can be opened to create a 600-seat auditorium. There are also an underground parking garage, outdoor garden areas, and a pool, which takes the place of cooling towers.



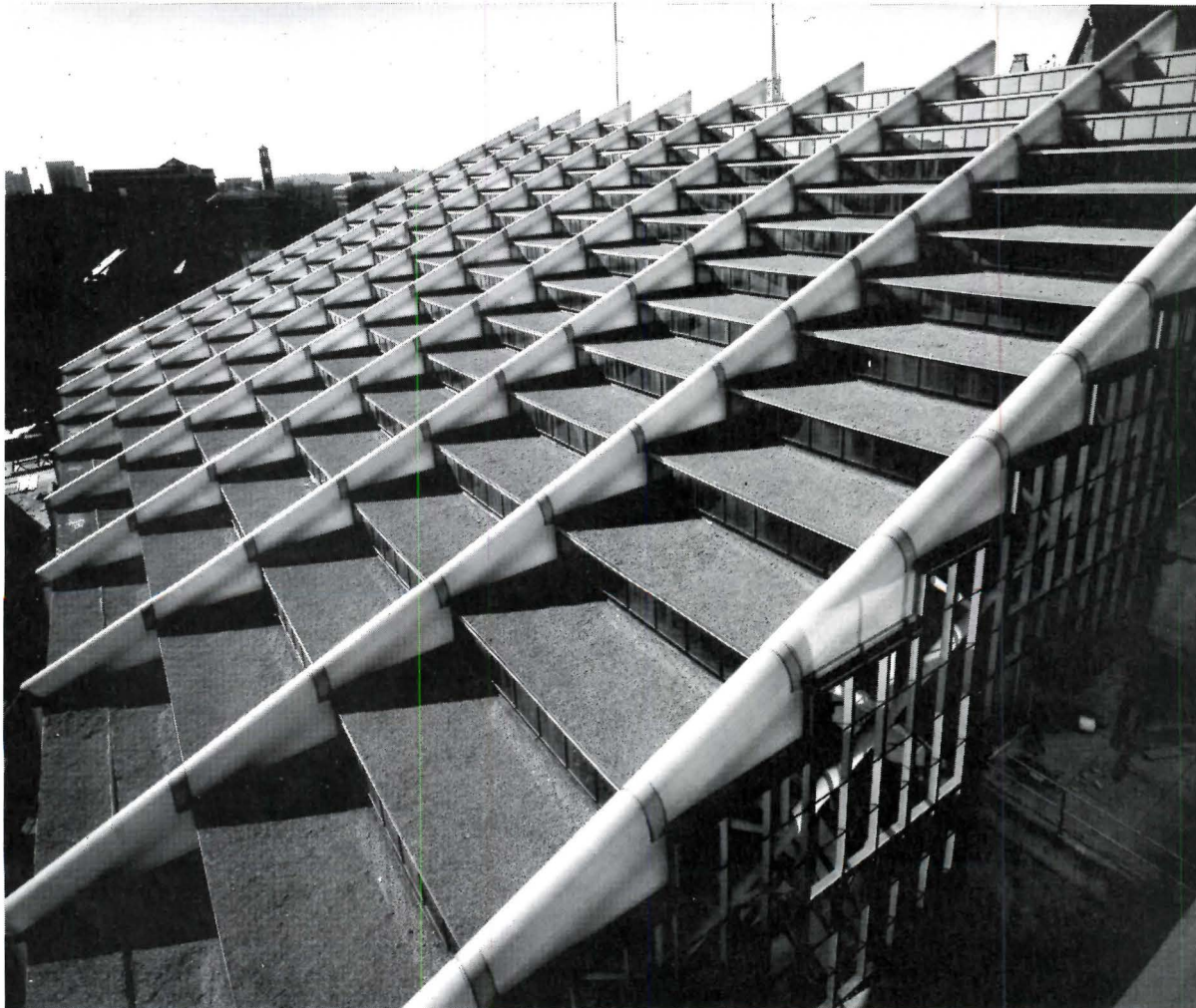
BACK TO BASICS

Architects Philip Steele & Associates took particular pleasure in designing the Chester County Federal Savings & Loan Association, in Oxford, Pa. There are no exotic materials here; the bank has solid brick bearing walls erected by masons who "enjoyed doing real brickwork." The arch is repeated on each of the building's sides. Inside the building, which is square in plan, are four wood columns, which support a mezzanine.



GLASS HORIZONS

The waiting is almost over for the new George Gund Hall at Harvard's Graduate School of Design. Perhaps the biggest sawtoothed skylight we have yet seen, the building was designed by John Andrews Architects of Toronto (see Dec. '69 issue). Each level of the stepped floor "trays" contains a studio space, wrapped on two sides by offices and seminar rooms in varying proportions. A lounge and terrace separate students and faculty. Each of the floor levels will be occupied by a discipline relating to environmental design: Architecture, City Planning, Urban Design and Landscape Architecture. The building will bring these areas of study under a single roof for the first time. More specialized functions, such as a 400-seat auditorium, a 200,000-volume library and a technology workshop are located underneath the studios, slightly below grade. The large exterior spaces that are left carved out by the tiers, or floor trays, are free to function as pedestrian and exhibition areas. A great trussed roof of tubular steel spans 125 ft. over the studios. The structure of the building is reinforced concrete flat slabs on a 25-ft. grid.



PHOTOGRAPHS: Page 5, Dorothea von Haefen. Page 6 (middle right), Gregory Conniff; (bottom), Harris Davis. Page 7 (top), Stephen F. Rosenthal.

BOOS

DEFENDING THE ENVIRONMENT: A Strategy for Citizen Action. By Joseph L. Sax. Published by Alfred A. Knopf, New York. 252 pages. \$6.95.

REVIEWED BY MICHAEL FROME

Administrative agencies of the Federal Government charged with protection of our natural resources have been gravely deficient, responding largely to political pressures of special economic interest and their own self-perpetuation. Today it is everywhere conceded that we have mismanaged the environment, and public confidence in government has eroded to an extreme degree. But which way out of the morass? Or, indeed, is there any way?

The author of this book, a professor of law at the University of Michigan, discusses a vital current issue with piercing clarity. The essence of his theme is that the elaborate structure of "administrative middlemen" has been so interposed between the citizen and his interest in environmental quality as to dull public sensitivity to its own rights. Thus he sees an urgent need for a repudiation of our traditional reliance on professional bureaucrats, a shift in the center of gravity of decision-making, an enlargement of adversary processes through litigation before the courts.

"The need is for institutions that know how to expose and resolve, *unsentimentally*, the elemental issues in a dispute," submits Professor Sax. "For this task the courts are uniquely qualified. The availability of a judicial forum means that access to government is a reality for the ordinary citizen—that he

can be heard and that, in a setting of equality, he can *require* bureaucrats and even the biggest industries to respond to his questions and to justify themselves before a disinterested auditor who has the responsibility and professional tradition of having to decide controversies upon the merits."

Environmental law suits, of course, have been popping out on all fronts, involving proposed highways, dams, atomic power plants, logging projects, and the proposed Alaska pipeline. The Nixon Administration has shown displeasure with the principle of citizen legal action, asserting that courts are preoccupied with important matters and that it will take care of things for the people (as in construction of Southwest power plants and the Cannikin bomb blast at Amchitka, one may presume). The bureaucrats likewise object to the interference of citizen involvement and legal action. As they like to say, projects planned by the executive branch and funded by the legislative would be frustrated by the judicial branch at the whim of any citizen who disagrees with the justification of such projects. In too many cases, alas, stopping wasteful, environmentally harmful, projects is exactly what needs doing. Or, as Professor Sax retorts, "One wonders why government briefs, devoted in such cases to assuring judges that administrative discretion should be trusted implicitly, are so ready to assume that judges themselves are such fools or such puppets they cannot be trusted to make rational distinction between substantial and frivolous claims."

Professor Sax opens with an examination and analysis of the "Fiasco at Hunting Creek," a breakdown of governmental processes in dealing with a land development scheme on the Virginia bank of the Potomac River near Washington. This reviewer is intimately aware of the entire affair, as one of the neighbors who endeavored to protect the natural values at Hunting Creek—mostly from our protectors in the Department of the Interior. Mr. Sax not only got all the facts correct, but added a few juicy details I had not known. For instance, George B. Hartzog, Jr., the wheeler-dealer who heads the National Park Service, was sharing a cab

with a Deputy Assistant Secretary of his Department when the subject of Hunting Creek came up. "Let it go—we are all sick of it," Hartzog declared. In short, forget about it, it is too much of a bother.

The author uses the affair at Hunting Creek in order to explore the "nibbling phenomenon," the process by which large resource values are gradually eroded, case by case, as one incursion of development after another is allowed. The danger is that in each little dispute—when the pressure is on—the balance of judgment will move ever so slightly to resolve doubts in favor of those with a big economic stake in development and with powerful political allies.

It is easy for an administrator like Hartzog to acquiesce to the nibbling phenomenon, as indeed he has done at Hunting Creek, elsewhere along the Potomac and in other parts of the park system. Yet the same influences which lead to a decision not to stand and fight for the public interest are equally likely to apply when the next application—now in the vaguely comfortable future—is brought forward. Though producing a seemingly tenable result when considered in isolation, each step serves cumulatively to produce exactly the opposite of the overall policy the administrators are mandated to achieve by law and to which they are pledged by policy statements and gushy, overwritten press releases. The greatest problems are often the outcome of the smallest-scale decisions precisely because the ultimate, aggregate impacts of these decisions are so difficult to see.

Defending the Environment appeared at a time when environmental litigation was at an uncertain state of development, just as the National Environmental Policy Act was taking effect. It could readily stand an updated second edition with an interpretation of legal procedures and perspectives under terms of this epochal law. We are also plainly on the verge of enactment of Congressional legislation embodying the principle of increased citizen participation through the courts—this may, in fact, prove to be the most important environmental action taken by Congress in 1972. It, too, could stand fur-

ther exposition so the citizen will know how to respond in the "strategy for action."

Nevertheless, the book is invaluable as it stands. It emphasizes that citizens can no longer be mere passive bystanders in making their government work. We are in a new age, in which protection of the environment as a public trust will become part of our life-style. We have been accustomed to the enforcement of private property laws. Now is the hour to defend the environment, through due process, for the common good of all.

AUTOKIND VS. MANKIND. By Kenneth R. Schneider. Published by W. W. Norton & Company, Inc., New York. 1971. 267 pp. Illustrated. \$7.95 cloth.

REVIEWED BY ROBERT C. WEINBERG

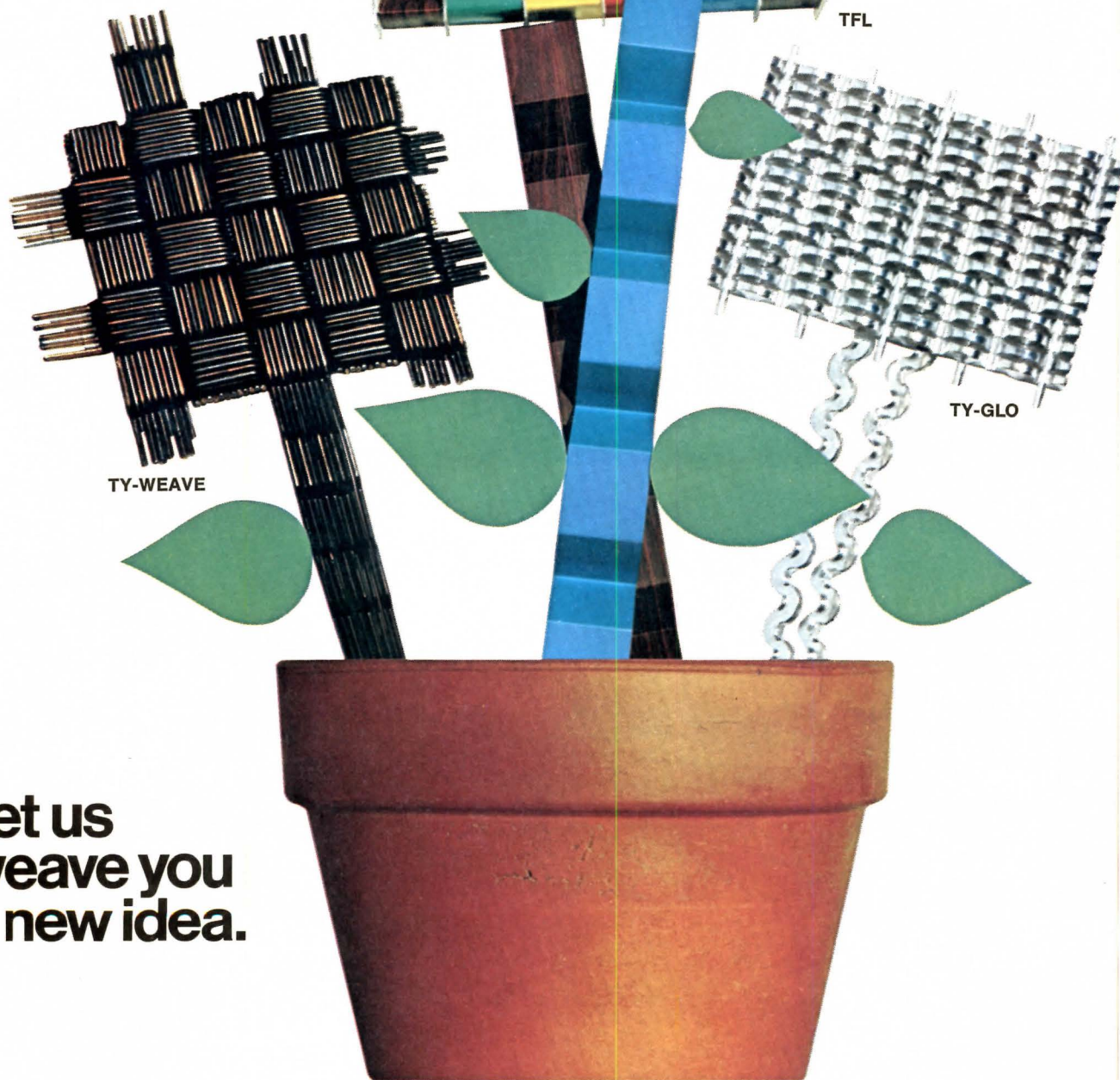
Mr. Schneider's latest book about the growing autocracy of the automobile, its effect on land use, especially in this country (but also abroad), and his suggestions for controlling a trend which so many people (including, regrettably, many planners and architects) seem to assume is inevitable, is a book that should have good circulation in professional circles, as well as appealing to the general reader. I say this because, whereas it is addressed to the public at large with the hope of reaching leaders in government, industry, and administration, it contains so much material, especially quotations from, and references to, pre-World War I publications, that it provides architects and planners committed to the cause of humanity and better living with a reliable supply of references and precedents to use in composing their arguments in their continuing struggle for the conservation and better use of open space, for mass transit as opposed to highways, and for good design with greater respect for natural man, undominated by the machine.

That is why I am glad to see that Schneider's book is becoming better known and now appears on the reading lists of university courses in urban and regional design, in spite of its

Mr. Weinberg is professor of planning at New York University, and a fellow of the American Institute of Architects.

(continued on page 10)

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BOOKS

(continued from page 8)

early neglect by reviewers in the daily and periodical press, to say nothing of the patronizing note that appeared in the N.Y. Times Sunday Book Section, that I must quote in full:

"Autokind Vs. Mankind, by Kenneth R. Schneider. An account of the auto's proliferation; by 1994 we will have more cars than people. Schneider is a sociologist and city-planner; but he avoids stiff, heavily documented prose and offers in an anecdotal, punning, fast argument a proposal that streets be liberated and anti-auto organizations be born. Light, not to say frivolous."

The last sentence of this "book note" is condescendingly gratuitous. Whereas the "argument," as the reviewer admits, is good reading, that does not mean that the book is "light," much less "frivolous." Quite the contrary; it is an important and serious work, and a valuable compendium of reference. That it makes good reading, as well, is not the least of its virtues.

Going back to the early days of the automobile, Schneider points out how the "automobile clubs" were formed, not only to promote what was then generally considered a sport for the rich but also to protect makers and drivers of the automobile, on the one hand, from persecution by the manufacturers of carriages and the entrenched investors in trolley-car lines and, on the other, from the ridicule by those who regarded the motor car as an ineffectual toy, with no future. It is true, moreover, as Schneider says in another place, that with the miserable unpaved roads which were all that were available outside of most city limits, an organization was needed in those early days to get financial aid for paved roads, that could only come from state and federal legislatures. But it was not to be foreseen, at that time, that these

very "automobile clubs" would eventually become so powerful, overbearing and successful, that, at the present time, more than 24 times as much public money is provided for highways as for mass transit. As Schneider puts it (too "lightly," even "frivolously?") the problem has become "no longer one of rural mud, encountered in impossible roads, but of urban muddle encountered in the form of traffic jams."

Schneider's argument, carefully documented, shows how the mobility provided by the motor car led to low-density expansion in the suburbs and that that, in turn, reduced the demand for, and the effectiveness of, mass transit. And it was Henry Ford who, in the very early days of the Model T, said (as we tend to forget) that "for every car we make, more roads must be provided." After showing how Henry Ford and his product were the first major effective forces that compelled the expenditure of public monies for roads to satisfy car manufacturers, Schneider goes on and recounts the stories of other men and forces that, one after another, relentlessly changed the balance of power in favor of supplying the automobile with the roads it demanded. This led, eventually, to the actions and statements of Robert Moses, from the 1930's on, which, as Schneider points out, are (as clear as *Mein Kampf*) a declaration of war against urbanity and amenity in our cities, with the Great Coordinator following through on his declarations with his successful campaigns of bulldozing wide highways through established villages and shattering community traditions of New York City's outer boroughs and elsewhere.

In contrast to this, Schneider documents, from the work and written policies of the Olmstead firm, dating back to World War I, the development of linear parks and the emergence of the true (non-Moses) "parkways," which admitted limited vehicular driveways into these strip parks only to provide automobile riders with the pleasure of good scenery as a form of recreation. The control of access and elimination of interference between pedestrian and vehicle that the elder Olmstead had begun in the design of Central Park more

than a half century earlier, in horse and carriage days, were the objective for the early parkways, but one that has been consistently violated by the concept of the parkway as a high speed road, merely "decorated" with a minimal border of greenery.

Other parts of Schneider's valuable and informative book take up such questions as the relation of the car to recreation, and the false assumption that the motor car must be the only means of getting away from the inner cities. He shows up the inappropriateness of the apparently generally accepted doctrine that every county, state, and national park, forest reserve or "national monument" must be reached (and therefore cut up) by paved highways.

In connection with the matter of the over-use of the car in our national parks and other nature preserves, Schneider discusses the futility of the program of the National Council on Recreation which recently released a report recommending a ten-year program to construct thousands of miles of new roads leading into and across these natural areas. He shows up the peculiar reasoning of such advocates of more roads to encourage more car use, which Lewis Mumford called "brutal assaults on the landscape," when empty, never-fulfilled proposals to assist new natural park and recreation areas, are not even given a fraction, in public funds, of the billions of dollars actually appropriated for the highways built to reach them. And then, as Schneider goes on to point out, when such places as Yosemite Park, which not only permit but actually invite campers to come in their own cars and trailers, has become so congested and polluted by the automobile that any semblance of "camping out," in natural surroundings, has been sacrificed.

Getting back to the cities, however, where the main thrust of Schneider's flowing argument leads, other chapters point out that, with the proliferation of suburban sprawl, the city center is no longer a center nor do the individual suburbs and former villages have any character, so that "when one gets there there is no there there" to quote the famous Gertrude Stein line. In other words, the 1905 slogan of the early auto-

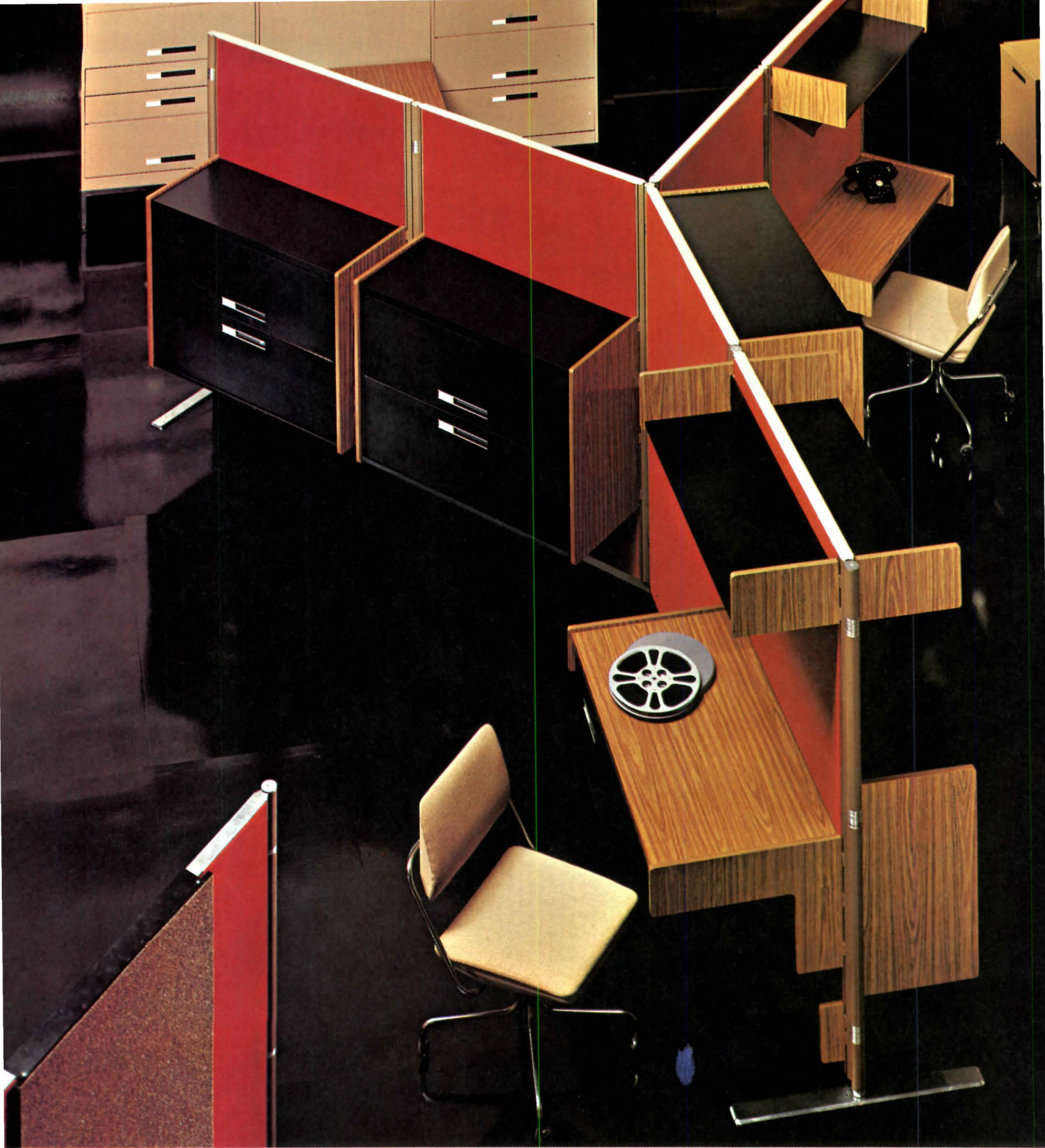
mobile clubs that "if you have a car you can go anywhere" became all too true; and the policy presently pursued by the AAA, in collaboration with the roadbuilding and concrete industry lobbies, is leading us down a false trail, even though no one, least of all Schneider himself, denies the value and usefulness of the automobile if kept under proper control and directed in such a way so as not to counter every effort to improve land use in our burgeoning metropolitan areas as well as in our great open spaces designated for man's escape to nature in vacation periods.

It can scarcely be termed "frivolous," therefore, for Schneider to conclude that "what the early automobilists thought was the beneficial union of town and country has turned into the sacrificial spoilage of both."

The final portion of *Autokind Vs. Mankind* is devoted to a carefully thought out program of how to counteract the by no means inevitable trend towards the complete autocracy of the automobile if we really want to stop it, and re-direct its force. We must, instead, master the trend, and establish a national policy based on the automobile as the servant of mankind, and not its master.

This program is well arranged, in logical sequential stages. It seems a reasonable one to be effectuated in the present-day atmosphere of concern for the environment, especially by the younger generation. Public sentiment is slowly, but surely, turning away from the AAA-General Motors mystique that the car can and *must* go "anywhere" and that highways must take precedence over any other form of land use as well as of transportation. Today the winds of public opinion are blowing in a different direction and Schneider suggests how we can harness their force.

In short, Mr. Schneider's book provides the profession with an extremely valuable and useful work of reference, both by the language in which he presents the arguments in a cause with which most of us are now committed to; and, also, in his bringing together, between the covers of one book, so much valuable source material we can quote from to make our points against the opposition.



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TAX CONTROVERSY

FORUM: McKinsey & Co.'s ingenious and delightful scheme to tax tenants instead of real estate in order to secure federal income tax advantages, as outlined in Mr. Marcuse's article, regrettably starts from the undemonstrated assumption that real estate taxes are passed on to the user. Yet, as shown by famous economists like David Ricardo, Adam Smith, and John Stuart Mill, this premise is vulnerable.

The so-called real estate tax is in fact two distinct and different kinds of taxes, different in the kinds of things taxed and different in effect. One, the tax on production—buildings—is, we can agree, an expense to the producer, and unless it can be recovered from the user by passing it on to him, will necessarily inhibit construction.

But the second part of the real estate tax, the tax on land, that part of the primeval Earth below the building, does not discourage production. It is not a cost or production, and is not and cannot be passed on to the user. It rests upon the landholder. To completely remit local real estate taxes would be to provide him with a handsome windfall.

But that is not all that is involved. Oddly enough, while the tax on buildings is not in the interest of the architect, the tax on land is very much in the interest of not only the architect, but also of all other producers and consumers. A high tax on buildings tends to discourage construction; but a high tax on land, by making it very unprofitable to hold land out of use, or poorly used, is a strong incentive towards construction.

It should then be apparent that if we really want to do something fundamental, we architects should urge the shifting of "real estate" taxes to land alone. The "average" real estate owner, to the extent that he has an exactly average value building on an exactly average value lot, would necessarily experience no change whatever in the amount of his taxes. The

taxes he would not pay on building, he would pay on land. Together, his land building would provide the same taxes to the government at the same time that they would provide to him the same net income, would in every other respect be just as useful to him as are today; and since they would be equally useful to anyone else, they would sell for the same price they sell for today.

But those who hold undeveloped or poorly developed land would find it unprofitable not to build or sell to others who would, in order to secure an adequate income from which to pay the land tax.

And—happy day—those who had built superb and handsome buildings for the use of their neighbors would find their taxes appreciably lower, and their works standing as magnificent landmarks for others to emulate rather than as targets for the tax assessor.

If instead, as McKinsey proposes, we drop all local taxes on land, we conversely, automatically raise its price and make it even harder for developers to lay their hands on a portion of their native Earth on which to build for the use of Man.

HENRY TIDWELL
Lake Forest, Ill.

Mr. Marcuse replies:

The advantages of a land-only tax do not seem to me to be quite as clear as Mr. Tidwell suggests; the limited experience with such taxes, and arguments of Roland McKenzie and other economists, and doubt as to whether acceleration of development is always desirable (if it is in fact reduced by land-only tax) seem to me to merit consideration on the other side. It seems clear to me that shifting the payment on the existing buildings from the landowner to the tenant (no one is suggesting dropping it) does not affect the matter either way. The full real estate tax, whether on land or buildings, is now in fact a tax on doing business to the landlord; if he wants to make a profit, the rent he collects must better cover the full tax. If the tenant pays the tax (getting an income tax reduction, etc., as outlined in the article) and the rent is correspondingly reduced, the landlord's position is unaffected in economic theory, one whit by the change.—

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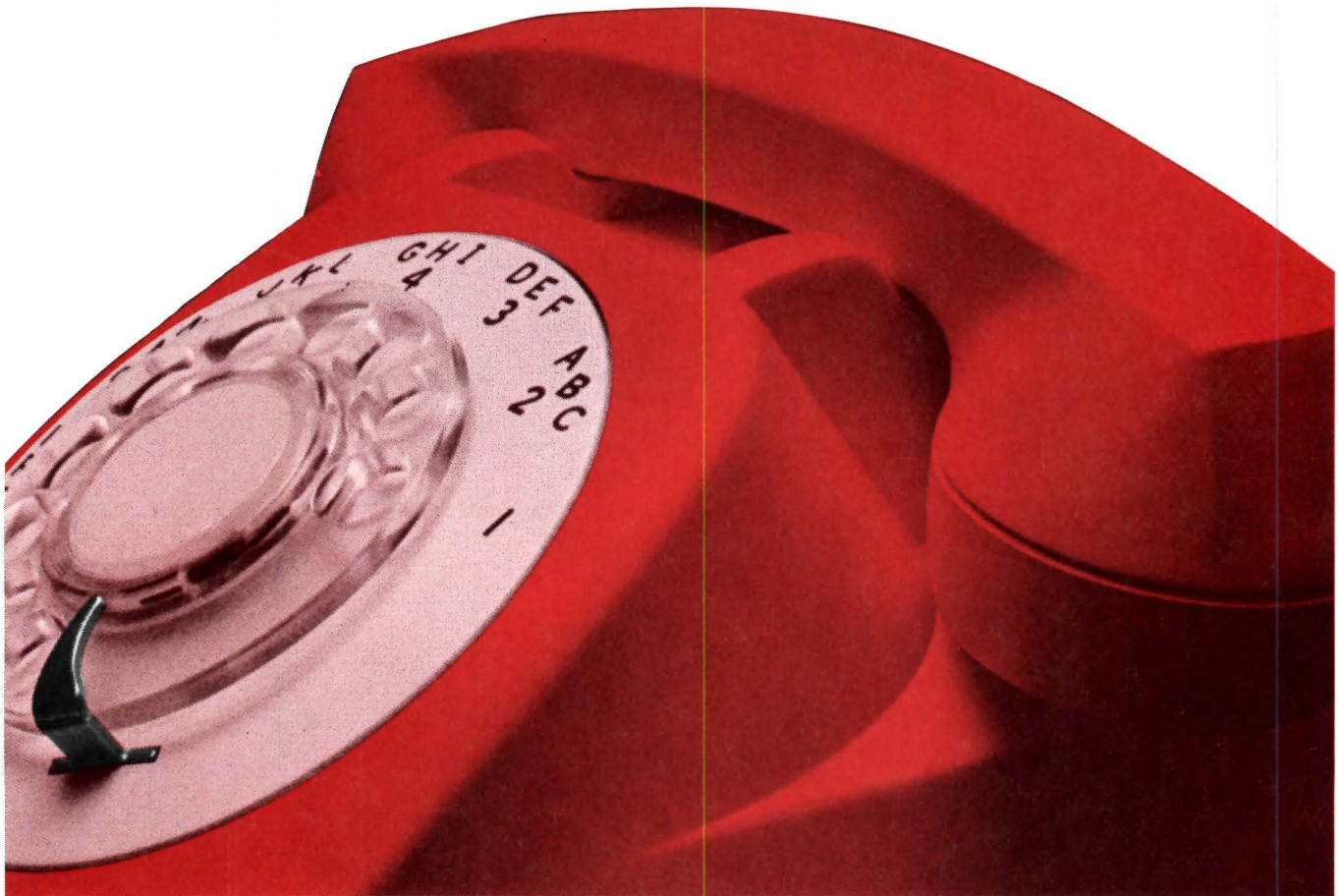
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FORUM

May 10th was as good a day as any for the architects of the U. S. to blow their collective brains out. That was the day the AIA Convention in Houston surrendered to the U. S. Department of Justice and its civil antitrust suit, by agreeing to a consent decree that would abolish the AIA's standards governing fees. The action, in effect, invites public and private clients to shop around for the cheapest available architectural services. Although the Convention agreed to fight for new legislation on state and federal levels, the truth of the matter is that the profession has very little clout in those areas. So the principle that architectural services should be solicited on the basis of quality appears to be dying.

It is anybody's guess why the Justice Department decided to turn its wrath upon this one, relatively small profession. Lawyers, of course, do not have price-fixing problems, because they fix everything else: they run all our legislatures, all our executive branches and all our courts; and have arranged things so that no U. S. citizen can make a move, in any direction, without hiring legal services. So the legal profession controls both supply and demand for its services, and there is no need for price-fixing.

What is likely to happen to architectural services in this country as a result of this new development is sickening to predict: not only will architects no longer be able to afford rendering such services properly (or to retain qualified consultants); some architects may, also, be tempted to seek compensation from some suppliers of materials and equipment, much in the way this has become common practice in certain other, less scrupulous professions. As one former President of the AIA said to me the other day: "I'm glad I am not just starting out in my profession. The younger ones are going to have a very rough time." Admittedly, it was hot, humid, and horrible in Houston on May 10th, but that is no excuse for voting the way that Convention did.—PETER BLAKE

AIA

ASTROMEET

Last month, the American Institute of Architects went through the same sort of motions it has been going through, annually, for the past 104 years. This time its national convention took place in Houston, Texas, and the motions were no more and, really, no less graceful than they had been in all those interminable years before. Specifically, the AIA Convention:

- elected Arch Rogers to be the next First AIA Vice-President, which makes him next-in-line for the AIA Presidency, a

job he will inherit in about 18 months, and which he needs about as badly as he needs a hole in his head;

- voted almost unanimously to accept the recommendations of the Institute's National Policy Task Force, which were written (in great part) by Rogers. The recommendations called for public policies to change the ground rules that shape or distort American communities; for the creation of a new scale in the development of urban as well as suburban communities; and for a national commitment to a major land acquisition policy to guide development in and around key urban centers. The Task

Force recommendations may be obtained by all interested parties by writing to the Octagon, Washington, D. C., 20006, and they make thrilling reading;

- expressed regret that Texas Senator John Tower, who was to keynote the Convention, more or less, couldn't make it because he was, apparently, too busy in Washington confirming Richard Kleindienst who, in turn, was busy prosecuting the AIA for insisting upon high standards of professional service (see editorial);

- listened, enraptured, to Rene Dubos, who spoke eloquently, and very convincingly, and delightfully, about the human condition; with which he is probably more familiar than any of his listeners;

- assembled at innumerable drunken parties enlivened—or, more properly, resuscitated—by the appearance of rubber-bullet sharpshooters, rodeo stars, Mexican serenaders, and hot-pants cowgirls;

- went shopping at Neiman-Marcus, and skating in the adjacent, glass-roofed Galleria;

- invaded the Astrodome, illegally;

- inspected the Rothko Chapel, reverently;

- and rode up and down the glass-walled elevator attached to the outside of the Warwick Hotel, interminably.

To some, the Convention was not a total loss: that charming leprechaun, Michael Scott, from Dublin, was given some sort of medal—Honorary Fellow, if memory serves—and he enjoyed it hugely, and everyone enjoyed his presence.

When the Houston Convention adjourned on May 10, several hundred participants decamped for Mexico City, to attend the second installment. None of those people have been heard from since.

A BOW TO RESEARCH

Christopher J. Alexander, professor of architecture at University of California, Berkeley, has been honored by the AIA with an award which was created expressly for him: the Research Medal. Professor Alexander, who directs the Center for Environmental Structure in Berkeley, said, in his letter of acceptance, "... In my mind research is a rather dangerous word. It implies careful and

deep inquiry into the nature of human events in buildings and towns—which we need very badly . . . but the word also implies that there is an activity, separate from design, which can be expected to yield fruitful results. I don't believe that. Research, divorced from design, is almost always dry and lifeless. The only kind of research which I consider worthwhile is carried out within the actual task of planning and designing towns and buildings, constantly being enriched by actual experiences."

SERVATION

THE MET TO THE RESCUE . . .

New York's Metropolitan Museum of Art, salvaging what it can of condemned Midwestern landmarks, has bought Frank Lloyd Wright's Francis W. Little House, built in 1913 on a slope above Lake Minnetonka near Minneapolis.

Set to bite the dust in favor of a "new" French chateau-style residence, the house, called "Northome" by its original owners, is being carefully unbuilt and boxed for shipment to New York, where its cavernous living room and furnishings will have the place of honor in the Museum's proposed American Wing by Architects Kevin Roche and John Dinkeloo. Other parts have been purchased by museums across the country; in particular, the library, which will go to Allentown, Pa.

As usual, high taxes and ris-

ing land values were cited as reasons for tearing down the structure. Not so understandable was the present owner's desire for something more "traditional" than the 60-year-old "prairie house"—one of Wright's last before leaving for Japan and the Imperial Hotel (at which the Metropolitan refused to take a second look several years ago). Not so forgivable was the local apathy that allowed the house to slip away. It is high irony, indeed, that Minneapolis, whose business community has become about as culture-conscious as you can get, couldn't scrounge up enough to keep this building *in situ*.

Architects John Howe (Minneapolis) and Edgar Tafel (New York), recalling none too pleasantly that every last fragment of the Imperial Hotel ended up as landfill, sent up rescue flares which, fortunately, the Metropolitan saw in time.

. . . OR IS IT TOO LATE?

The sign in the picture might have read: "Help! Angels needed."

There is a prayerful show underway at the Metropolitan Museum of Art: ART AND LANDSCAPE IN ITALY: TOO LATE TO BE SAVED? (Through July 4.) According to Roberto Brambilla, who put it together, it isn't too late, but time is running out.

The problem is not unique to Italy, of course. Cultural and economic interests are doing battle all over the planet. Timeless values are being sabotaged by short-term profiteers; mer-



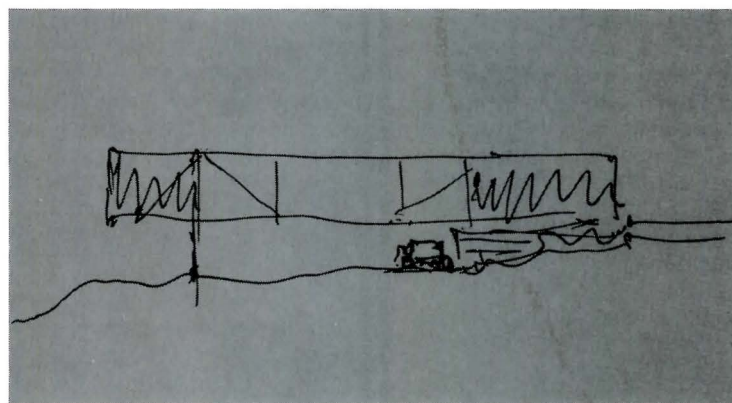
Heaven help Italy

cantile mercenaries are disfiguring man's cultural heritage with the same mindlessness which recently ravaged the *Pieta*.

For Italy, the ravages may be far less repairable. The message is simple: unless economic interests can be made to understand that culture can, in fact, pay off, it will not be too many

more years before our access to its art and landscape will be as superficially celluloid as "The Gardens of the Finzi-Contini."

The exhibit will be in Pittsburgh this October, and plans are being made to show it in several other major cities, many of which could use some angels of their own.



Mies' sketch for steel and glass house

A LITTLE HELP FROM FRIENDS

Ludwig Mies van der Rohe died in 1969 leaving behind a legacy of several thousand drawings and documentary materials, which he bequeathed to the Museum of Modern Art in New York. To assist in the formidable task of the preservation, study and publication of Mies' work, The Friends of the Mies van der Rohe Archive was formed in Chicago where he had his headquarters. Myron Goldsmith, senior partner of SOM, and chairman of the organizing committee, has listed

the members—Philip Johnson, New York; Phyllis Lambert, Toronto; Dirk Lohan, Chicago; John Rodgers, San Francisco; Gene Summers, Chicago; James Johnson Sweeney, New York—all are former students, collaborators, or friends of the late architect. Ludwig Glaeser, who proposed the Archive in 1968, was appointed curator of the Archive by the MOMA, which intends to encourage participation by students in the study of Mies' work in an active program of research and publication.



From Minneapolis to Manhattan . . . the Little goes a long way



BORROW THE AMERICAN PAST

The National Trust for Historic Preservation has prepared a photographic display on the threats to the architectural heritage of America. The ten-panel show illustrates what is happening to this heritage and what can be done to save our landmarks. They will loan the exhibit to interested groups, who pay the postage one way. The panels are approximately two ft. by two ft., and the ten frames unfold into a standing screen. The package weighs 200 lbs., and the cost of shipping may vary from \$10 to \$60 depending on where it has been last. Six copies of the show are now traveling. Write: National Trust for Historic Preservation, 740-48 Jackson Place, N. W., Washington, D. C. 20006.

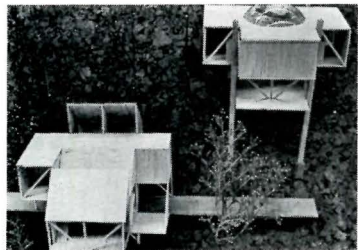
PRIZES

ALUMINUM AWARDS

The 1972 Reynolds Aluminum Prize for Architectural Students went to Darlene S. Jang and L. Wayne Barcelon of the Universi-



Winners, with Prof. Peters

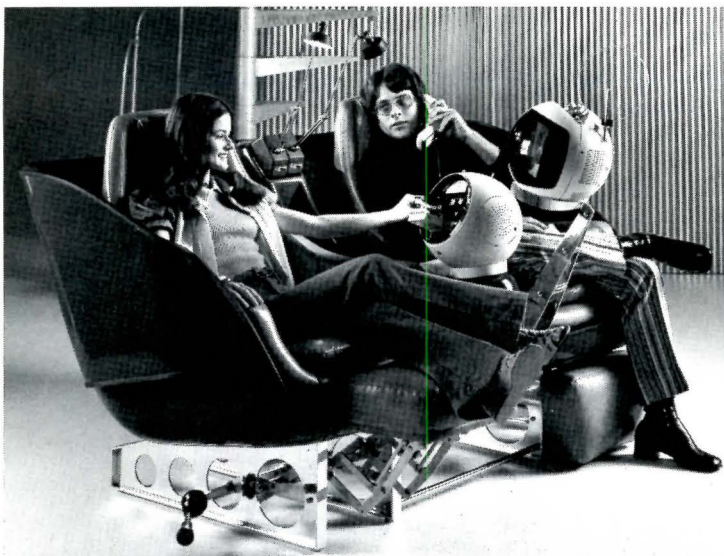


ty of California for their design of a modular truss housing system.

Their entry, which was one of 37, utilizes an aluminum space frame concept, which allows relatively large cantilevers because of its light weight, thereby reducing the number of footings required. The walls are non-structural.

DREAM MACHINE

Last month, the world of home-furnishings was presented with the winning designs selected by a jury a year ago from hundreds of submissions prepared by students in four leading eastern U.S. schools of design. The



"Double Chair" for the '70s; seatbelts and backseat are optional

competition had been sponsored by Sachs New York, and the jury consisted of John Entenza, then Director of the Graham Foundation; Paul Rudolph, Architect; Paul Smith, Director of the Museum of Contemporary Crafts, Edward Frank, Designer; and Peter Blake, Editor.

The entry that attracted the greatest attention was the Second Prize winner (above), a so-called "double chair" designed by Jon Daifuku, a student at the Rhode Island School of Design. The "double chair" is best described as a pair of bucket seats adapted from an early Alfa Romeo, and equipped with a TV set, stereo, radio, cassette player, built-in telephone, reading lights, and gear shifts that adjust the seats. It is, without doubt, the most astonishing environment produced by any designer in recent years, and lacks only seatbelts and a built-in bar to make it the complete American Dream Machine. At a little over \$2,000, it seems like a bargain. The manufacturer would, however, be well-advised to offer an optional backseat where to consummate whatever may have been started up front.

CONSERVATION

RIGGING FOR RUIN

The oilmen, drillers, miners and land speculators have been trudging the tundra of Alaska's North Slope, where vast reservoirs of oil and gas were discovered in 1968.

Four years, and a nine-volume environmental impact statement

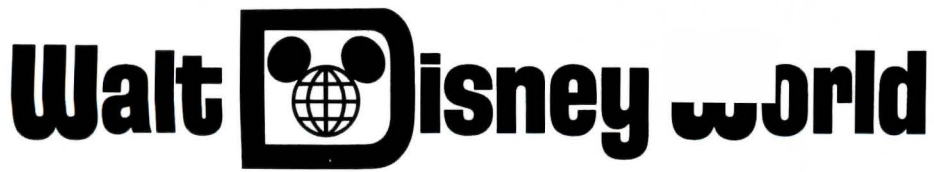
later, the Department of the Interior has given the go-ahead on construction of the controversial 800-mile-long pipeline which will, among other things, be susceptible to rupture by earthquakes and upset the breeding habits of the caribou.

Right now, the tugboats, cranes and oil rigging of the Alyeska Pipeline Service (to whom?) Company, having been locked into the Long Night at Prudhoe Bay, are poised (along with several hundred workers) for the pipedream, which will wind its way south to Valdez on Prince William Sound—later to be named Prince William Spillage.

With ten billion or more barrels of oil beneath the permafrost, the seven oil firms involved have heralded the Administration's decision and are predictably incensed by the court fights which may yet ensue. They are further incensed by the Eskimos who, invoking "aboriginal title" to the land the pipeline will run through (almost 60 million acres), got their say and a good deal of cash. As it has turned out, these quick-cash oil interests are, intellectually at least, far more aboriginal than the Eskimos.

What has a lot of Americans (including several at Interior) upset is the Department's refusal to encourage debate on the points made in its own impact statement. Sounding as though some Alaska congressman had just reminded him of the \$900 or so million in oil lease fees already paid out by the slicksters, Undersecretary William Pecora noted that any public

(continued on page 65)



In a great many respects, the most interesting New Town in the U.S. is Walt Disney World, 20 minutes southwest of Orlando, Florida, on Interstate Route 4.

It is interesting not only because it is huge—27,000 acres, or twice the size of Manhattan (or twice the size of Columbia, Md.)—or because it is so well financed (\$400 million invested to date, as compared with \$100 million for Columbia, and \$85 million for Reston, Va.); or because it is so unabashedly corny (i.e., such really enormous fun). It is interesting also, or even primarily, for what it can teach every architect, planner, and urban designer about any number of things that may have escaped his or her attention in the past—to wit:

- WDW is the first New Town in the U.S. fully equipped from the very start with a fast, quiet, beautiful and efficient mass transit system (the Alweg



MAGIC KINGDOM

First comes the frosting on the cake—the 100-acre amusement area that is the *raison d'être* for all the rest: The Magic Kingdom, a wonderful piece of unmitigated nonsense, divided into six smaller slices of nonsense—Adventureland, Frontierland, Fantasyland, Main Street, Liberty Square, and Tomorrowland!

What the designers of the Magic Kingdom did not, apparently, realize, is that the Tomorrowland they have created is, in fact, everywhere—though it does not always meet the eye. In the Magic Kingdom, for example, the *real* Tomorrowland is a vast service basement that no regular visitor ever sees—a huge “infrastructure” of the sort that all urban designers dream about, but few have ever been able to build. The *real* Tomorrowland, also, is a network of mass transit facilities—trains, electric vehicles, sky-buckets, etc., all propelled by nonpolluting fuels—of the sort that urban designers like Midtown Manhattan's Jaquelin Robertson have fought for years to introduce into our Central Business Districts (so far without success.) And the *real* Tomorrowland also is an RCA-designed electronic communications system that makes all of WDW operate like clockwork, a highly innovative power plant that supplies much of the needed energy, and a great deal more.

Meanwhile, the part of the Magic Kingdom that does meet, or dazzle the eye is full of unexpected and intriguing insights into urban design as well. The scale of all the cute little fake-facades is deliberately small—usually 7/8th that of the real world at pedestrian level, and smaller as you go up, to create an illusion of greater height; the spaces formed by these fake-facades—the streets and squares—are also smaller than those of the real world; smaller than those of the automotive world, anyway, but very appropriate to the world of the pedestrian, much more comfortable, in fact, than the scaleless scale of most of our mammoth “Pedestrian Plazas” that urban designers tend to manufacture whenever they run out of ideas. Mel Kaufman, the highly unconventional builder of a number of seemingly daffy Manhattan office buildings, thinks that every architect



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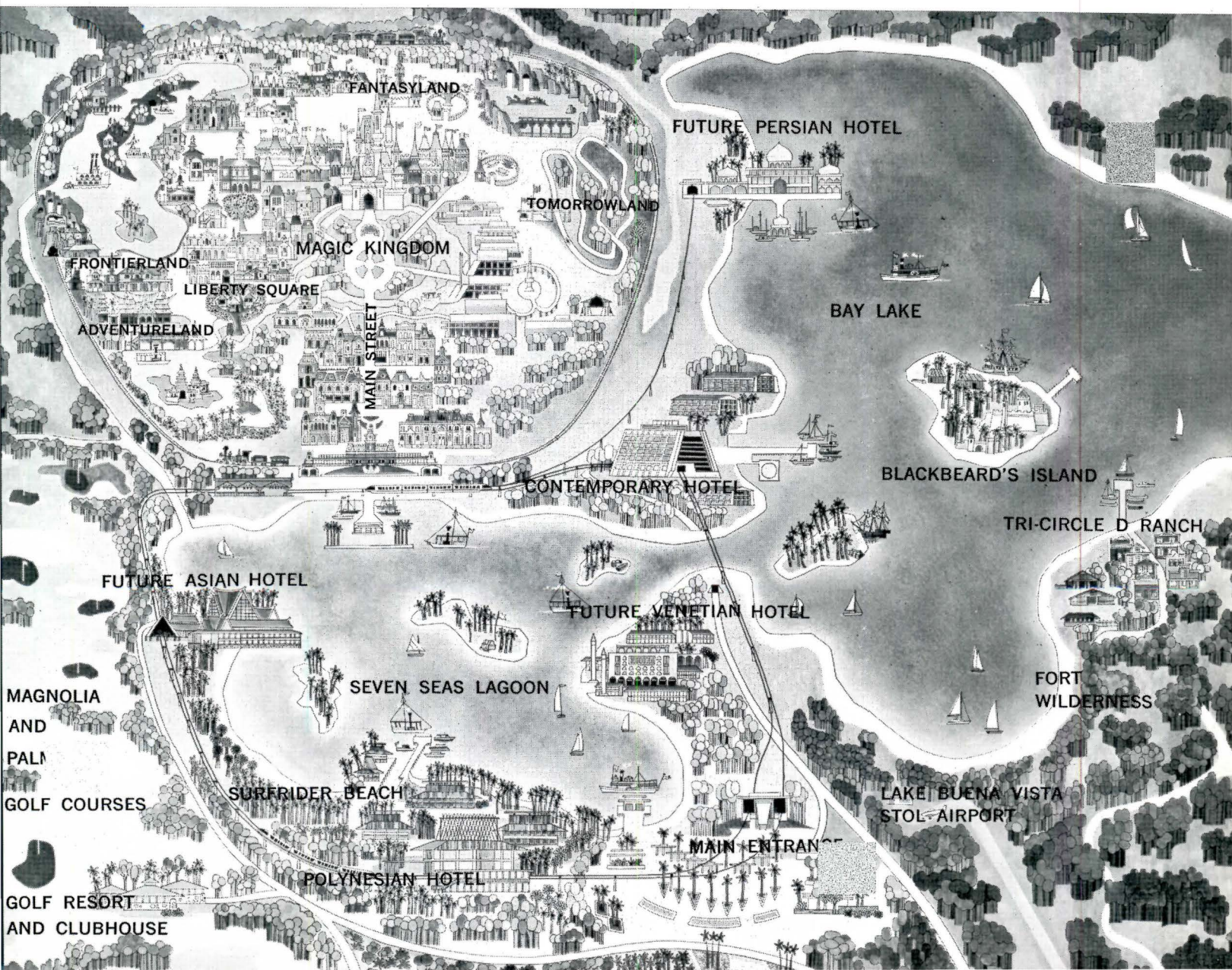
13 Skyride over Fantasyland. 14 One of three Mickey Mice that patrol Main Street in shifts. 15 City Hall near railroad station. 16 Steamboat landing and monorail route at the foot of Main Street. 17 Site rendering of the Magic Kingdom and theme resort area.



14



15



ought to take a long and careful look at WDW. "What is Main Street?" he asks. "It is an ordinary shopping center where they sell souvenirs, film, rent strollers, sell ice cream, have a movie house—all functioning as any ordinary shopping center. Except it's a stage set of Main Street circa 1900. Now that's not architecture, is it?"

Maybe not, but Kaufman and many others think it works better than conventional architecture. "Why create 'architectural validity' in a silly thing like a shopping center?" Kaufman asks.

Disney's Main Street does not really depend for its effectiveness upon those fake-facades of plastic, glass fiber, paint and other kinds of pop sauce—although all of these are handled with the consummate skill of a superior stage designer. It is the scale that matters, and the thoughtful little amenities that make Main Street a pedestrian's pleasure. "You can walk around Main Street all day and never end up having aching legs," Kaufman points out. "The walks are paved with a resilient asphalt product—and the black asphalt is then painted with red, blue or green stripes." In addition to resilient walks there are places to sit and contemplate (even while lining up to watch those far-out, laser-beamed holographic ghosts in the Haunted Mansion, or to converse with the computerized, vinyl-clad 37 U.S. Presidents in an exhibit called One Nation Under God); and there are all the facilities and services to encourage and insure cleanliness—a sanitation man's dream.

Main Street is, in short, a very interesting lesson in pedestrianism, and how to encourage it and make it flourish once again. It is Hollywood's—indeed, everybody's—answer to Detroit, and it is infinitely effective because the answer is not couched in the terminology of the do-gooder, but in the funny squeaks of Mickey Mouse.

Still, it is the vast infrastructure that supports all that frosting above grade which will impress every urban designer.

The creators of the Magic Kingdom had to make some very logical decisions: the 27,000-acre swamp they had bought had to be re-structured to support anything more attractive than alligators. So the Magic Kingdom had to be built

on top of some kind of elevated platform, if only to keep those alligators out of the streets. Solution: excavate a huge, 200-acre lake (to be known as the Lagoon of the Seven Seas—and to be equipped with surf-making machinery); use some of the resulting, chemically stabilized fill to create a more contoured landscape (which would, incidentally, conceal the few motorways in sunken cuts—as, for example, at Chandigarh); and use the rest of the fill to raise the level of the Magic Kingdom. Building a vast service basement under the Magic Kingdom reduced the amount of fill needed to prop up the amusement area, and produced an efficient infrastructure to service the activities above.

Such an infrastructure was badly needed, not only to house all the utilities and electronic nerves that serve the Magic Kingdom; but also to distribute people and equipment to the proper above-ground amusement areas. For example, it just would not do to have an "American Indian" surface in Tomorrowland, on his way to a wigwam a quarter-mile away. The infrastructure permits him to surface in Frontierland, and to drop out of sight, ditto, when his shift is over.

This same infrastructure also contains tailoring workshops that can service the 6,000 costumes presently on the racks; it contains cafeterias for employees, laundries, drycleaning establishments, offices, and innumerable utility stations. The tunnels that crisscross the infrastructure are wide enough to accommodate electric cart-trains that carry supplies from the warehouses to the service basement, where all the mechanical and electrical service lines are readily accessible to repair crews.

Developer Mel Kaufman, clearly in a state of permanent euphoria upon his return from WDW, said that the entire place was computerized. "Yet the people control the computer; it works for them." For "computer" read "infrastructure," and Kaufman is quite right. Those WDW staffers who will reluctantly show a persistent and inquisitive architect around the Magic Kingdom's basement are apologetic. "These are just the works," they tell you. "They really aren't very important."



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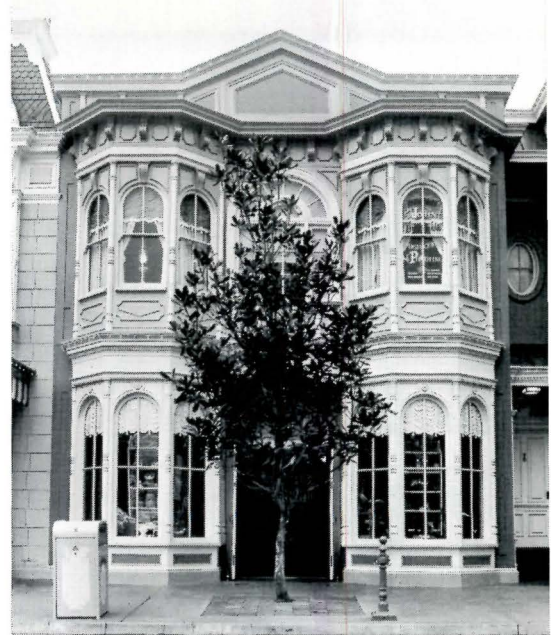


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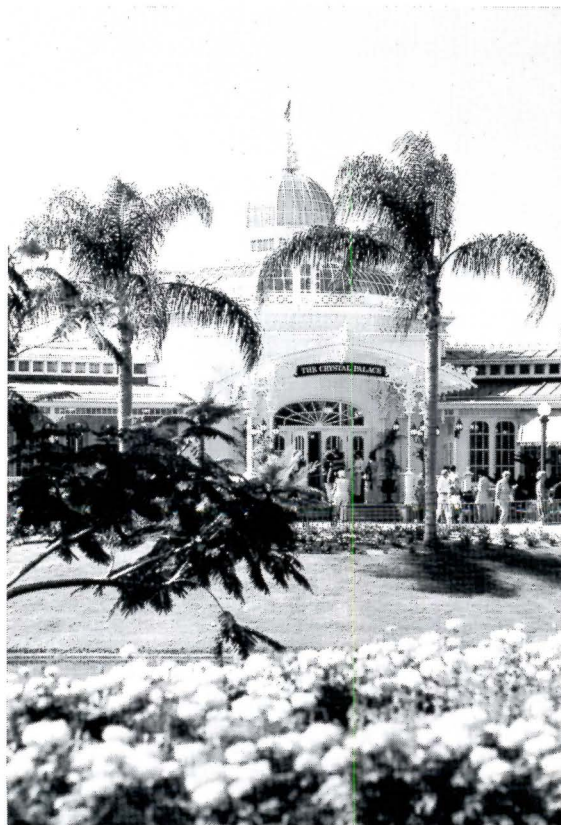


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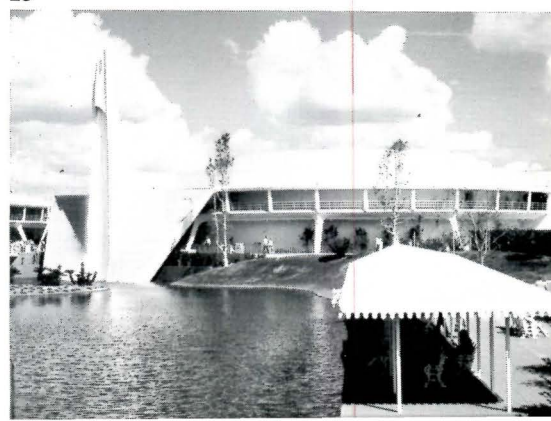
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18 Train station on Main Street. 19 The Seven Dwarfs visit Cinderella's castle. 20 Cinderella's castle towers over Main Street. 21 Part of the eight-acre service basement that underlies the Magic Kingdom. 22 Liberty Square. 23 Crystal Palace. 24 Main Street. 25 Adventureland. 26 Tomorrowland.



TRANSPORTATION

Phase I of WDW was completed last October, precisely on schedule. It is reached by car on broad expressways or by STOL aircraft from Orlando. (WDW has the first STOLport in the U.S.) Once you enter WDW, you find yourself in one of several huge parking lots, strategically located on the perimeter of the property. The principal lot accommodates 12,000 cars and is next to the Main Gate that leads into WDW. Here you buy a ticket, and proceed by a number of transportation systems to your destination.

The most spectacular of these systems is the familiar Alweg Monorail, which operates on a wide loop that links hotels and parking to the Magic Kingdom. The Monorail is sleek, quiet, and swift; it shoots past the Polynesian Village and right through the huge A-frame "Contemporary" Hotel. Its loop was designed for future expansion. It is a neat job, very clean, with doors that open out simultaneously the way the Rockettes kick their heels.

In addition, WDW is served by a steam-powered railroad, by electric carts, by boats, buses and submarines. Its fleet—200-odd ships—is the ninth largest navy in the world; and the docks that service that navy are quite impressive in size and in equipment. WDW's submarine fleet is of the Jules Verne variety.

While the Magic Kingdom is a pedestrian's paradise, *par excellence*, the many comfortable land-, water-, and air-borne transportation systems randomly available make it easy for the visitor to change pace, and take off in any one of several directions when the spirit moves.

There are, of course, some service roads used by trucks and by cars operated by the management. But these roads are secreted among the artificial hills. Some of them tunnel under the waterways, in delightful disregard for the laws of nature.

The master plan for WDW covers the next 20 years, and includes the construction of a so-called "Jet Airport of the Future," which will employ 400 people over and above the present complement of 12,000 who work in WDW. The new airport will permit Disney fans to jet directly to WDW without stopping over in Orlando.

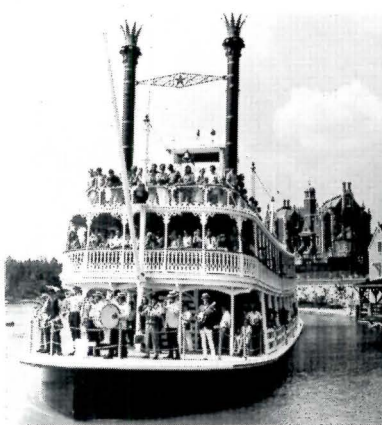


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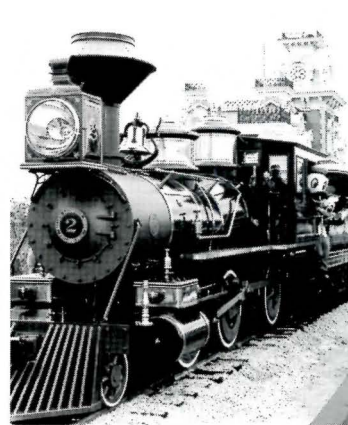
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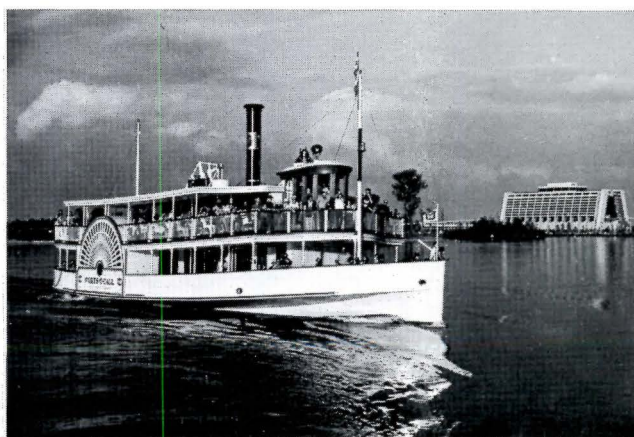
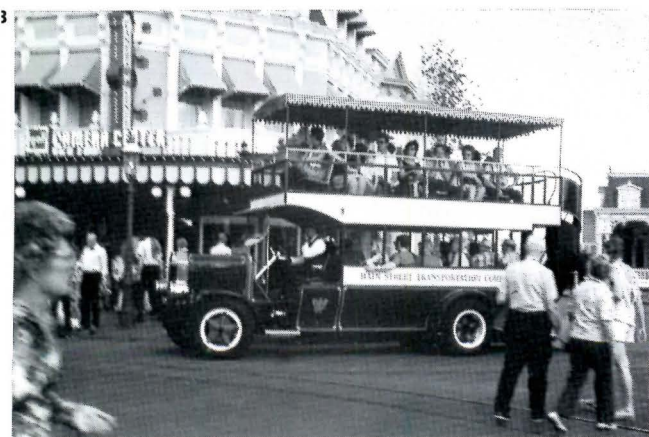
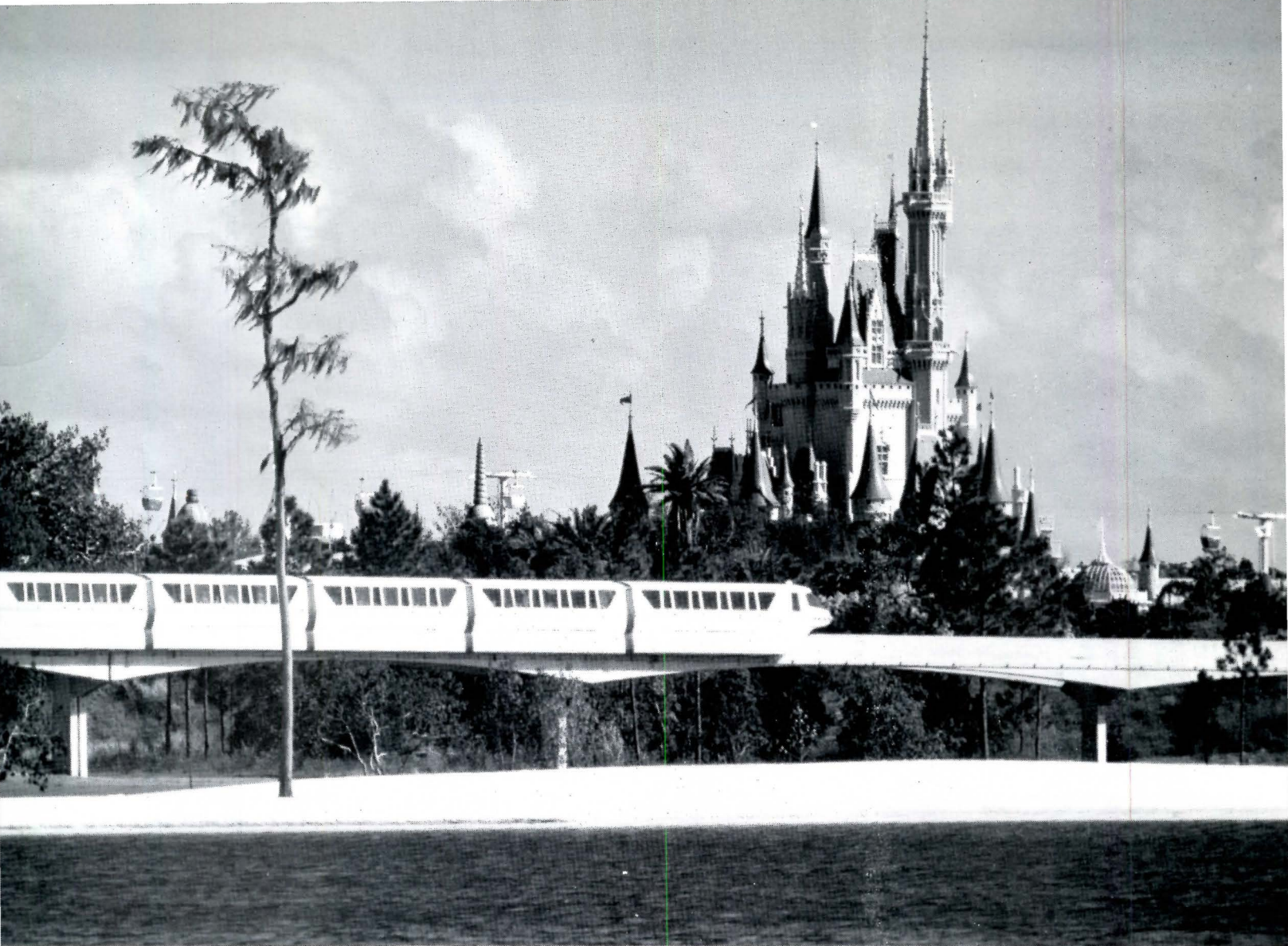


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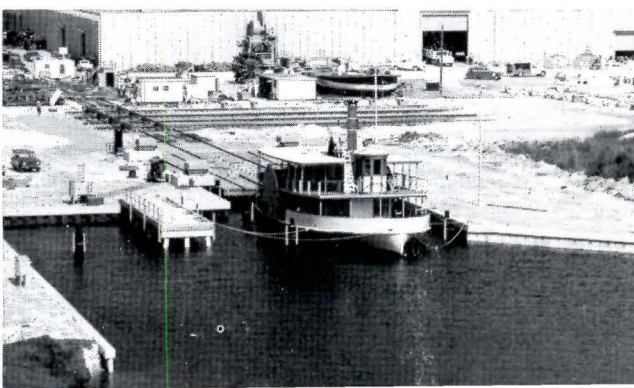
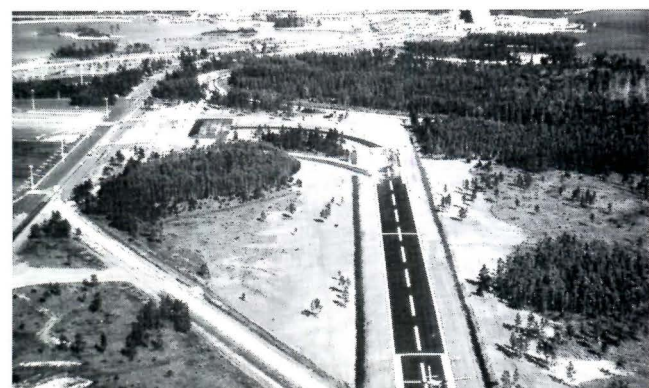


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27 Jules Verne Submarine. 28 Standard electric cart used for baggage transport. 29 Steamboat. 30 Refurbished engine from the Yucatan, with Donald Duck and Mickey aboard. 31 Central parking lot for WDW, with Main Gates and Monorail Station. 32 Monorail. 33 Bus in Magic Kingdom. 34 First STOL Airport in the U.S. 35 Steamboat tour of the theme resort area. 36 WDW's own repair dock for WDW's navy.



35



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So far, only two hotels have been built in WDW—both designed by Welton Becket & Associates. The first of these is the A-frame Contemporary; the second is the vaguely Bay-Area Polynesian Village. Before long, there will be another three or four—among them one described as “strongly Thai in its motif”; another described as “Venetian”; and a third labelled “Persian-style.”

Like almost everything else at WDW, these buildings are slightly grotesque, but only slightly. The Contemporary job contains a really fabulous space, ten stories high, traversed by the Monorail (whose carpeted platform doubles as a stage from which guests are serenaded by Latin-American bands); its only flaw is that it has been decorated in a style best described as Louis-the-Who (or Italian Easy-Payment Provincial). The Polynesian Village is, in some ways, almost better: the Monorail station is contiguous to it, and the buildings are motel-scaled pavilions, casually linked by paths and bridges, and tied together with some very pleasant landscaping that includes pools animated by artificial waterfalls, and by underwater Muzak.

So much for that. What makes these hotels really important is that they were very largely prefabricated. U.S. Steel decided to build a plant in one of WDW's industrial areas; and this plant has been turning out completely prefabricated, steel-framed, and thoroughly wired, plumbed, sprinkled, illuminated, furnished, carpeted, and otherwise acoustically treated modules measuring 14½ ft. wide, 8 ft. tall, and 39 ft. long, at a rate of almost a dozen a day—until the 1,500 modules for these two hotels were delivered. (Since then, the plant has been delivering modules to motels outside the borders of WDW.)

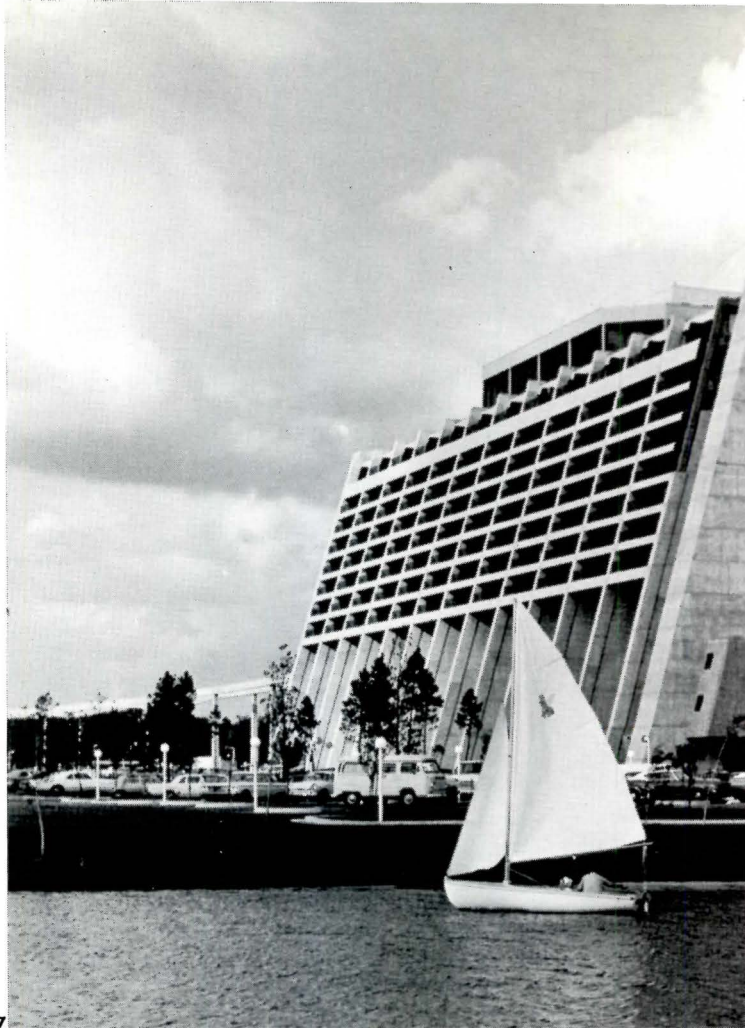
One rather doubts that HUD's Operation Breakthrough, for example, has so far produced as many beautifully engineered, steel-framed modules as were delivered at WDW. Certainly, HUD's modules would not include artificial moonlight, on dimmers. (WDW's modules do.) U.S. Steel, at WDW, had certain advantages over Break-

through; for example, the U.S. Steel modules could be 14½ ft. wide, because the Disney people wrote the road regulations; whereas, on all other public roads, the maximum width would be 12 ft., or less for wheel-borne modules. Anybody who has ever tried to design a housing module knows that this extra 2½-ft. width can make or break a box-built system. Although WDW could bend some of the regulations that restrict prefabbers in the real world, there was no lowering of standards. If anything, the WDW modules meet fire-safety requirements that are more rigid than those applied outside WDW.

Prefabricated room modules are the most visible examples of technological advance at WDW. There are other examples, less visible, though perhaps more significant. A combination of systems has been created to avoid or minimize air, water or thermal pollution, for example.

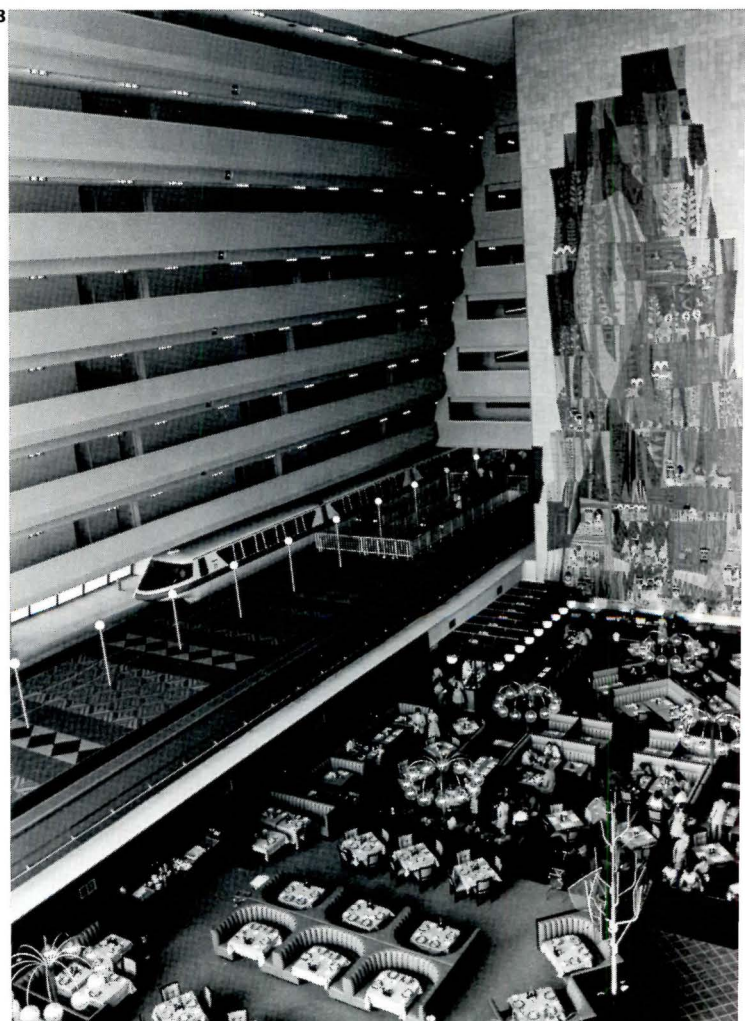
Some of these systems have been mentioned above: an underground pneumatic tube system for litter; a modern incinerator that cleans its own stack emissions; a tertiary sewage treatment plant that removes 97 percent of suspended solids; a “living farm” of trees and plants to filter waste water “naturally” after it leaves the sewage plant; and a gas-fired jet engine energy plant that recycles waste heat and uses it to cool many of the structures at WDW.

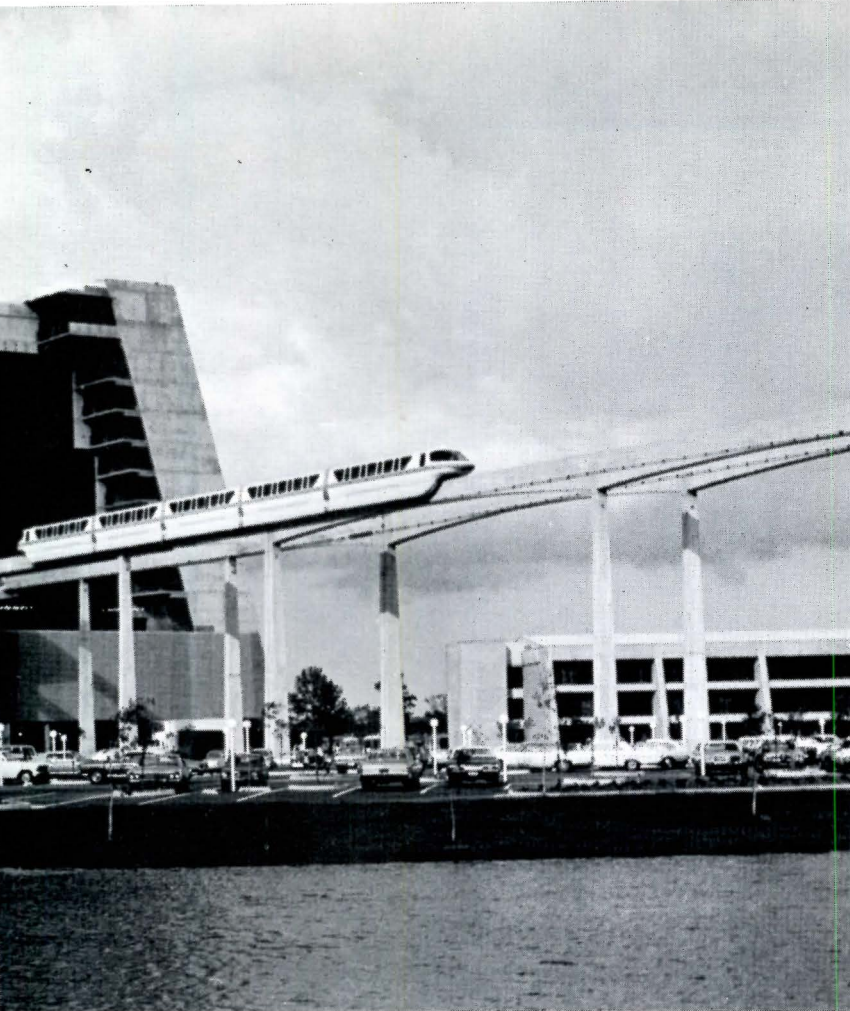
The Swedish-designed pneumatic garbage system (called AVAC) has 15 stations throughout the resort area and the Magic Kingdom. WDW attendants take plastic trash bags from the conventional trash containers scattered throughout the area to the nearest AVAC station, drop the bags into a seemingly bottomless pit, whence the bags are whisked away underground to a compaction plant at 60 mph. The system, at present, has 6,000 ft. of 20-in. dia. piping, all of which leads to a surprisingly small compacting plant at the edge of the Magic Kingdom. The system is automated, and operates in carefully timed cycles. There are several safety features, presumably to assure that the system will not inhale small children placed in the vicinity of an intake by the vicissitudes of fortune or by pleasure-crazed parents.



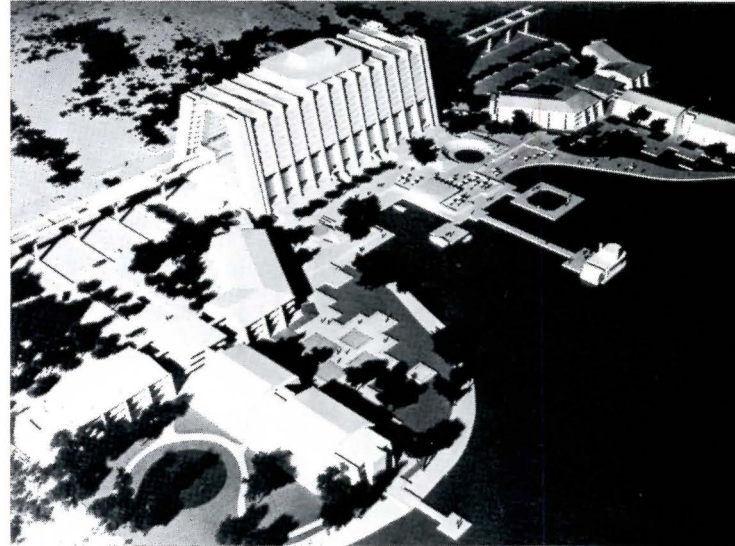
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37 Monorail emerging from the lobby of the Contemporary Hotel. 38 Lobby and monorail station inside the Contemporary Hotel. 39 Contemporary Hotel site model shows three-story units around swimming pools, all of which are now completed. 40 & 41 Polynesian Village Hotel, with a roof of weathering steel, is connected by bridge to monorail station. 42 Atrium inside the Polynesian Hotel.

40



41



42



After compaction, the garbage and other wastes are incinerated in a plant equipped with the most effective filters and wet scrubbers available. These capture the fly ash, so that nothing but clean steam is emitted from the plant's smoke stack. The scrubbers use waste water from a nearby tertiary sewage treatment plant, and this water is then recycled back to the plant. There, any residual fly ash can be used to help clean the waste water.

The tertiary sewage plant works by the so-called activated sludge process, which removes 97 percent of all suspended solids. The effluent is chlorinated, then fed into the upper areas of the swamp waters of the conservation area (see p. 38). Some of the waste water is eventually channelled into the irrigation ditches of the so-called Living Farm.

That farm was developed by the University of Florida's Institute of Food and Agriculture Sciences (IFAS) in association with WDW scientists. It is an experimental waste water recycling system that relies on the natural filtration capabilities of trees and plants.

Initially, this Living Farm consists of about 100 acres, which are fed by the waste treatment plant. It currently processes about one million gallons of waste water a day, but this is expected to increase to ten million gallons daily as WDW is further developed. Eventually, roads will be built through the Living Farm so that visitors may tour it.

The energy plant is supplying half of WDW's power, using recycled waste heat for its cooling system. Heat supply is being generated by two 6,000 kw gas turbine generators, and the waste heat from these passes to large boilers, which produce high-temperature hot water. The hot water, in turn, energizes four 150-ton absorption chillers, and the chilled water is then piped to the Magic Kingdom and the hotels.

All of this and more is electronically supervised by a "total network" information-communications system that will eventually tie all of WDW together by means of computers, closed-circuit TV, and telephones. The control center for this system is shown at bottom, right.

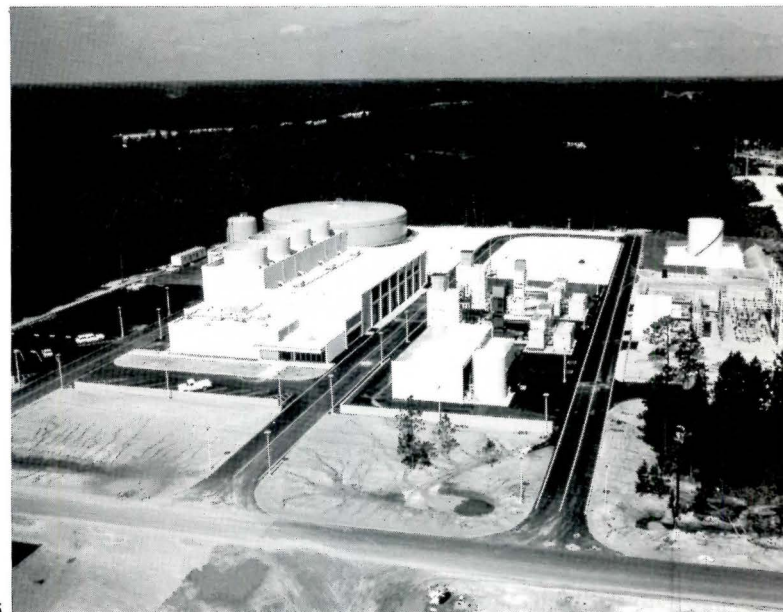


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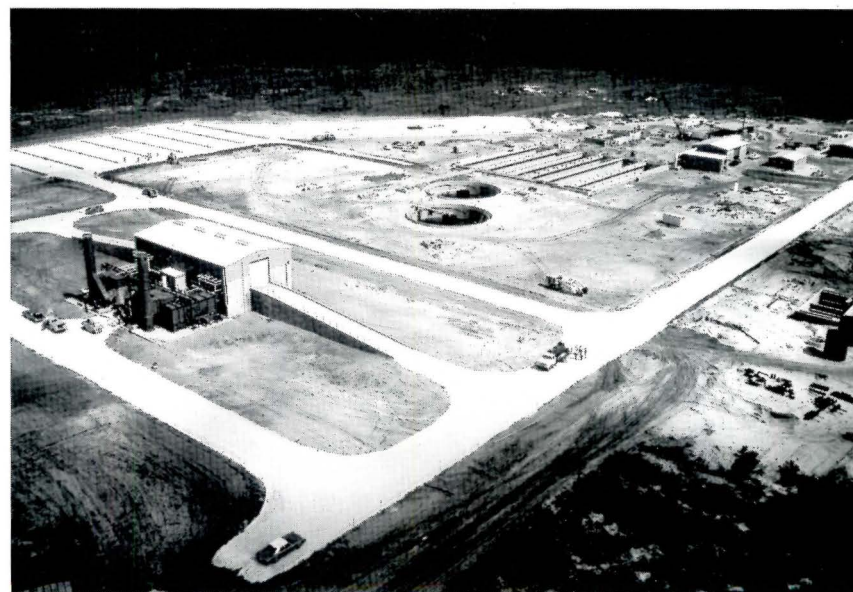


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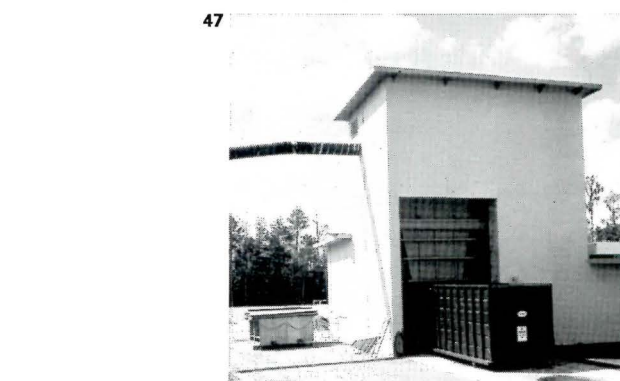
43 Hotel module en route to Disney site. 44 Interiors are completed when the module leaves the factory. 45 Power plant complex. 46 Sewage disposal facilities. 47 Compactor terminal for pneumatic garbage system. 48 Communications and computer center. 49 Hotel module is plugged into steel A-frame of the Contemporary Hotel.



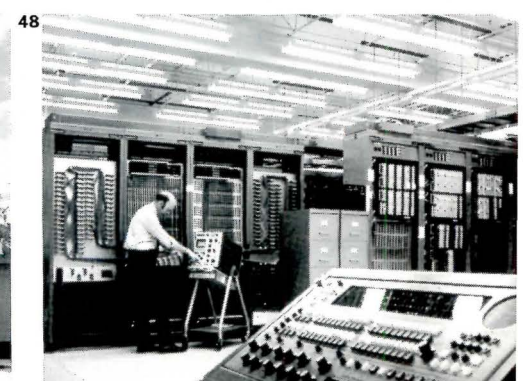
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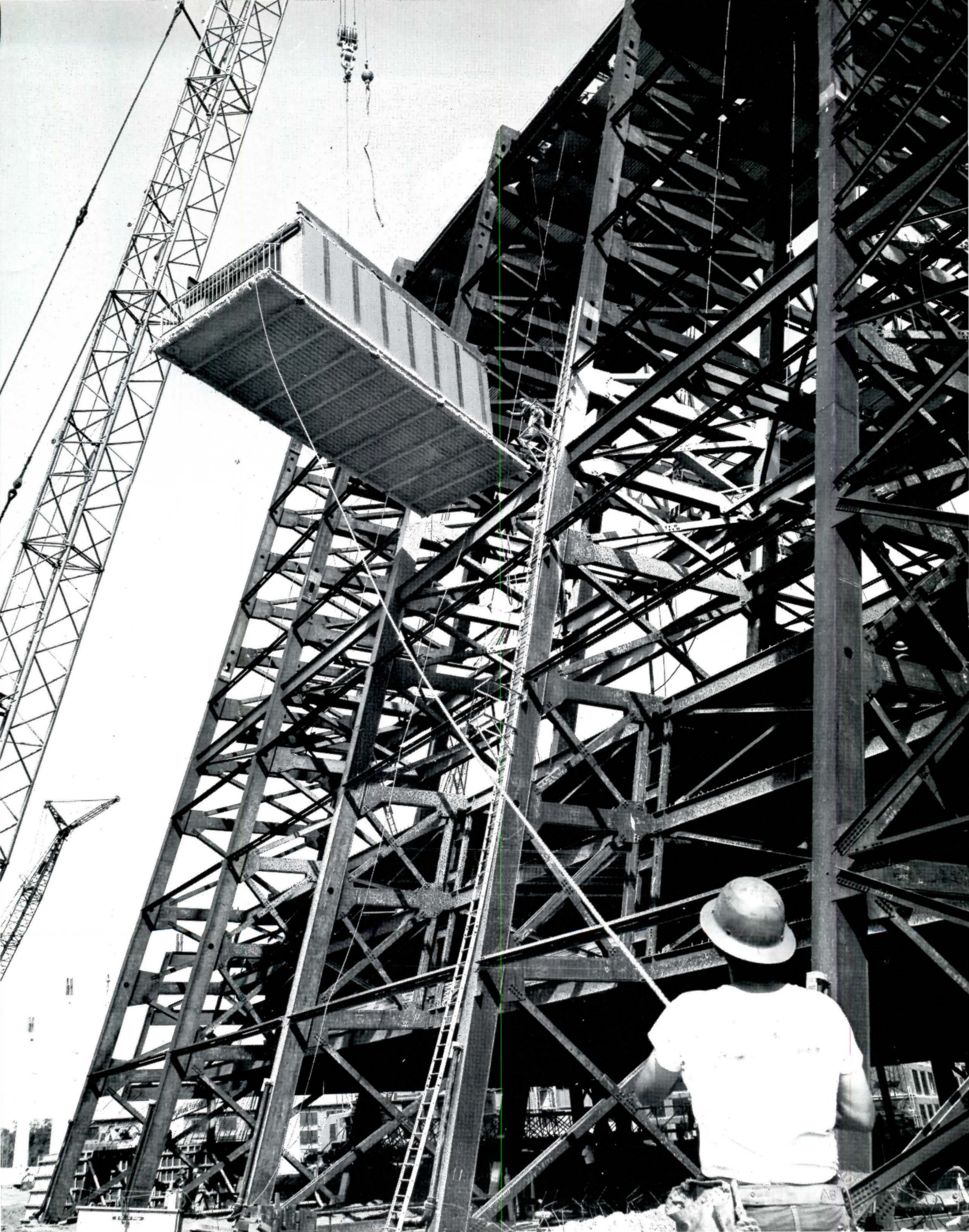


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COMMUNITY

The nearest thing in WDW to a real town is the residential community of Lake Buena Vista, a development of high- and low-rise structures that will, eventually, cover 4,000 acres and house 16,500 full- or part-time residents, and employ 4,000 others. It is not nearly as adventurous as the late Walt Disney's dream of an Experimental Prototype Community of Tomorrow, or EPCOT (see p. 38); but, unlike EPCOT, the community of Buena Vista is both practical, in today's terms; and it is, in fact, under construction.

So far, Buena Vista has four highrise hotel/motel buildings nearing completion—and the architecture is a cut or two above Miami Beach standards. (WDW has ruled out all garish signs.) Buena Vista also has a 20-bed hospital, linked to a major hospital in Orlando by closed-circuit TV, which enables Orlando's doctors to diagnose by remote control; and it has a 10,000 sq. ft., steel-and-glass administration building. An initial development, called the Golf Course Community, has started construction with 27 clustered, neatly planned and neatly designed row-houses (some of which may be operated, experimentally, on dry cell batteries that are a byproduct of the Space Program at Cape Kennedy, 100 miles to the east). 150 additional, clustered row houses, following much the same pattern, will be constructed almost immediately; and, eventually, there will be 2,500 housing units.

The pattern of other development may include homes in jungle cul-de-sacs, houses along the fairways, detached homes and waterfront clusters. At least one high-rise condominium is planned for the harborfront. The clusters will generally have at least five units, as this is the minimum number that the planners feel can provide a sense of community in an isolated location. Neighbors will not, however, face each other. While the backs of the houses will be close, they will be visually oriented to the natural surroundings—whether it is a waterways, lakes, jungle or fairways.

Buena Vista is significant and quite innovative in much of its planning. The governing idea, as elsewhere in WDW, is that the visitor (or resident) arrives

from the real world by car, and leaves it at a parking lot. From there, he or she can proceed by electric cart or similar, non-polluting vehicle, or bike, or horse, to destinations within Lake Buena Vista. More interestingly still, the New York architecture and planning firm of Hart, Krivatsky & Stubee, who were consultants to WDW on this and other areas, has laid out a complete system of waterways.

Waterways at WDW are useful drainage devices, of course; but at Buena Vista, as elsewhere, they are going to double as charming transportation arteries, sometimes winding through untouched woods, in other places lined with row house clusters, restaurants, shops, beaches, golf courses and other recreational facilities. Various kinds of water-borne craft are being investigated, including a floating shopping center, on barges.

Unless policy changes, Buena Vista will be a recreational community, its houses owned co-operatively by individuals or corporations that want to get their executives to relax, occasionally. There may be no schools in the conventional sense, although there will be commercial and office buildings, if demand materializes.

Preliminary plans for commercial development include two kinds of retail areas. The first will be on the water and consist of small-scale souvenir, craft and convenience shops. The second center is planned as a regional shopping district and as it grows, it will probably become the ultimate in multi-level, enclosed mall-extravaganzas.

But, basically, this will be America's first "Second Town"—the alternative life-style that may prove attractive enough to become the preferred one.

Yet, despite the obvious unreality of Buena Vista in many respects, its component ideas and structures do carry some applicable meaning for the real world. It is, like much of WDW, anti-Detroit and "people-oriented;" and the planning, on the smallest scale (i.e., the residential clusters) as well as the broadest is quite as admirable as, or considerably better than that found in more highly-touted New Towns across the nation. Moreover, there are no overhead wires, anywhere!



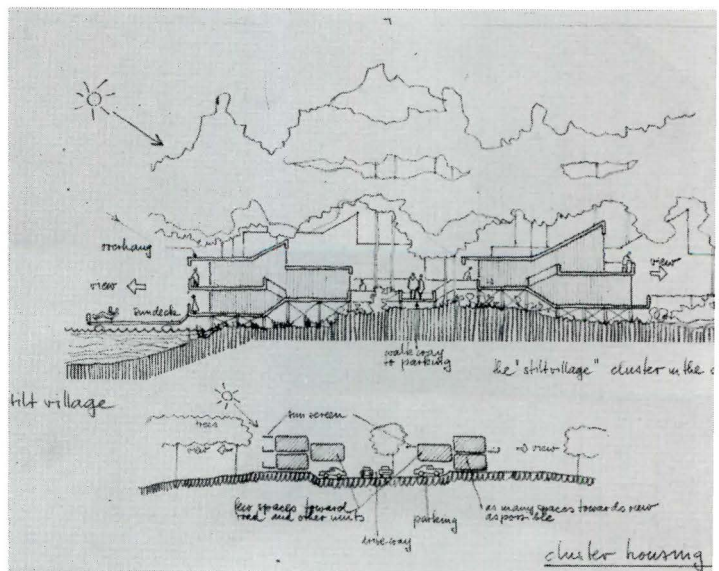
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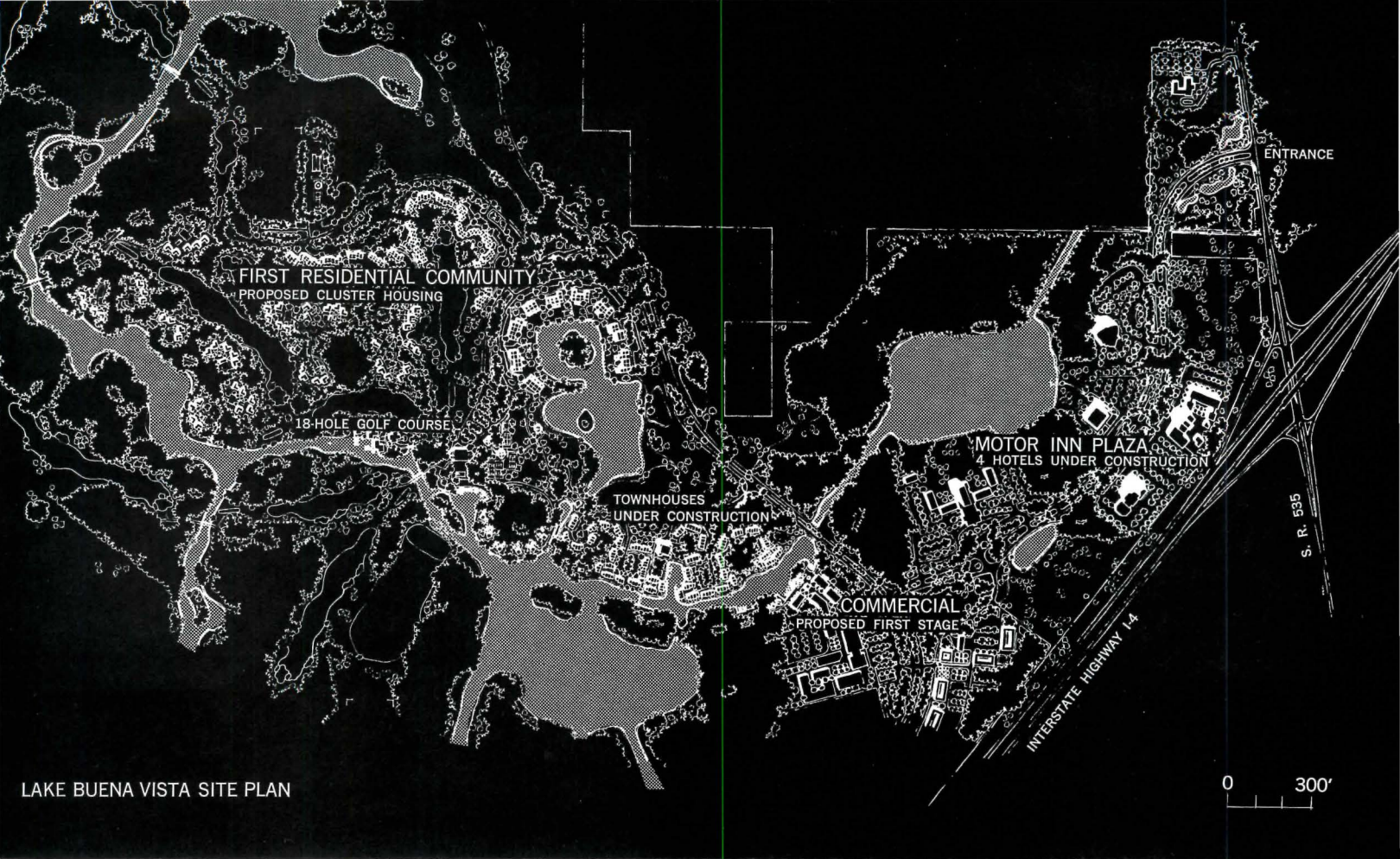


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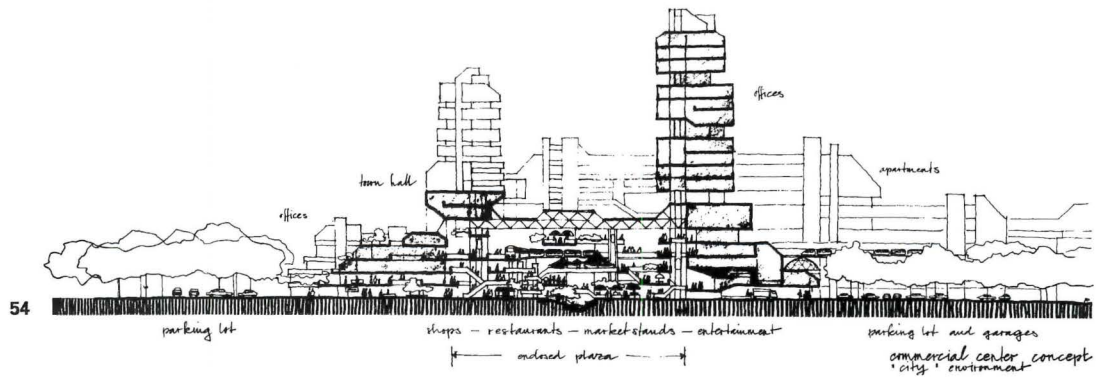
50 Buena Vista townhouse cluster. 51 Waterfront site and private views. 52 Cluster prototype diagrams. 53 Proposed development plan for City of Lake Buena Vista. 54 Conceptual sketch of regional shopping area. 55 Four commercial motels are now almost completed.

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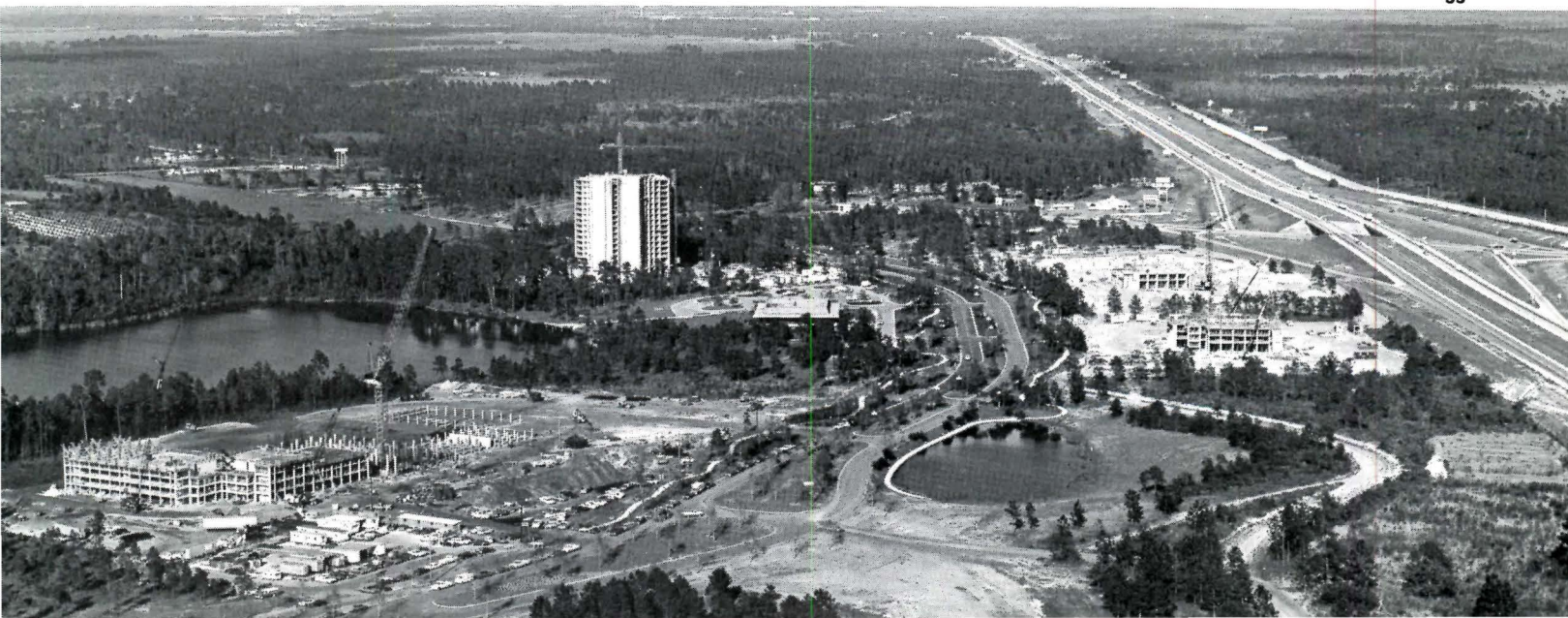




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PLANNING

The purpose of WDW is to make money, and WDW is succeeding in that area beyond expectations. But the late Walt Disney had more important things in mind than making money: he wanted to use the tried and tested amusement park formula to finance some really significant experiments in areas of urban and suburban planning, and of conservation.

For if all that Disney had really wanted was to build another Disneyland in Florida, *a la* Anaheim, he could have done it on 250 acres. Instead, he bought more than a hundred times that much, for \$5½ million, and proceeded to use it to change a substantial portion of the surface of the globe—conceptually, if not quantitatively.

For Disney to carry out a scheme of this sort with any degree of efficiency, he needed almost total control of the operation. To this end, the company went before the Florida legislature, and got WDW endowed with its own governing body, called the Reedy Creek Improvement District (RCID). This body writes its own building and zoning codes, and determines its own utility services and water control systems. (The standards that RCID has set for itself are higher than those in most U.S. communities.)

Planning for WDW followed ecological considerations. The 27,000-acre area was defined by two, primary, natural drainage channels, with a ridge between them. These channels immediately identified the most buildable parts of WDW—the Magic Kingdom would be located on one naturally high ground, and Buena Vista on another.

Central Florida's primary, ecological concern is water. In the summer, 75 percent of WDW would be under water; in the dry season, 25 percent. The planning goal was to make most of the dry season areas dry all year around; and to achieve this, a sophisticated drainage system was designed and built to keep three-fourths of WDW dry, year-round, without unduly lowering the water table and thus adversely affecting the total ecology of the area.

The water reclamation plan implemented by RCID in 1967 involves 40 miles of canals, and an expenditure of \$7 million.

The canals curve so as to follow natural stream threads; when they are properly grassed and mulched, they will look and function like natural rivers.

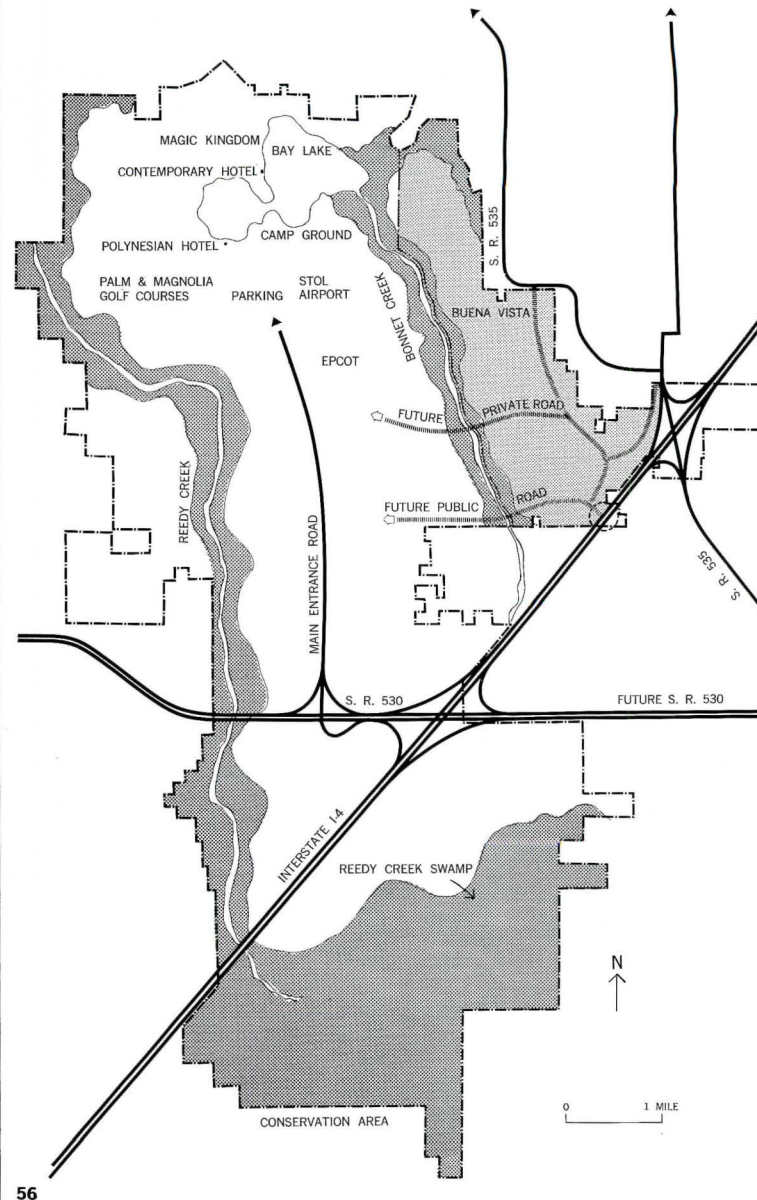
While this water control system was being constructed (using some highly sophisticated, French-patented, double-ballasted automatic gates), a 450-acre natural lake was drained and its dirty water replaced with clean water; and a 200-acre lagoon was dug to expand the water area (and to provide some 8½ million cu. yds. of fill).

One of the most truly wonderful portions of WDW that was thus protected is the 7,500-acre wilderness area, about one third of all of WDW. It is an Everglades-style jungle which contains 136 species of birds, 35 species of trees, and 13 species of ferns—and this is only the beginning. Many of Florida's wildlife species are seriously endangered, and Walt Disney thought that he should create a refuge for them, and he did. Fred Harden, one of the nation's most enthusiastic and competent conservationists, is in charge of those 7,500 acres, and he is looking after a spectacular collection of red cockaded woodpeckers, Florida black bears, deer, a Florida panther, dozens of alligators (some measuring 20 ft. in length); and he is constantly planting and replanting to support this wildlife. Eventually, some of the wilderness area may become accessible to some visitors; but Disney's idea was to set aside this vast area for serious, ecological studies. These will include experimental plant groupings, new and changing ecological cycles, and interrelationships of plants, animals, and water conditions.

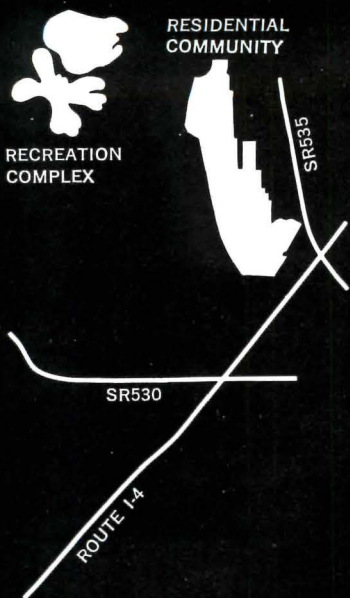
Conservation to Walt Disney, was only one side of the coin. The other side was the creation of a man-made environment that would engage and excite people just as much as the sight of a baby-egret lining up in a rookery to learn how to fly.

And so Disney proposed the creation of an "Experimental Prototype Community Of Tomorrow." EPCOT will not be built for half a dozen years or so; and it will never be finished.

For the truly extraordinary idea of EPCOT is that it will be a community in a constant state of change, always at least 25 years ahead of its time, in which new technologies and



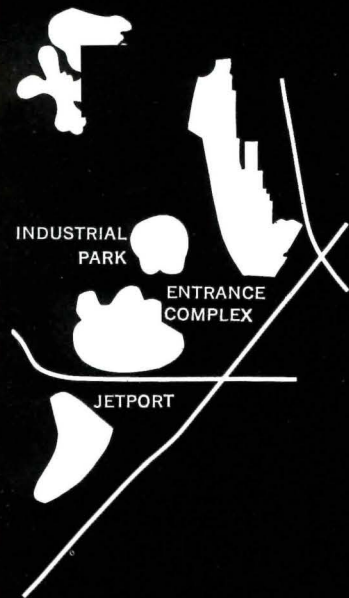
56 Site and development plan for all of Disney World. 57 Estimated growth patterns over the next 20 years. 58 EPCOT—still a vision for the future.



25,000 VISITORS/1971

RECREATION COMPLEX
11,000 Employees
1,500 Hotel/Motel Units

RESIDENTIAL COMMUNITY
625 Residents
1,000 Employees
1,000 Motel Units
250 Residential Units



45,000 VISITORS/1976

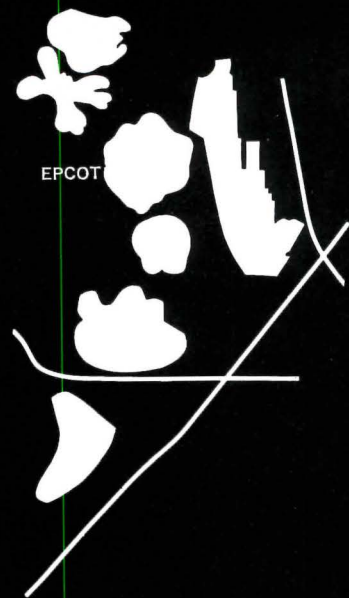
RECREATION COMPLEX
12,500 Employees
3,000 Hotel/Motel Units

RESIDENTIAL COMMUNITY
4,000 Residents
2,000 Employees
2,000 Motel Units
1,500 Residential Units

INDUSTRIAL PARK
2,000 Employees

ENTRANCE COMPLEX
500 Employees
500 Motel Units

JETPORT
400 Employees



65,000 VISITORS/1981

RECREATION COMPLEX
14,000 Employees
4,000 Hotel/Motel Units

RESIDENTIAL COMMUNITY
15,000 Residents
3,500 Employees
2,500 Motel Units
4,000 Residential Units

INDUSTRIAL PARK
10,000 Employees

ENTRANCE COMPLEX
2,000 Employees
2,500 Motel Units

JETPORT
800 Employees
200 Motel Units

EPCOT
3,000 Residents
1,250 Employees
1,000 Residential Units



100,000 VISITORS/1991

RECREATION COMPLEX
16,000 Employees
6,000 Hotel/Motel Units

RESIDENTIAL COMMUNITY
16,500 Residents
4,000 Employees
3,000 Motel Units
4,500 Residential Units

INDUSTRIAL PARK
20,000 Employees

ENTRANCE COMPLEX
4,000 Employees
5,000 Motel Units

JETPORT
2,000 Employees
500 Motor Units

EPCOT
25,000 Residents
10,000 Employees
4,000 Hotel Units
7,500 Residential Units

ANNUAL DAILY AVERAGE DEVELOPMENT PLAN



new lifestyles can be tested in practice a generation before they are likely to come into common usage. EPCOT, in other words, will be a huge laboratory for the testing of urban systems and urban concepts—a functioning community, inhabited by 20,000 people, and operating in the future—today.

The initial concepts are vague: a vertical core, built on a multi-level platform containing transportation nodes, shopping, and community services; from this core-complex, streets or other transportation lines will radiate like the spokes of a wheel, and the pie-shaped areas between them will be filled in with residential communities.

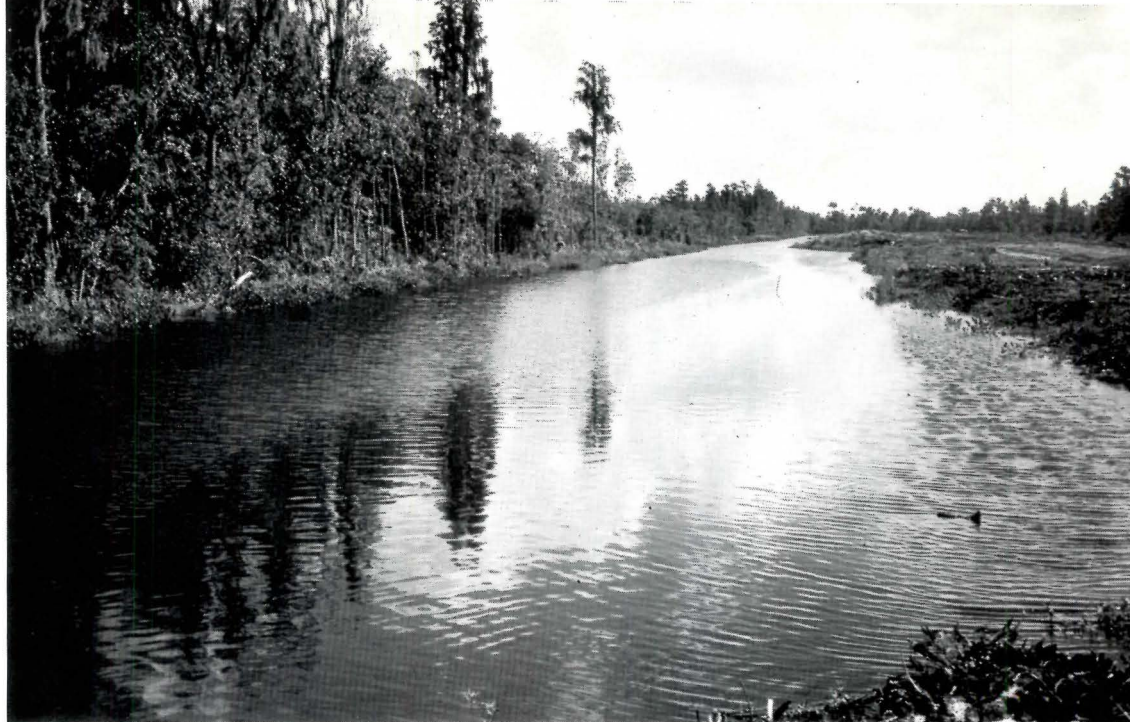
Obviously, all this is tentative. For instance, by the time EPCOT gets under way, vertical cores on multi-level platforms may have lost some of their present charm.

Still, what an extraordinarily imaginative idea to propose a vast, living, ever-changing laboratory of urban design! Not even Le Corbusier at his brash-est ever proposed anything so daring. Certainly, if EPCOT becomes the plaything of hucksters, it will just be another architectural fashion show.

But if EPCOT evolves out of that same astonishing mix of pragmatism, idealism, and business acumen that characterizes all of WDW to date, it could be one of the most influential research tools yet devised for a rapidly urbanizing world. Walt Disney's heirs, conscious of the fact that EPCOT and the wilderness area are what the old man really had in mind, and that the rest was just the financial means to that end, seem determined to make it come true.

They will certainly have the cash to do so. The earliest projections for WDW suggested that Mickey Mouse Land would probably have 6 million visitors in its first year, and that 8 million would be highly optimistic. At current rates, WDW will, in fact, have 12 million visitors in Year One, and the traffic is backed up, bumper to bumper, all the way to Orlando, day after day, even when school isn't out. So the management is content and as adventurous as ever.

What a wonderfully ironic notion it is that, in this turbulent century, urban man might, just possibly, be saved by a mouse.
—PETER BLAKE.



59 Part of the waterway and drainage system that provides an internal transportation route. 60 Wilderness trail. 61 Conservation area forms a canopy of trees over rare visitors. Only canoes are allowed now. 62 Plastic topiary in the Magic Kingdom.

PHOTOGRAPHS: Walt Disney Productions, except Numbers 1, 2, 7, 8, 10, 11, 15, 28, 32, 33, 41, 42, 47, 50, 61, 62 by Peter Blake; Numbers 12, 13, 27 by Casey Blake; Number 24 by Melvyn Kaufman; Numbers 43, 44, 49 by United States Steel.

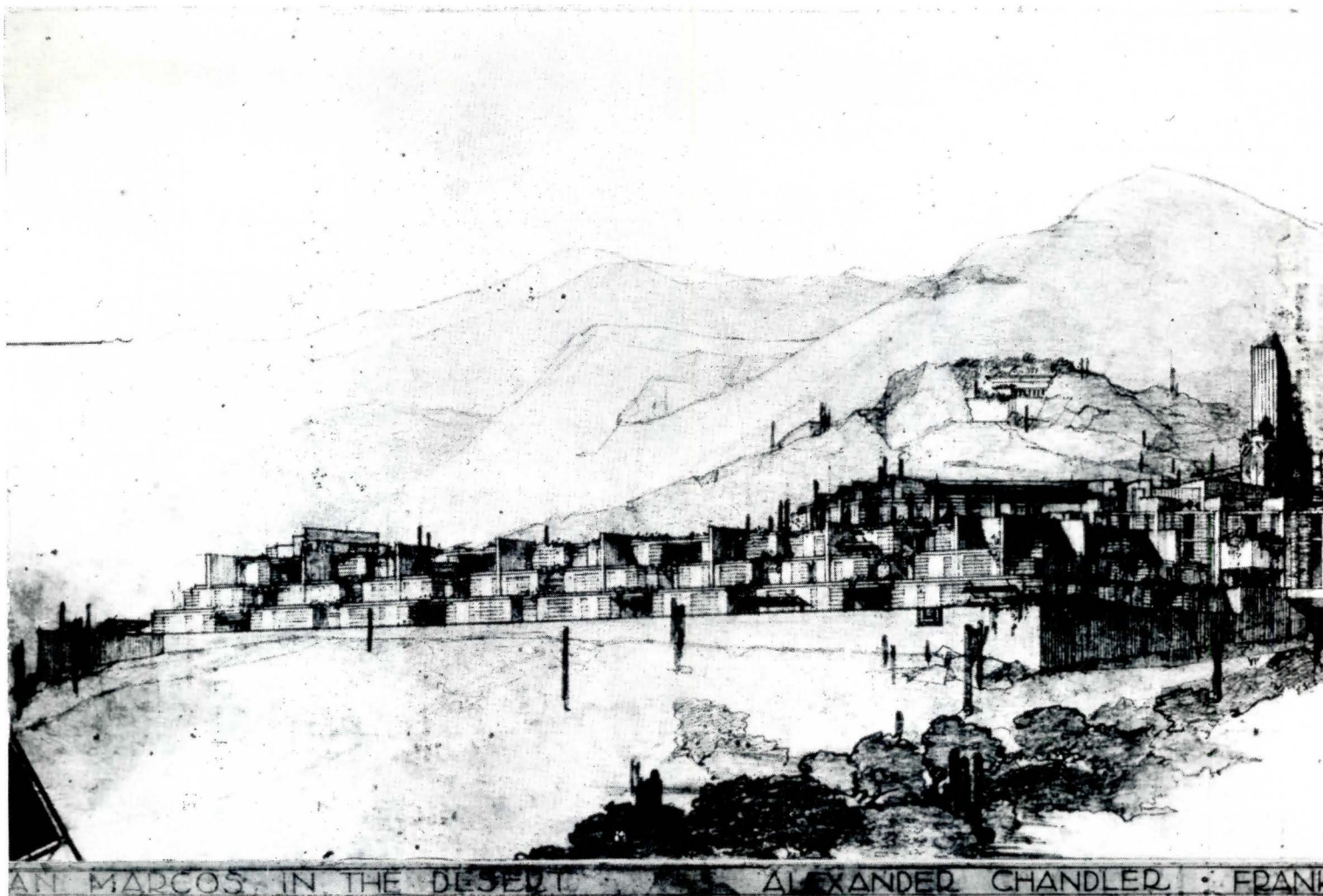


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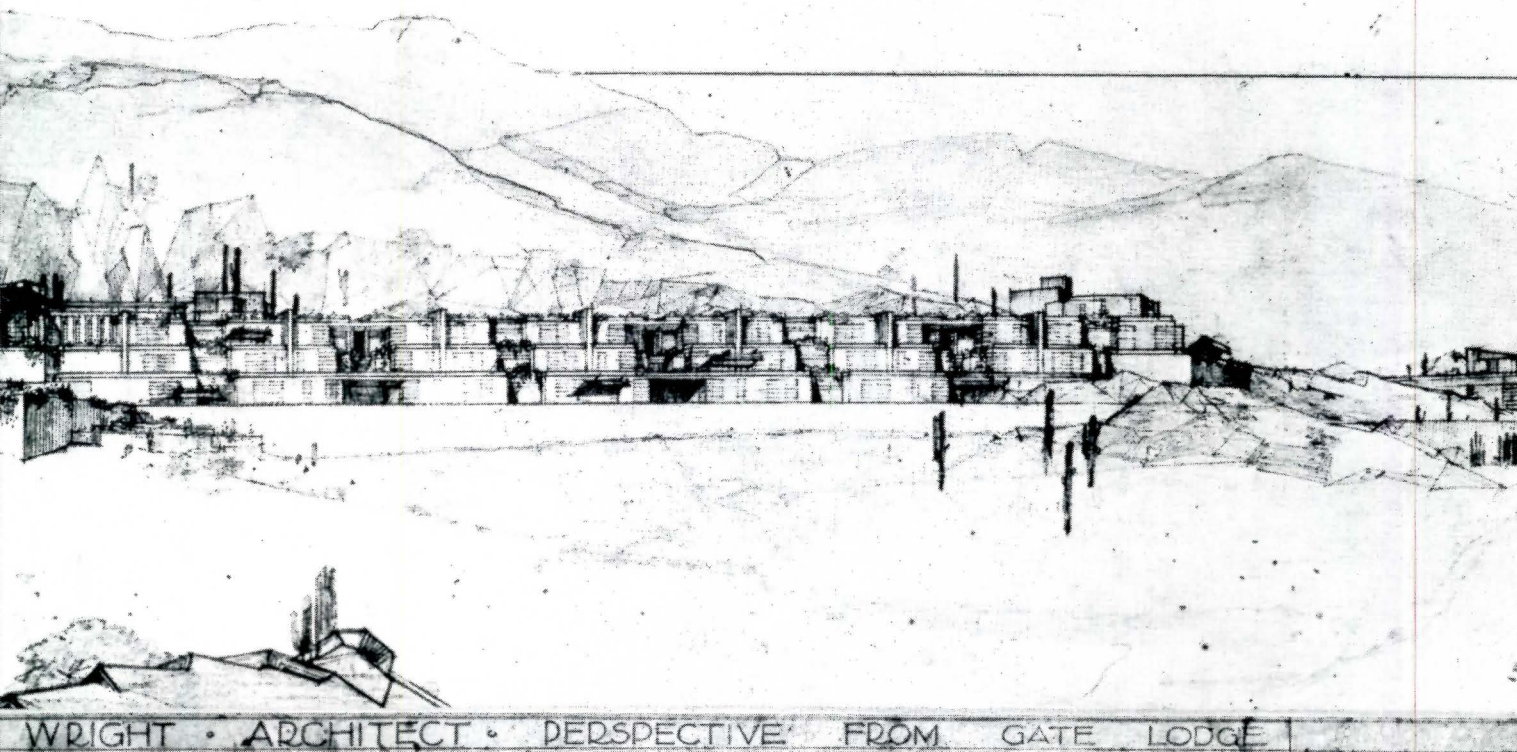
ETHINKING WRIGHT

Frank Lloyd Wright is being rediscovered as his views about our society and cities take on new meaning in the midst of urban chaos. **BY JONATHAN BARNETT**

Richard Weinstein, who is Director of Lower Manhattan Development for New York City, admires Frank Lloyd Wright extravagantly, and will say so on almost any occasion. Last fall, Richard was lunching with the FORUM's editor, Peter Blake, at one of those cavernous Wall Street restaurants where our fiduciary guardians consume their noonday martinis and seafood. During the meal, Richard chanced to remark that when he, Jaquelin Robertson and I first went to work as urban designers for New York City, we found Wright's urban concepts far more relevant and useful than those of the other great "form givers of modern architecture."

I wasn't *present*, but I can see Richard gesticulating over the white napery and Peter raising his eyebrows sardonically. Peter Blake, in case you've forgotten, wrote a charming memoir about Wright in which he puts forward the view that Wright was so

Mr. Barnett, formerly Director of the Urban Design Group of the NYC Planning Department, presently Director of the Graduate Program in Urban Design at CCNY, wrote in consultation with Richard Weinstein and Jaquelin Robertson who are, respectively, Directors of the Office of Lower Manhattan Development and of the Office of Midtown Planning and Development, Office of the Mayor, New York.



May we rightly assume architecture to be in the service of humanity? Do we not know that if architecture is not reared and maintained in such service it will eventually be damned?

Frank Lloyd Wright, 1930

Above, San Marcos in the Desert, 1927.

influenced by 19th-century romanticism that his approach to anything beyond individual buildings was hopelessly unrealistic. For this reason, out of deference to the memory of a great man, Blake felt the less said about Wright's concepts of cities, the better.

"Very interesting," said Blake. "Why don't the three of you write an article for the FORUM explaining how Wright's ideas influenced you in preparing your zoning districts and other design proposals for New York?"

Ever since, at regular intervals, we have received pointed little reminders from the FORUM, meticulously addressed to the three of us, asking where our manuscript was.

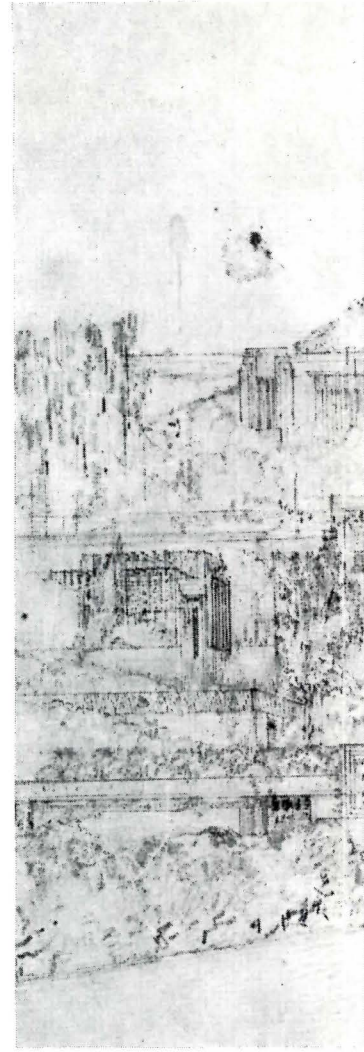
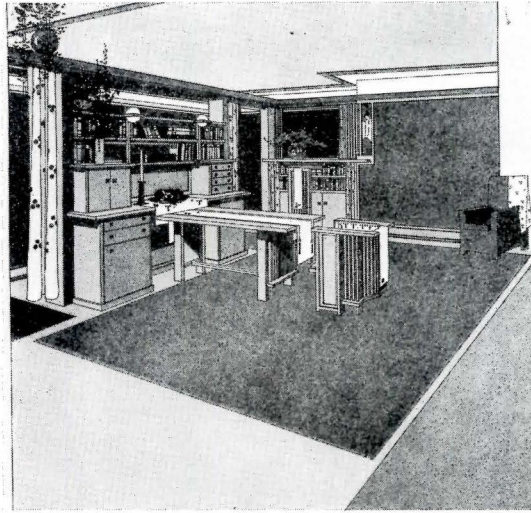
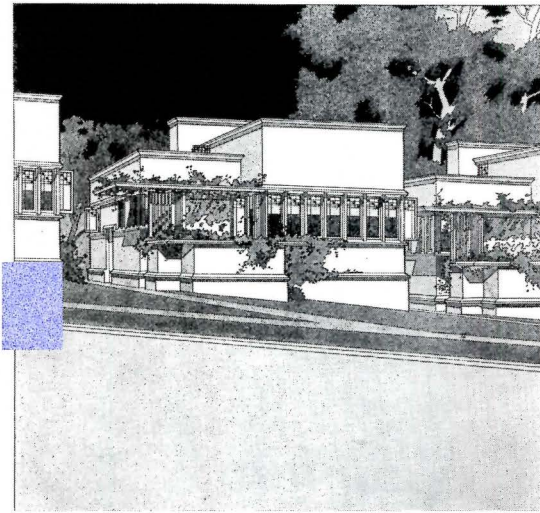
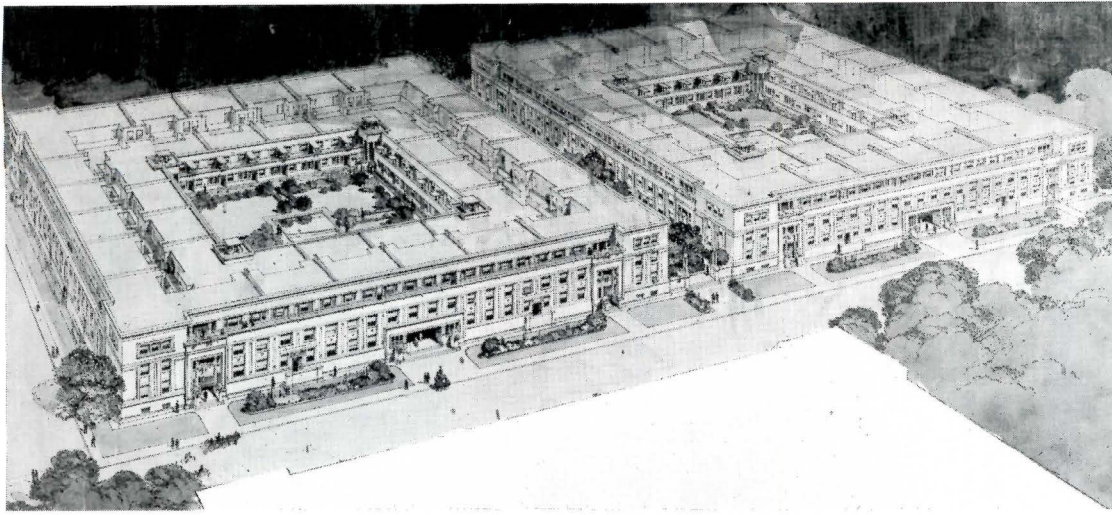
Of course, admiration and discipleship are not the same. We had not saturated ourselves in Wright's work the way some of our contemporaries have absorbed Le Corbusier's *Oeuvre Complete*. In fact, I felt the need to go back and do some homework.

A short, concentrated course in Frank Lloyd Wright is quite an experience. Go through the anthologies compiled by Frederick Gutheim and Edgar Kaufmann; take a look at the book of drawings put together by Arthur Drexler. I think you will see that,

while Peter Blake's conclusion in "The Master Builders" was the logical one to make at the time, recent events have given us a new perspective. Today Wright appears much more of a prophet than an out-of-date romantic and his ideas about architecture now seem very much of a piece with his concepts of city design and social form.

Why should any of this be a surprise? Mostly because our ideas about what to expect from Wright have been molded by the concept of "modern architecture" as formulated in books like Sigfried Giedion's "Space, Time and Architecture"; Nikolaus Pevsner's "Pioneers of the Modern Movement"; and J. M. Richard's "Introduction to Modern Architecture." Even if you don't accept their concept of "modernity" (and the three of us do not), somehow the idea that Wright passed the torch of the "new architecture" to European architects about 1911 tends to linger in the mind and make people overlook much of what Wright said and did later on.

One of the most interesting discoveries of my recent reading course was Norris Kelly Smith's "Frank Lloyd Wright: A Study in Architectural Content," which I had not read be-



Lexington Terrace Apartments, 1898, (top); American Ready-cut System housing, 1913 (bottom).

fore, although both Jaque and Richard had. Smith's book has not received the attention it should, probably because it was written for people who, already knowing quite a bit about Wright, tend to feel they don't need to hear about those Froebel blocks again.

Mr. Smith is a cultural historian who does not accept what he gently chides as the legendary saga of modern architecture; this leaves him free to consider aspects of Wright which get left out if you are only concerned with "progressive currents of thought." For example, Mr. Smith spends a lot of time on the relationship between the architect and the established institutions of his time, and on the architectural consequences of the polarities in Western thought represented by Greek philosophy and the Bible. If you don't see what all this has to do with Wright, you really ought to read Mr. Smith, who subjects Wright to a fascinating theoretical analysis and gives him a far more plausible place in history than he has ever been assigned.

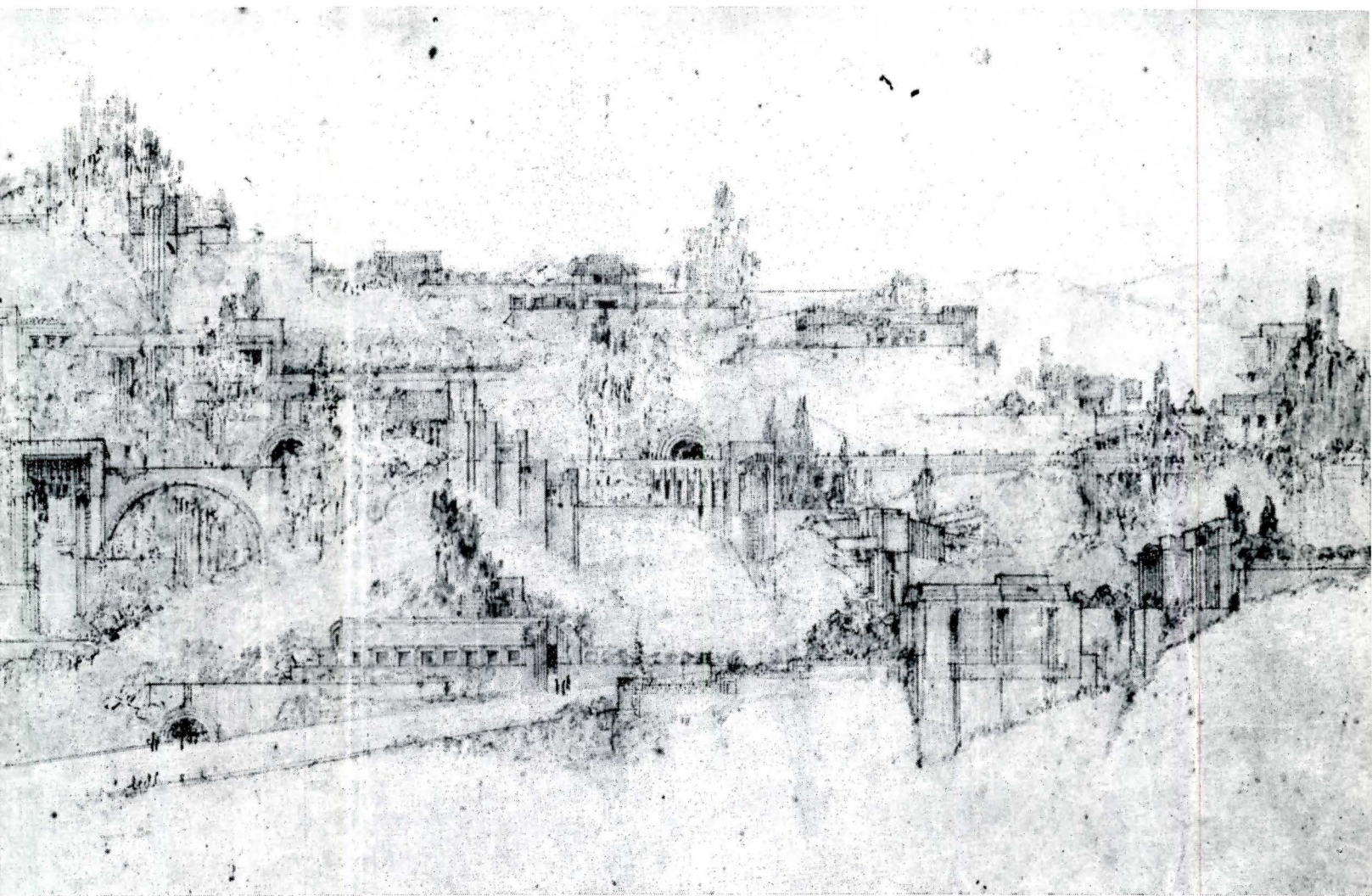
Even by the rather absurd scorekeeping system created by the concept of "modern architecture," Wright does better than he is usually given credit for. The number of con-

cepts that he formulated "first" (or more definitively than other architects) is impressive, and not all of them have found their way into the sagas because they have no direct connection with other famous "firsts" that took place in Europe.

Wright's Lexington Terrace Apartments (1898) are at least as significant a formulation as anything in Tony Garnier's *Cite Industrielle*; Wright was working with a manufacturer of industrialized housing as early as 1913; Wright was concerned with what we would now call planned unit development in the quadruple block project of 1902.

The passage of time is beginning to show, however, that Wright's most important "first" was not any of these, not the "corner window" or the "carport" (which he named), not the foam rubber cushion or all-steel office furniture (as in the Larkin Building, 1904), not the precast concrete blocks, indirect lighting, radiant heating; but, rather, his ideas about urbanization and the forces shaping it.

Consider that, in 1932, Wright's book "The Disappearing City" outlined succinctly and lucidly the effects of the motor car on the patterns of urban growth. The point of the



E. L. Doheny Ranch Development, 1921 (above).

Broadacre City formulation is not whether you like it or not, but that this kind of development has actually happened, and that we have missed much of the opportunity to give it a rational, ordered form.

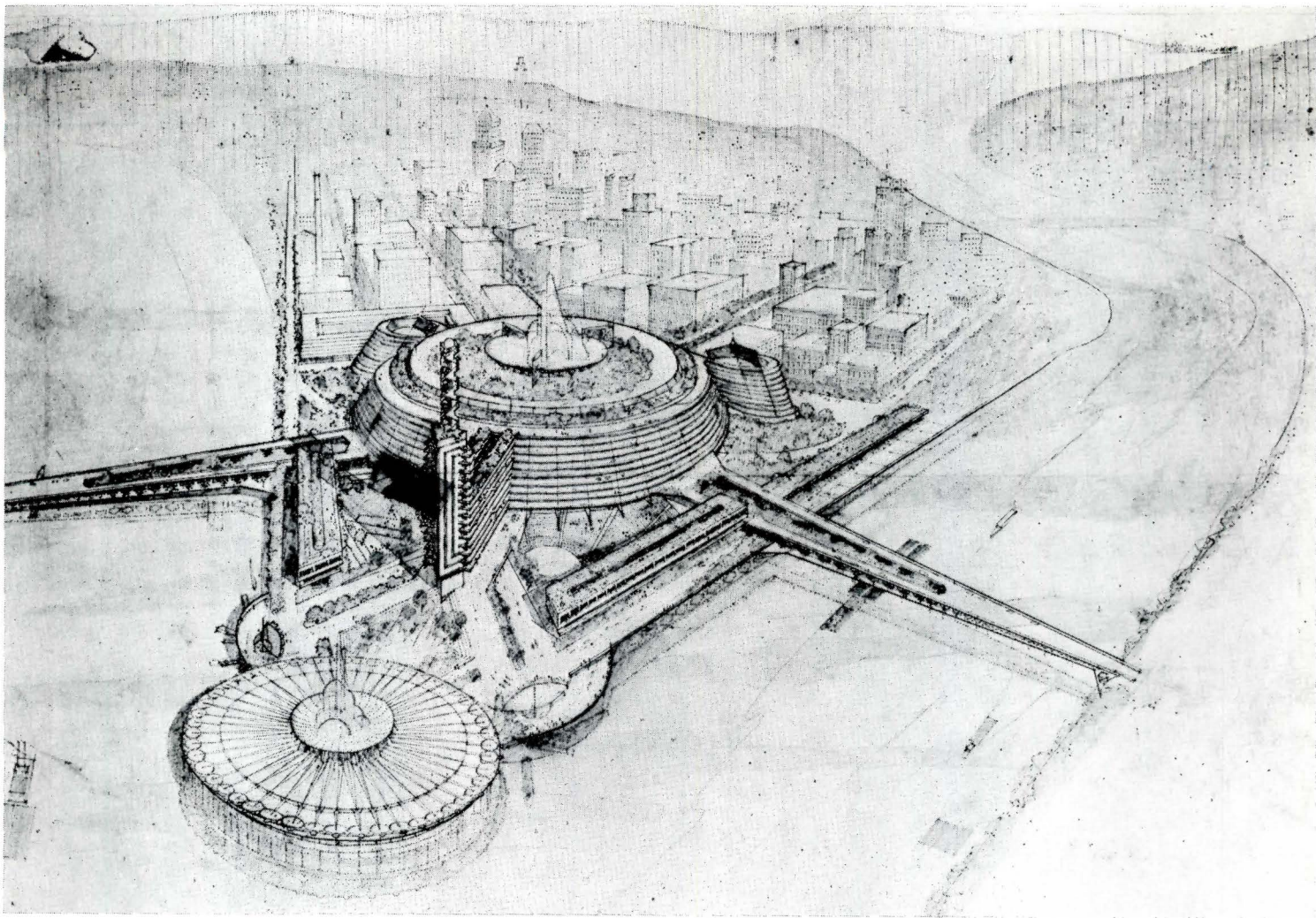
Far from trying to put back the clock, Wright understood how important the automobile would be to Americans, and how necessary it was to plan for an urban pattern that takes the private car into account.

Jaquie Robertson was on the AIA's National Growth Policy Task Force, and he points out that there is much in their report which was anticipated by Wright more than forty years ago. Broadacre City's fundamental premise is that automobile-based settlement patterns require the total integration of the man-made and natural environment. While there is much that still seems unfeasible about Broadacre City, Wright does not look as impractically romantic today as the planners who expected Americans to put their cars away and settle for tightly organized communities along the pattern of the English village.

Wright's ideas of 1932 are also timely in other ways. If you read "The Disappearing City," you will be surprised by how much

of it would sound very up to date if it appeared, say, in the Sunday Magazine section of the New York Times. If there is such a thing as a "counter-culture," and if its denizens ever bothered to read anything, they would find Wright's outlook very congenial. All those statements about getting away from the artificialities and anxieties of urban life, standing foursquare on the land, while harking back to Thoreau and Whitman, all this strikes a sympathetic note today. Wright understood that modern technology posed a new kind of threat to nature, creating a moral and ethical dilemma which is fundamentally different from the revelations about nature experienced during the Romantic Movement. You will also notice that, forty years ago, Wright had identified the impact of modern mass communications on urban decentralization, back when Marshall McLuhan was still in college.

In 1932, the people who considered Wright romantic and irrational were worrying about whether the "International Style" would prove to be a truly universal form of architectural expression. If they thought about the car at all, it was about its functional appearance, not its effects on our cities.



Community Center, Point Park, Pittsburgh, 1947 (above).

Broadacre City also illustrates the integration of buildings and landscape, which was, of course, one of Wright's lifetime preoccupations although one tends to turn off all that rhetoric about "prairie houses," which seems rather overblown when you reflect that most of the houses ended up on suburban lots.

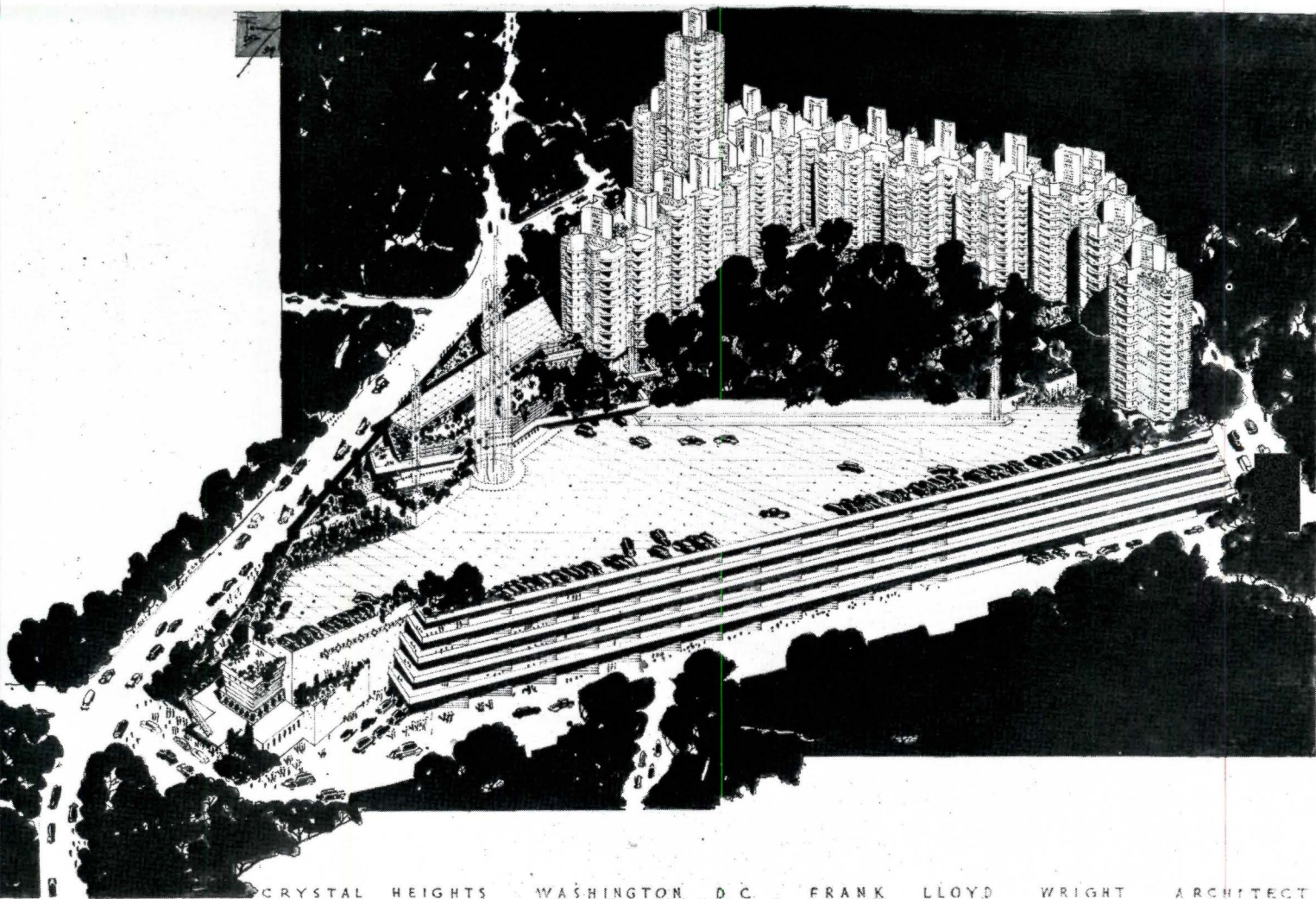
Norris Smith theorizes that Wright felt this contradiction very deeply, and that it was one of the considerations which ultimately drove him to leave Oak Park. After this decisive break in Wright's life, he was freed to animate concepts which had only been suggested in his suburban houses. Take Taliesin in Wisconsin (1911); the project for the E. L. Doheny Ranch (1921), which had landscaped roadways running along the rooftops of his buildings; or take the proposal for San Marcos in the Desert (1927). Again, the full implications of what he was trying to do are only becoming clear today.

The latest Design Awards of Progressive Architecture indicate that many architects have become interested in the problem of making large building complexes integral with the landscape. This year, for example, a prize was awarded to a housing project designed

as part of a dam; a few years ago, the first award went to a housing development designed as part of a hill. When you consider that Wright was working on the implications of such ideas more than 50 years ago, it is not so surprising that he got a bit peevish in his old age.

But wasn't Wright against the city? It is not all that clear that he really felt it necessary that cities give way to Broadacres. Even if he did, one part of his mind remained fascinated with creating architectural concepts in scale with the American city. His cathedral for a million people, suggested for New York City, his Mile-High skyscraper, envisioned for Chicago, both were attempts to design something that would be for contemporary cities what the cathedrals were for the cities of medieval times.

In his more practical big city projects, Wright showed that he could design at an urban scale and that he understood the dynamics of the modern city perfectly well. His 1947 proposal for a Community Center at Point Park in Pittsburgh has a much more appropriate scale than the collection of smaller buildings now occupying the site, and it



CRYSTAL HEIGHTS WASHINGTON D.C. FRANK LLOYD WRIGHT ARCHITECT

Civilization always seemed to need the city. The city expressed, contained, tried to conserve what the flower of the civilization that built it most cherished. The city may be said to have served civilization. But the civilizations that built the city invariably died with it. Did the civilizations die of it?

Frank Lloyd Wright, 1930

Above, Crystal Heights, Washington, D. C., 1939.

would have made the city and the building part of one composition, where the highway enters the city and coils around upon itself—a concept that anticipates some of Louis Kahn's proposals for Philadelphia. More pragmatically, the parking profits probably would have brought a lot of money for the municipality and, who knows, it might well have stimulated the downtown economy by introducing ample parking before Pittsburgh's dispersal to the suburbs had really begun.

Wright's Crystal Heights design for Washington, D.C., begun in 1939, actually stems from his 1929 St. Mark's-in-the-Bouwerie project for New York's lower east side—three glass towers, clustered around an old church on a park-like site, combined with the structural organization from Wright's National Life Insurance complex of 1921. Crystal Heights also shows that Wright understood the bad effects of conventional zoning which separates building types, causing whole city districts to be used only part of the day, weakening the interrelationships which are essential for the continued health of our urban centers.

We feel quite proud of ourselves for help-

ing to introduce mixed-use special zoning districts and redevelopment projects into New York, but old Mr. Wright was drawing them up when we were in our preschool days. Crystal Heights was a good, practical redevelopment scheme, too; it is very similar to the basic *parti* of several recent downtown renewal plans.

That doesn't necessarily mean that one takes Crystal Heights as the only model for mixed-use developments. One of the most depressing legacies of the "saga of modern architecture" is the idea that we are all on some kind of historical assembly line where one thing inevitably leads to another. Wright was an American and understood and shared American attitudes towards the automobile, the private house, and the skyscraper, which Le Corbusier and the other Europeans really have not.

Wright was also a great architect and visionary whose importance today is not that we should all become his imitators and disciples, but that we should feel free to test our ideas against the organizational concepts that Wright has defined in a very original and comprehensive way.



TWE TIET CENTURY CKS

Paul Rudolph's approach to modular housing shows that the assembly line can be a human as well as economic asset

There are some human rights people take for granted. But there are others which have never been adequately assessed. Take the right to shelter.

Every housing act since 1949 has promised "a decent home and suitable living environment for every American family." But we have miles to go before that promise is kept, and the grating question persists whether this right, inalienable or not, will ever be guaranteed by law.

Housing is still a commodity in this country. And where there have been risks in building it, as in the low and moderate income field, speculators expect (and get) rewards for taking those risks.

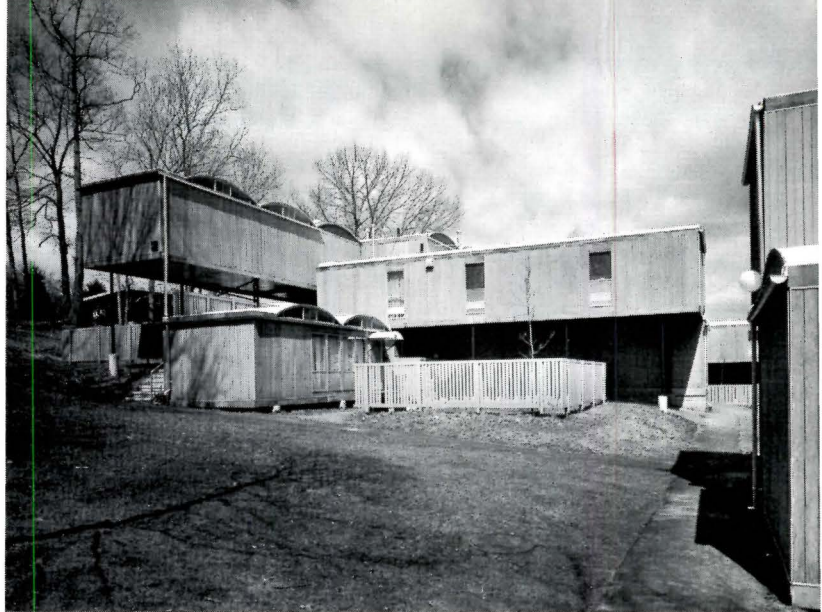
Given this background, it may be hard to see how any architect could make a substantial difference in helping solve the nation's housing shortage. Yet, an architect, attuned to deeper human needs, aware of another dimension of human rights, has been trying. Once again, he turns out to be Paul Rudolph with his "20th century bricks."

Mr. Rudolph's "bricks" are modular housing units, factory-assembled with plumbing, wiring and finishes, and trucked to the site for installation. Moduls are not, of course, a new idea, but Rudolph has transformed our assembly-line capability into a new idiom.

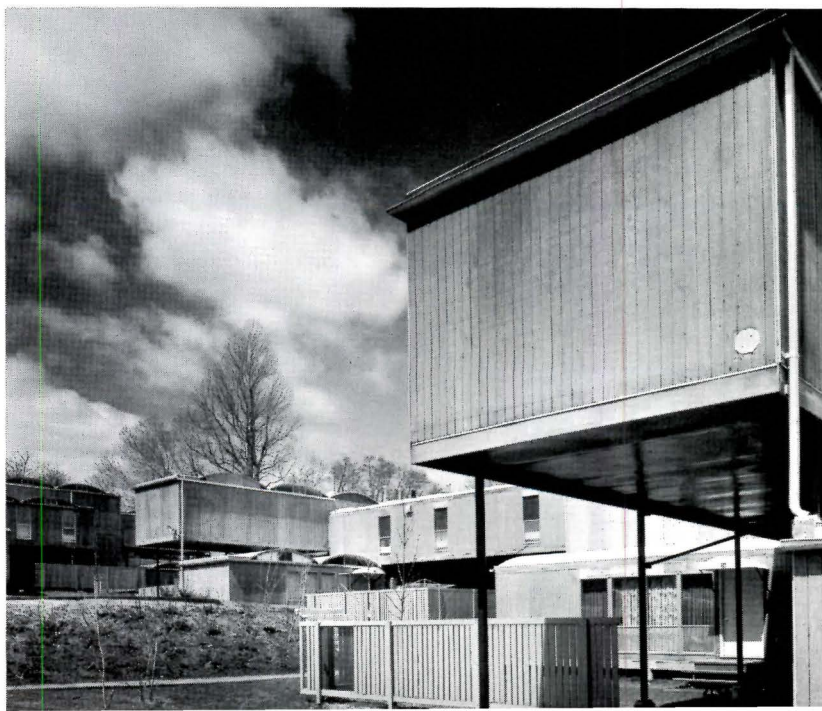
The first built example of what Rudolph has been trying to do is the Oriental Masonic Gardens in New Haven, where his "bricks" were sponsored, naturally enough, by a black organization, Prince Hall Masons.

Getting away from those stand-bys, the row house and the single-family dwelling, Rudolph clustered the 148 units in groups of four around a central utility core. Measuring 12 ft. wide and 27 to 51 ft. long, these range in size from two to five bedrooms. The two and three-bedroom units (with one bath) consist of two modules, the upper one stacked at right angles to the lower one. The four and five-bedroom units (with two baths) have a third module stacked over the living room. In all cases, the upper modules extend out and create a sheltered porch. In addition, each has its own 30 x 30 ft. courtyard enclosed with a six-foot-high garden fence of the same grooved plywood used for siding.

It took only a month to fill the 148 housing units of Oriental Masonic Gardens. The 12-ft. wide modules, shipped 250 miles to the New Haven site, were stacked up in clusters, and softened by decent landscaping. Each can accommodate two to five bedrooms. Based on cooperative ownership, residents have recognized the uniqueness of what they have, giving these homes a human as well as technological significance.



SITE PLAN



Rudolph not only managed to create a sense of place and privacy here, he managed to beat the box-like uniformity of so much recent house construction. At New Haven, he accomplished this by using vaulted ceilings, rising to ten feet, made of curved plywood panels. These provide contrast to the lower eight-foot ceilings, allow clerestory windows to let in extra light, and enhance the sense of space. In this way, Rudolph takes the modular beyond its measurable three dimensions.

Despite its delights, the project points up the problems of the modular housing industry. The most obvious question is cost. A few years ago, the "mod squad," the 300 or so companies now engaged in production, were predicting a 20 percent labor savings on a \$20,000 house; it turned out to be five to ten percent.

Rudolph's units ended up selling for \$21-23,000; that's about as expensive as conventional on-site construction. The problem is that factory efficiencies have not yet been perfected to the point where modular units are competitive with traditional builders.

There are a number of reasons behind this. One is that any savings in labor at the factories is often off-set by high transportation costs. For example, Rudolph's modules were trucked 250 miles from a factory in Maryland; his plywood vaults, made in Connecticut, had to be shipped to Maryland. Another reason for high costs is that a modular plant has to serve a wide geographic area. Local code variations often cause costly fluctuations in factory output, and many major modular procedures are operating at less than 50 percent capacity.

Therefore, the problem is not that factory-built techniques and good design are incompatible; the problem is eliminating archaic barriers to factory efficiency, shipping limits and installation delays. Rudolph's housing anticipates what might be possible in design (and human) terms were all the other problems *taken care of*. He has demonstrated, once again, great personal versatility in the face of a new design idiom—the assembly line. His modules worked with the required 12 ft. width limit for trucks in most states,

and he gave these families something to care about, work for, and keep up, which is what cooperative ownership is all about—giving the poor, the dispossessed and the downtrodden the chance to *earn* the rights we have denied them, including the right to shelter. How sincerely we acknowledge this right has a lot to do whether or not they will ever have (or even care about) access to all the others.

Last year, for example, over 500,000 new housing units came under some form of government subsidy; yet, official estimates show that from one-fifth to one-half of those funds never reached and benefited the people for whom the money was intended. Instead, when not siphoned off by fraudulent means, these funds went to the speculators, the builders, the lenders, the attorneys, the insurance companies. In many instances, lower income families who have been gouged by slumlords also have found themselves gouged by well-conceived, badly managed subsidy programs.

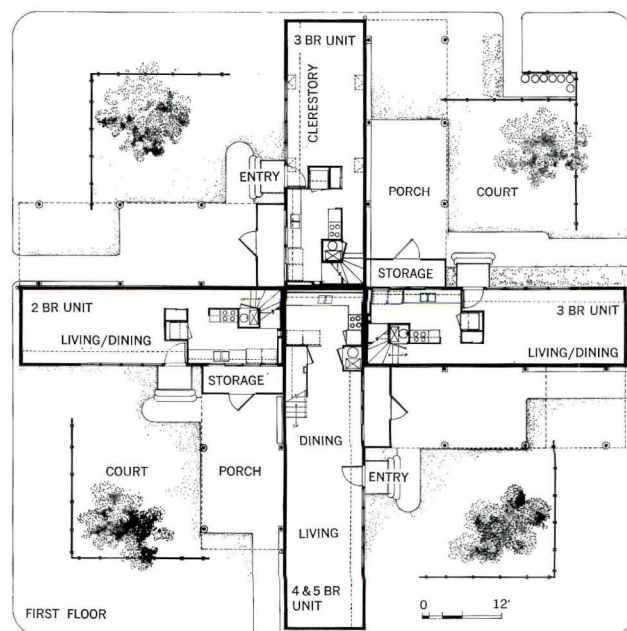
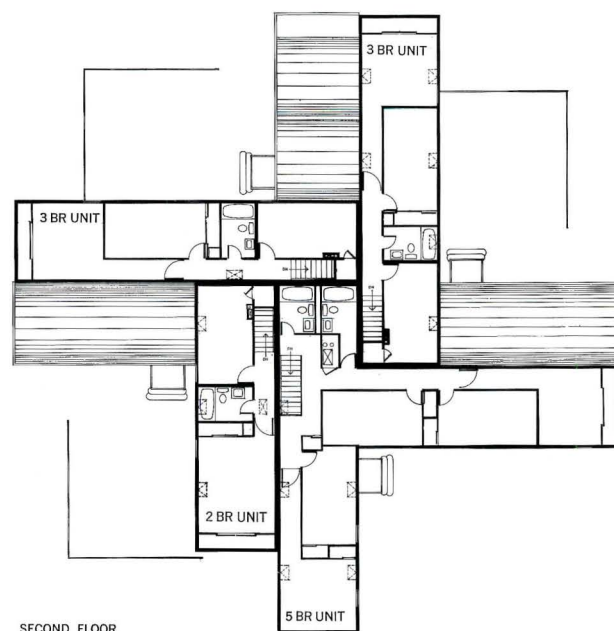
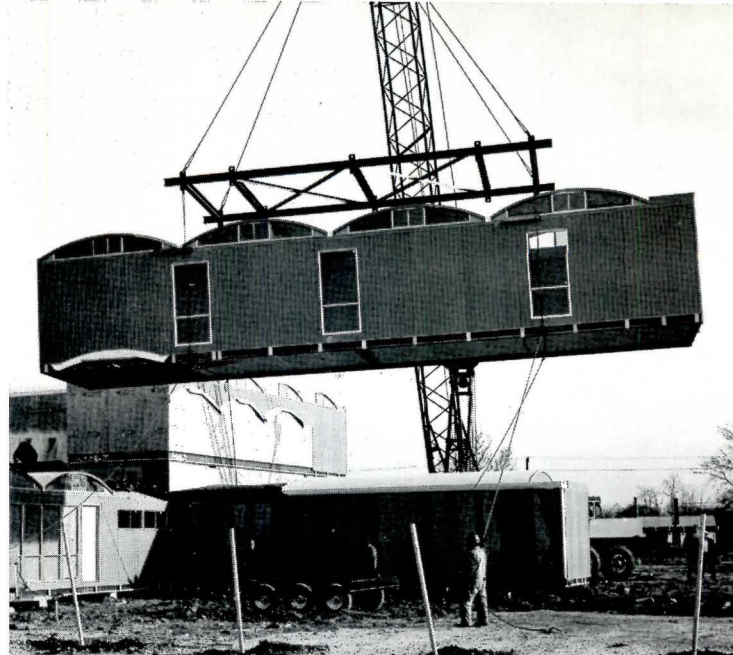
At New Haven, Rudolph has successfully delineated an alternative to the subsistence-style surroundings the poor have been saddled with so long. They have their say in how it is run. They have a stake in seeing it improve. Such investments of time and care—call it "sweat equity"—is what decent housing should inspire, and it is the kind of action which may make poverty (and subsidies) less a burden for future generations. That, at least, is the hope everyone should be able to agree on. And, of course, the best hopes are *built* ones.

FACTS AND FIGURES

Oriental Masonic Gardens, New Haven, Connecticut. Architect: Paul Rudolph; job captain, Yuji Noga. Landscape architect: City of New Haven, Landscape Architecture Department. Engineers: Paul Gugliotta (structural); Hubbard Lawless & Osborne (mechanical, electrical). General contractor: Hercoform Inc. with George B.H. Macomber Co. Building area: approximately 175,000 sq. ft. Cost: \$3,213,259.

(For a listing of key products see p. 72.)
PHOTOGRAPHS: Joseph W. Molitor, except p. 50, Northway Studio.

By manipulating the modules, Paul Rudolph built drama and variety into the project. The plans (right) explain how the lower modules (containing living/dining/kitchen space) relate to the upper ones (containing bedrooms and baths). This stacked arrangement, the modules clustered at right angles, gives each family a sheltered porch.





COLL G S FOR NEW LIFESTYLES

A dormitory complex at Radcliffe College is designed around new concepts of campus living

The Audrey Bruce Currier House was built for changing modes of campus living. The most ambitious dormitory project at Radcliffe College (Cambridge, Mass.), the house is designed to promote social interaction and, at the same time, provide privacy for students and activities requiring it.

The complex includes four five-story residences and one two-story central commons building, clustered in the shape of an E, with courtyards in between. The commons (and entry) building is the central gathering place for visitors and students; the dormitory units are designed for smaller, more intimate groups. Kitchenettes and lounges are located throughout the buildings, keeping the atmosphere relaxed and the refreshments close by.

When Architects Harrison & Abramovitz started work, they and the college concentrated on interior spaces first; the exterior afterwards. It was evident that campus lifestyles were changing and the house was designed to change with them. If cohabitation arrives officially, Currier House will be ready.

The central entry and commons area forms the center portion of the E configuration. At the tip is a lobby and mail room at ground level, with offices above. The mail area extends backward to a one-story glass gallery that is the top level

of a two-story lounge located below ground level. To the rear, and covered by a skylit terrace, are single-story dining areas.

The dormitory buildings, each of which houses 80 students, have public areas on the ground floors. Student rooms above are of equal size, but varying shapes, and exposed concrete columns provide textural interest. A typical floor has pairs of single rooms separated by a bath, with larger suites (and kitchenettes) at the ends of the halls. The top floor has a large terrace all around it, with two- to four-student suites.

The scale of the buildings relates to the Georgian architecture that is traditional at Radcliffe and the New England environs. The facade is brick and concrete, with the lower floors partially recessed beneath street level and the upper floors set back for continuous balconies.

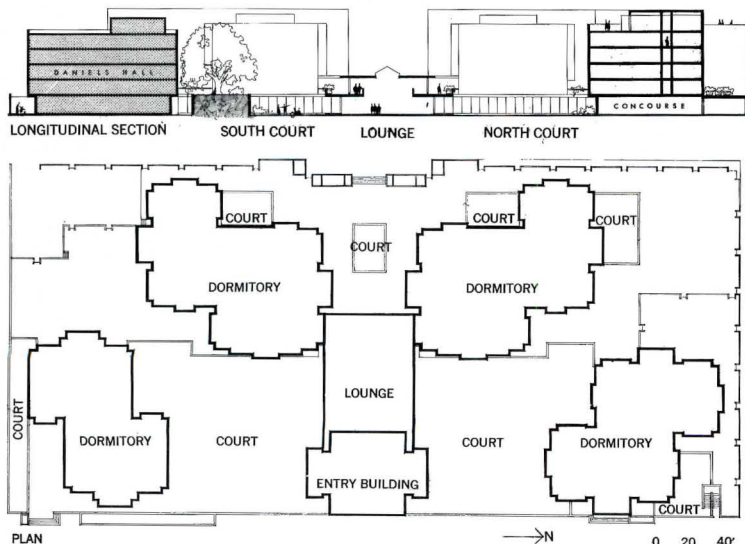
Audrey Bruce Currier was the daughter of Ambassador David Bruce and Ailsa Mellon Bruce. She was a philanthropist with a deep concern for cities and their people that was matched only by her and her husband Stephen's personal modesty. He founded and funded Urban America, under which he assumed publication of the ARCHITECTURAL FORUM in 1965. In 1967, the Curriers and the pilot of their small plane were lost in the Caribbean. No trace of them has ever been found.

Currier House is composed of five buildings (plan), with courtyards defining the separations. The street entrance to the complex (top) is over the terrace that covers the dining areas below, which are topped by a skylight. The campus entrance (photo, left) is through the two-story entry building, which extends backward to become the gallery of the living room (photo, right). The gallery provides a rear entrance level for persons coming into the buildings from the street.

FACTS AND FIGURES

Audrey Bruce Currier House, Cambridge, Mass. Owner: Radcliffe College. Architects: Harrison & Abramovitz (Paul Wingett, project manager). Engineers: Lev Zetlin Associates (structural); Cosentini Associates (mechanical); Eitington & Schlossberg Associates (electrical). Landscape Architect: Diane K. McGuire. General Contractor: Vappi & Co., Inc. Building Area: 156,000 sq. ft. Cost (including site and furnishings): \$7.3 million.

Photographs: Ezra Stoller ©ESTO.





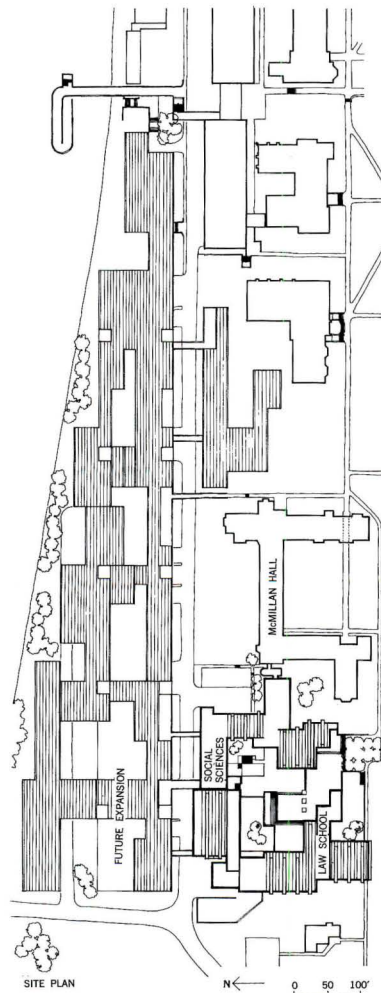




A NEW SPIRIT OF THE LAW

Looking up precedents, Washington University's law school built one

The site plan shown below explains the relationship of the completed law school and social science building to the existing campus and to their proposed system for future growth.



Cloistered in the chaos of St. Louis is the tree-shaded campus of Washington University.

Laid out in 1899 by Philadelphia Architects Walter Cope and Emlyn Stewardson, its courtyards and quads range along a narrow east-west ridge. Laid up in Collegiate Gothic, its crenelated granite walls are a little deceiving, however. Far from preserving academic sanctity, these walls are for scaling. And, between gulps of Budweiser and midnight oil, students are sportingly bent on doing just that.

So apathy has not afflicted everything in St. Louis. The proof is in the *parti* of the new law and social sciences building at Washington University, designed by Architects Dolf Schnebli, George Anselevicius and Roger Montgomery, whose still-controversial concept won out over over 150 others in a 1965 competition (April '66).

The competition program, in two parts, called for a 60,000 sq. ft. law school and a 25,000 sq. ft. addition to the old Social Sciences Center; second, it called for ideas about a building system which could grow incrementally, handling future expansion of the two new structures as well as future facilities for chemistry and engineering. The first part of the program concerned two and a half acres; the second part, another seven.

The new complex, while avoiding any cosmetized conformity with the existing campus, amplifies its 19th century concept. There are courtyards. The various parts interconnect in a casual, if well-organized, manner. There is human scale. Instead of devising several different solutions, the architects came up with a single design idiom to guide growth.

Because the overall site drops off more than 50 ft. toward the northern fringe of the campus, the architects came up with a growth system which would be susceptible to both horizontal and vertical expansion. Because they had to accommodate everything from small offices (150 sq. ft.) to a huge library (32,000 sq. ft.), they came up with a system in which spaces could be expanded or contracted.

The result might have been modules run amuck. There is the *structural* module (19 ft. 6 in.) which runs (north-south) through the entire site.

There is the *planning* module

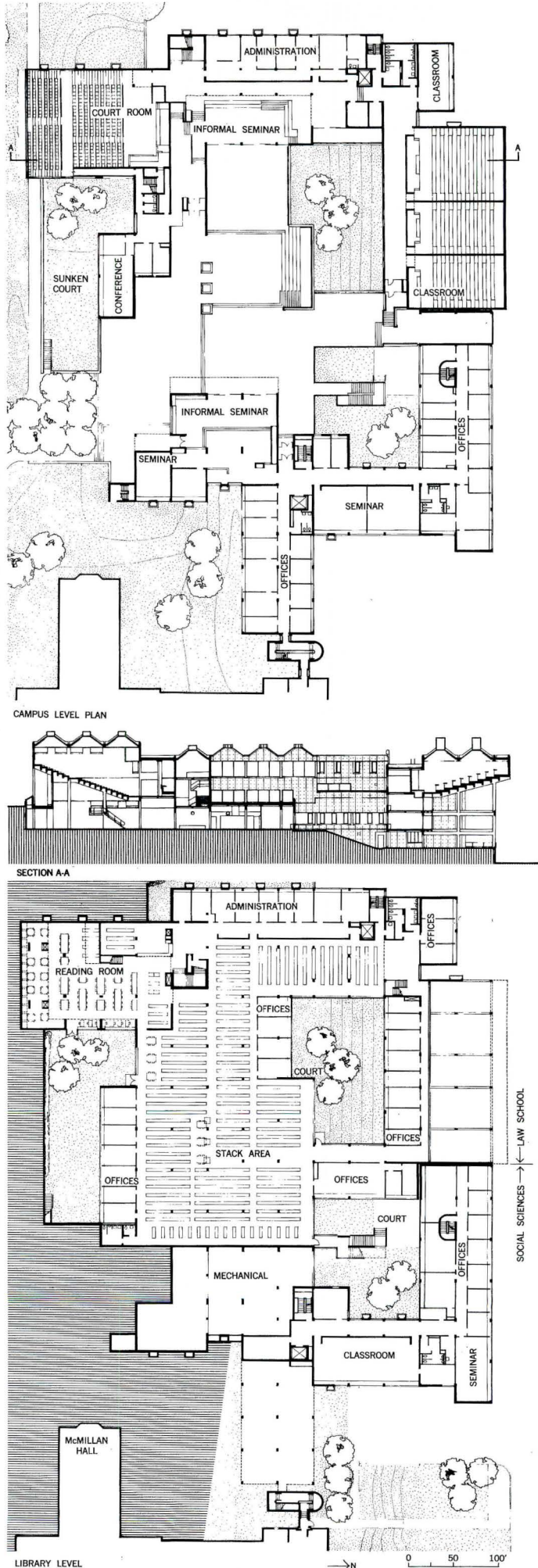
(4 ft. 6 in.), generated by library stack requirements, which runs (east-west) through the entire building.

The structural module is open-ended. Column spacing does not have to line up throughout the complex, making future mutations of space easier. This module is spanned by a "folded plate" of concrete, which reads out as the zig-zagged roof contour you see in the pictures. The "plate" takes care of larger spans and such spaces as major classrooms, the courtroom (which is actually used and seats 350), lounges and seminar halls; a one-way rib system takes care of office and library stack space.

Internal flexibility was enhanced by placing the mechanical equipment topside. Horizontal ducts read as honestly as vertical chimneys do, becoming architectural elements in the process of expressing a functional one. These, like the concrete plate roof, are finished in batten-seamed terne, painted a terrifically shocking green. The window frames are yet another shocking green. This is the only instance in the building where you feel it fails the university's expressed desire for a "fleeting visual image," whatever that is. Other examples of animation occur inside; some of the austere expanses of concrete have been livened up with glossy enamel colors that recall, none too positively, the shellacking architecture took from *l'art deco*.

A more natural form of animation occurs in the spacious, multi-level courtyard, which you come upon from the center of the campus. Actually it is the roof of the law library, where most students spend non-class time cracking books and looking up case studies. The stacks are open; students and professors alike can sally into them from the top and three sides. The structure holding up the classroom and office areas around the courtyard will be filled in eventually with two or three new library levels.

The facilities and resources for both legal and social science study were conceived on an integrated basis, leading to this integrated structural system. The social science program embraces the departments of economics, sociology, anthropology and political science; the Institute of Urban and Regional



The plans explain how classrooms, the courtroom and administrative offices are clustered around the open plaza (opposite, above), which is actually the roof of the library stack area. The unfilled concrete structure beneath the classrooms (section, right) will later become library space; the area beneath the courtroom (section, left) is part of the library's reading room (opposite, lower right corner). With its raw, exposed concrete and ductwork, the building has all the flaws and strengths of a proletarian manifesto; a flaw in the form of an austerity, exhausting as it is arresting; strength in the form of spaces, flexible enough to discourage the dogma you get with most manifestos.



Studies; and the Graduate Institute of Education. These departments share twelve seminar rooms, various unassigned offices, a magazine library, graduate study space and three small student lounges. This encourages a deliberate rubbing of elbows between students of law and of the social sciences.

This intentional (and about-time) blending of disciplines is sorely needed in St. Louis.

It takes under 30 minutes to get beyond the city limits. With 70 percent of the inner city's housing rated below standard, with little or no interest in spending money for rehabilitation, with suspicion of the controls that go along with federal subsidies, downtown is dying.

In 1960, there were over 750,000 residents; 28 percent of them black. In 1970, there were less than 623,000; over 40 percent of them black. If you need statistics to explain what coping-out on a city means, these are it.

St. Louis broke in the West but is now so locked into decline that even dissent has become futile. What you have left are some very spacious, very empty parks; the civic hyperbole of Saarinen's river-front Arch; the bombed-out ruins of the Pruitt-Igoe public housing project; Louis Sullivan's Wainwright Building; and Eads Bridge, a 19th century poem spanning a 20th century sewer.

Apart from the never-ending squabble between the city and the 100 or so suburban jurisdictions around it, the last vestiges of ferment seem to be at Anheuser-Busch.

It might be a good idea for those people who are thinking of giving up on St. Louis to look over this building and what it stands for. From competition to completion, it has evolved as a forthright response to student motivation. Those motivations have to do with service to people, service which goes beyond accommodating present-day wants, service which shows people new ones.

That kind of service is what the young lawyers and social scientists here are preparing to render; the kind of service architects should. That goal suggested the growth system you see now and has yielded, beyond structure, a new symbol of intent for St. Louis.

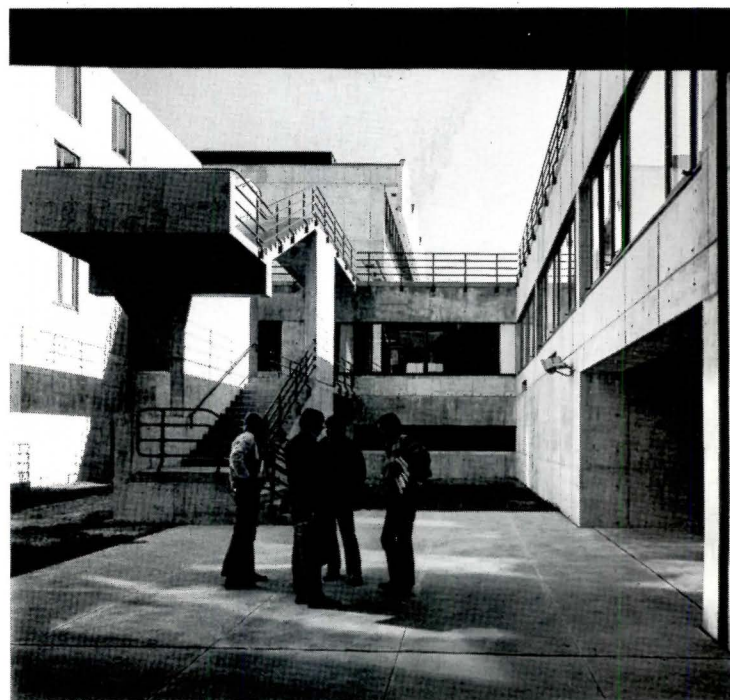
—WILLIAM MARLIN

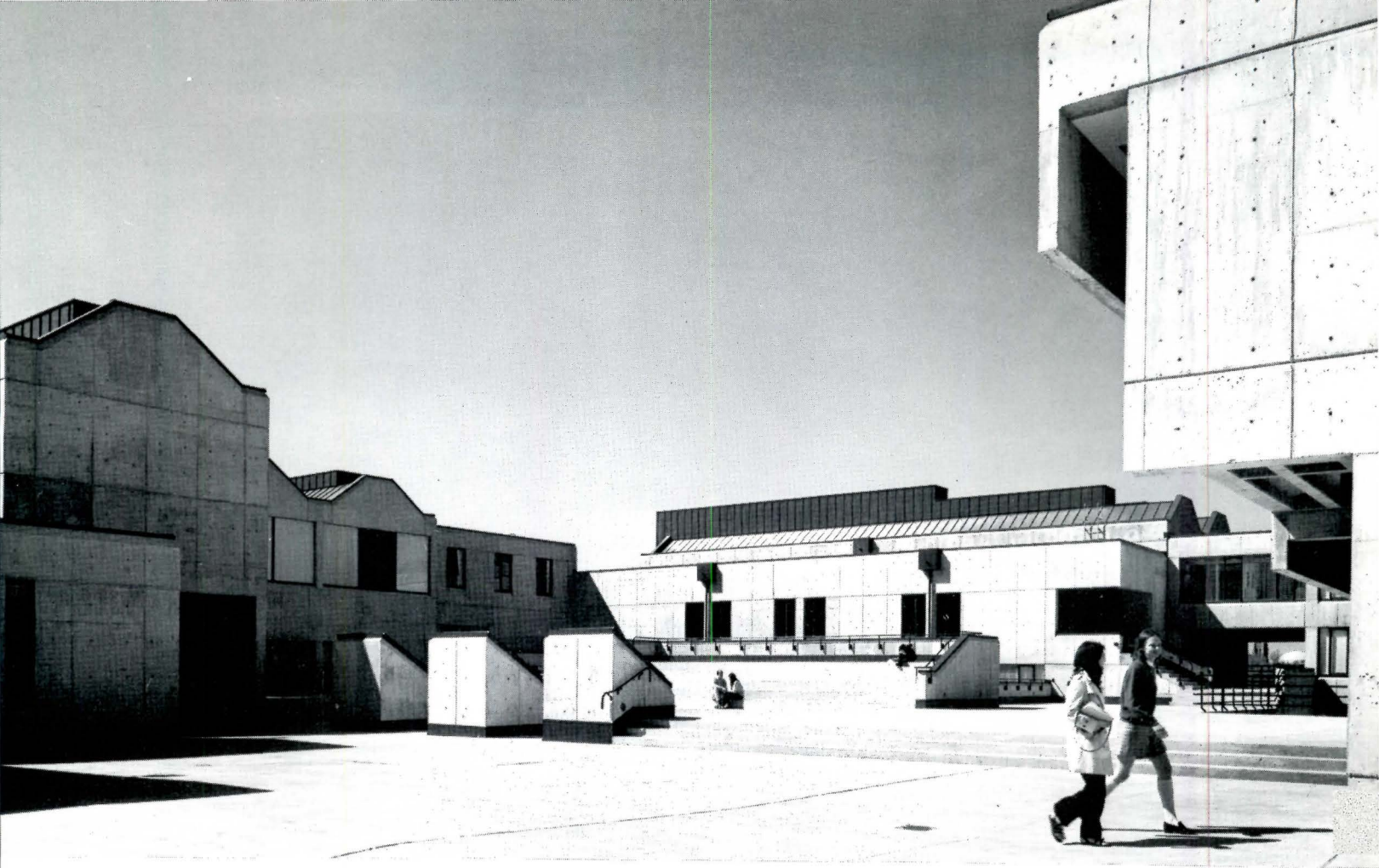
Spanning the law library stacks is the windswept austerity of the multi-level courtyard which you come upon from the center of the campus (opposite, above). Inside, the austerity is partly relieved by multi-level spaces like the student lounge (opposite, below).

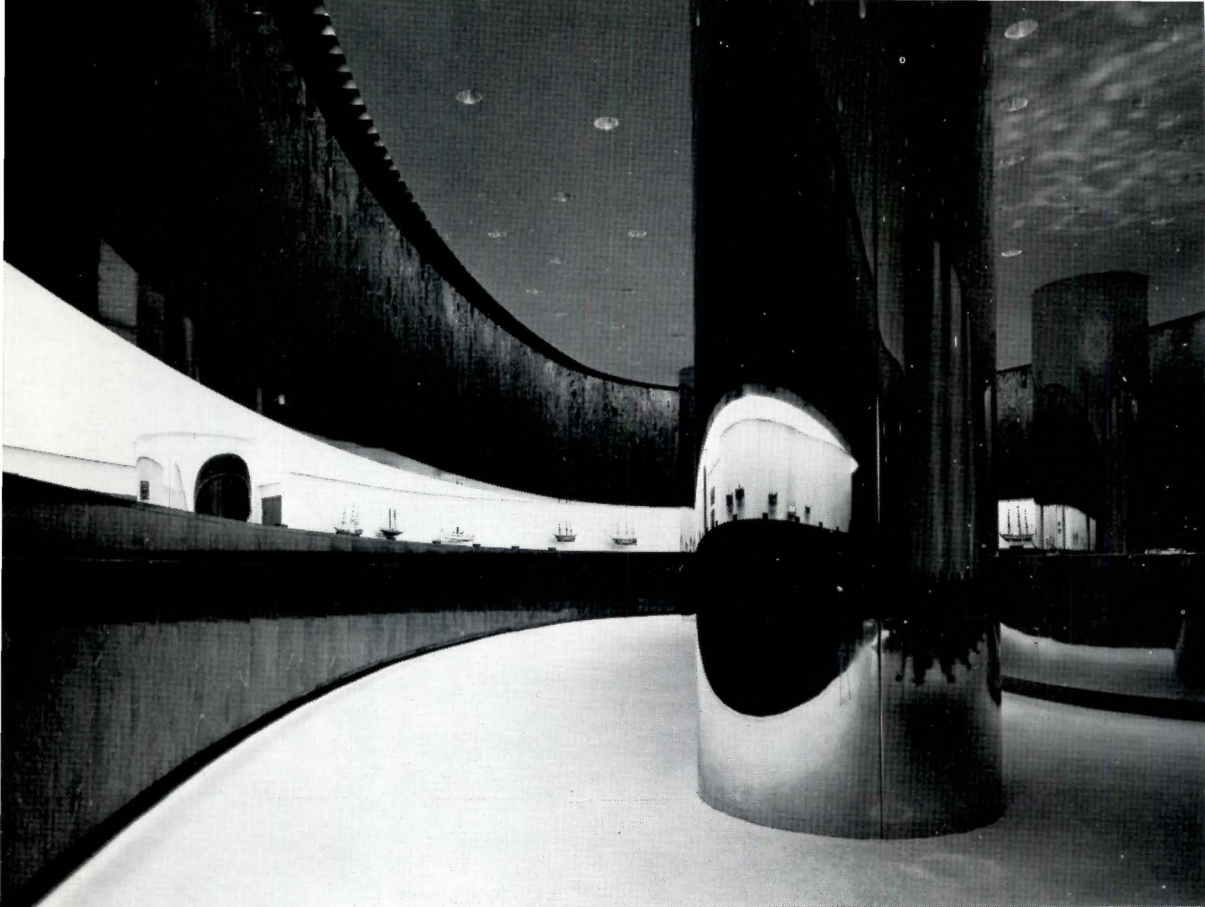
FACTS AND FIGURES

The Seeley G. Mudd Law Building and Social Science Building, Washington University, St. Louis. Architects: Schnebli, Anselevicius, Montgomery. Associate Architects: William W. Rupe and Robert E. Matter. Landscape Architect: George Dickie. Engineers: Alper Associates (structural); Londe/Gordon/Parker (mechanical, electrical). General Contractor: McCarthy Brothers Construction Co. Inc. Building area: 121,000 sq. ft. Cost: \$4,450,000 (construction); \$132,000 (furnishings and equipment).

(For a listing of key products see p. 72.)
PHOTOGRAPHS: Balthazar Korab







BANK THAT LURES NEW CUSTOMERS

The new Seamen's Bank
combines the
romance of the sea
with modern elegance

It was a hard act to follow. But Architects Carson, Lundin & Shaw succeeded with style when they did an interior redesign for the Seamen's Bank for Savings. The bank took over space vacated by the reduced operations of the festive La Fonda del Sol restaurant in Manhattan's Time/Life Building.

The primary design limitation was the asymmetry of four columns that punctuate the floor area off centers. Otherwise the architects enjoyed freedom, with the bank demanding only that the new design reflect the bank's maritime heritage and that it contain 19 tellers' stations.

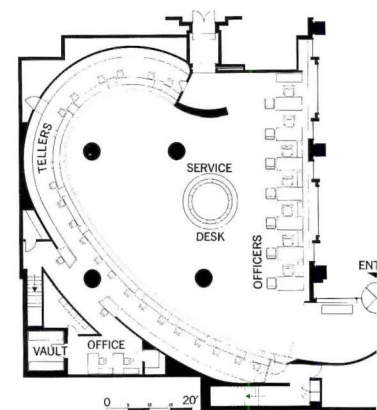
"We had no choice on the shape of the counter area," says Arvin Shaw modestly. "It was the only shape that would accommodate enough tellers and somehow work around those columns." The counter area, faced with white-flecked, deep green marble, wraps around the columns like the profile of a great wave, leading visitors into and around the bank. The overhang shields a mezzanine area housing the bank's archives, supplies and accounting.

The columns are played up, with mirror-finished stainless steel wraparound panels, making them a gleaming counterpoint to the marble hues and neutral-toned carpeting. A similarly mirror-clad service desk stands as an echo of the column finish and the counter shape. The furnishings are of an unobtrusive, classical design, matte black.

For someone with an interest in the sea and ships, a visit to the Seamen's Bank is special because the bank uses its offices to display a collection of maritime art and memorabilia. This branch features models of naval and merchant ships against the green marble, chosen for its resemblance to the ocean.

The bank was founded in 1829 as a philanthropic institution to protect the earnings of merchant seamen from the neighborhood pubs, which were the usual repositories of such funds. The trustees of The Society for Promoting the Gospel among Seamen were the founders, and the bank was open to sailors exclusively until 1833; since then, the general public also could be saved.

When this branch opened its doors, it had estimated its business volume for the first six months. In three weeks, business had already surpassed the six-month projection—often, says the manager, "because people see us and come in 'just to look.' Then they return and open an account."



FACTS AND FIGURES

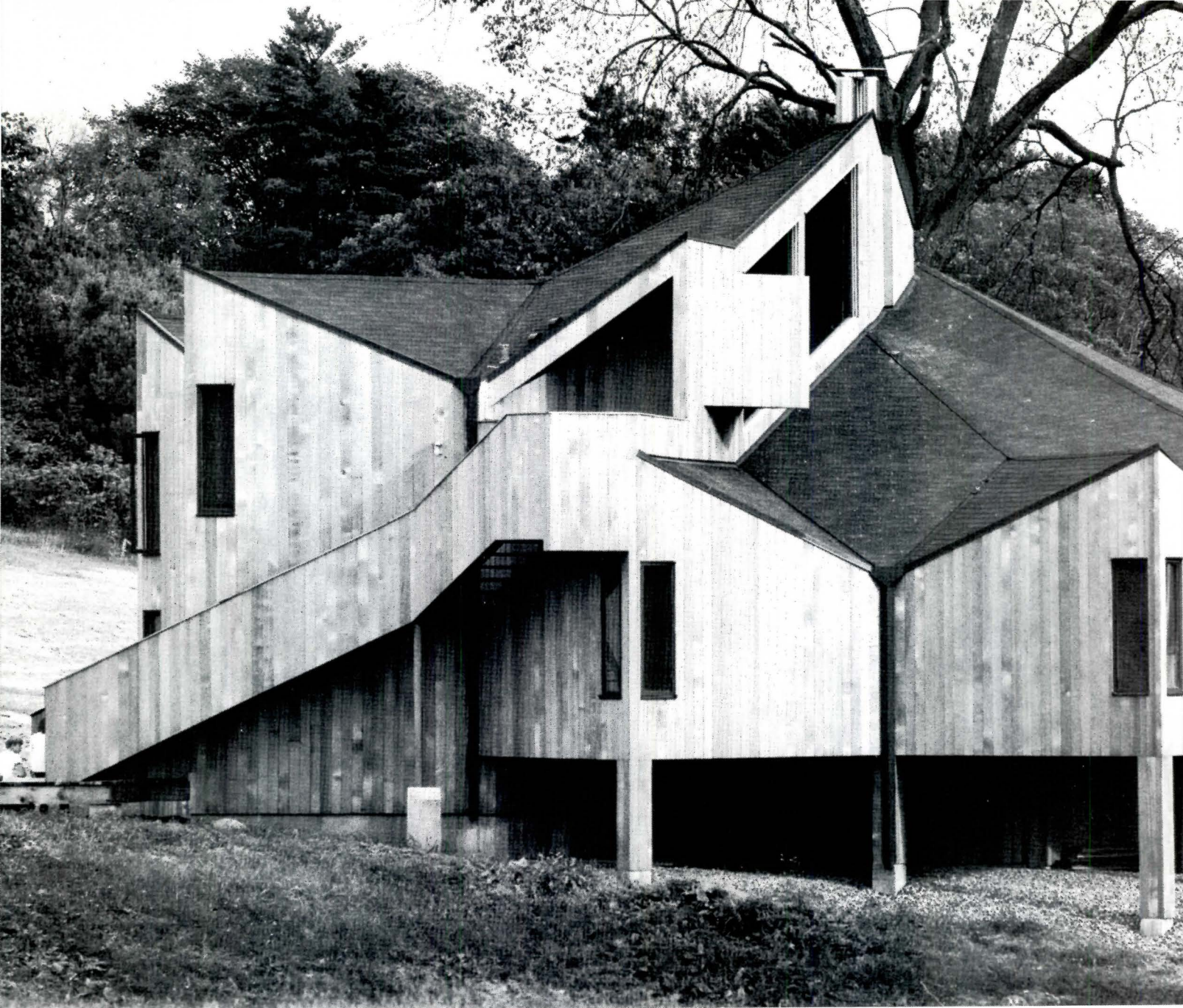
The Seamen's Bank for Savings, New York City. Architects: Carson, Lundin & Shaw (J. D. Stephen, William Trautman, associates in charge). Structural Engineers: Edwards & Hjorth. Mechanical & Electrical Engineers: Syska & Hennessy. General Contractor: John Gallin & Son, Inc. Renovated Area: 8,033 sq. ft.

(For a listing of key products used in this building, see p. 75.)

PHOTOGRAPHS: Alexandre Georges.

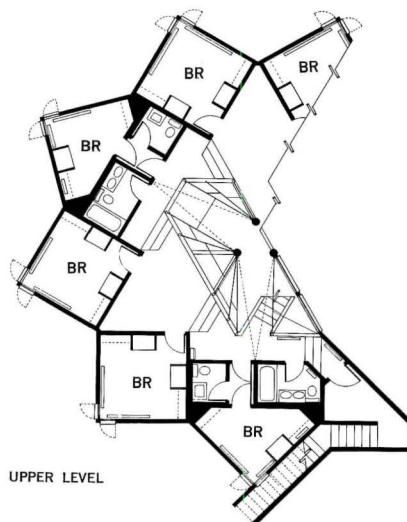
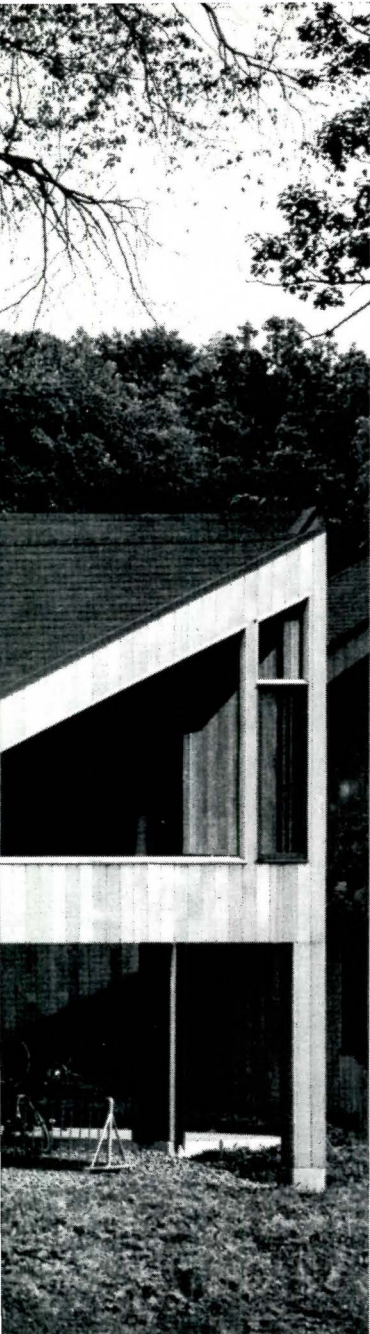
The long sweep of tellers' stations (far left) makes the bank seem larger than it is and directs a visitor's eye around the entire area. In the center of the floor (below) is a mirror-finished service desk, distinguished by overhead lighting producing intricate reflective patterns on the ceiling. (The bank, which also boasts a trough of light over the teller counters, won the 1971 Lumen Award from the Illuminating Engineers Society.) Across from the tellers, the bank officers occupy a row of classic matte black furnishings, set off by a large ship on the far wall (middle photo).



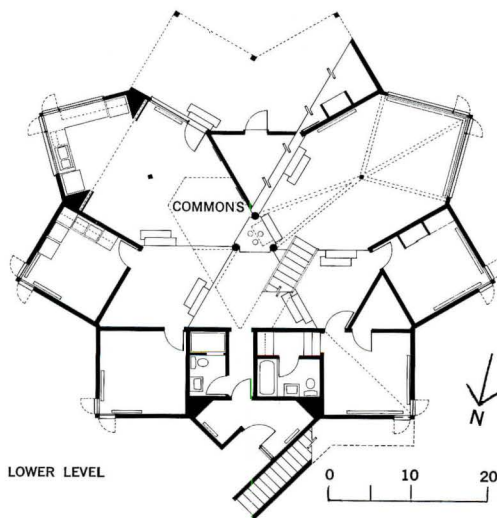


N FOR FOR THERAPY

Emotionally well spaces
offer new outlets for
emotionally disturbed children



UPPER LEVEL



LOWER LEVEL

Each house, while complex in overall form, is essentially a set of repeated elements. The plans (above) help explain the helical configuration of the ascending levels, each three steps above the other. The six sectors, emanating from the center, define the individual rooms on the periphery of the structure as well as the central commons area where all activities are easily supervised.

This isn't just farmland.

Walking around the 180-acre site of the Winnebago Children's Home near Neillsville, Wisconsin, you would think you had made the return to nature.

It's all good therapy for the emotionally disturbed children living there. Cows are grazing on the hillsides. There is the Black River to wade in. You glimpse grain silos through the trees. And, sprouting from the contours like cubistic teepees are the Home's four new residences by Skidmore, Owings & Merrill.

Put out to pasture, Architect Walter Netsch's "field theory" has yielded architecture with emotion and intimacy.

Instead of the long, antiseptic corridors of most institutional buildings, these houses are conceived for another, more compassionate kind of surveillance, that of spontaneous interaction between children and teachers.

Each holds ten children and their house parents. Four double and two single bedrooms are clustered around a large interior commons, where the real interaction occurs. The bedrooms provide privacy and identity—ceilings slope from a high ridge (diagonal to the room) down to a low point over the sleeping alcoves. Over the central commons, the diagonal gable roof spans the distance from the outside rooms to the troika of poles in the center.

Level changes identify changes in function: six spatial sectors, composing the plan, emanate from its center. This generates a kind of helical configuration of levels, each three steps above the other, around the central fireplace.

Beneath the higher portions of the buildings are outside covered areas; a paved terrace, adjacent to the kitchen, for dining and recreation. There is also storage space beneath each building for bicycles, toboggans and other outdoor equipment.

People are often disturbed by the world around them because of their sensitivity to it. The Winnebago program seeks to stimulate the child's innate qualities, those which broken homes (or fragmented surroundings) discourage; it seeks to soften old blows, replacing isolation with interaction.

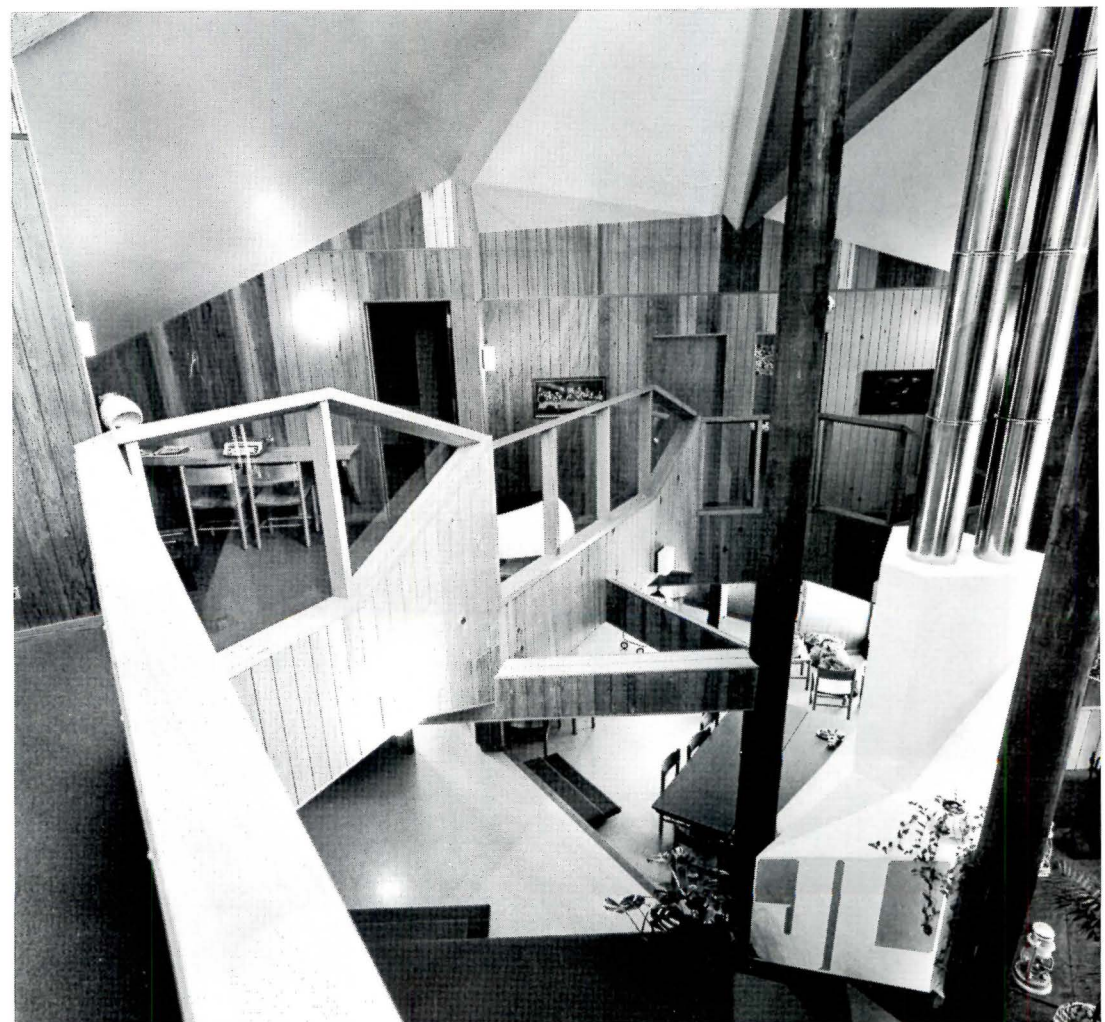
Such simple wisdom shouldn't be hard to come by (or build), unless you're *without* emotion.



The interior spaces are animated, not static. Low areas give way to high ones; level leads to level; varied moods are articulated as surely as varied functions. Individual rooms overlook the commons area, tying them all together in a family-style arrangement (right, below). At the center, a troika of telephone poles lurch upward like the supports of some latter-day teepee (right, above).

FACTS AND FIGURES

Winnebago Children's Home, Neillsville, Wisconsin. Architects: Skidmore, Owings & Merrill (Walter Netsch, partner in charge; W. O. Rueter, design; R. A. Sanchez, technical). Interior design: W. Punzio. General contractor: The Wergin Co. Inc. Building area: 3,200 sq. ft. (each of four buildings). PHOTOGRAPHS: Orlando Cabanban



FORUM

(continued from page 23)

hearings on the pipeline subject would have been a "circus."

It is not a particularly entertaining spectacle to imagine where the *real* circus will be if Interior's faith in the oilmen's competence isn't borne out by experience in the field.

DISNEYANA IN THE SIERRAS

High in the Sequoia National Forest, halfway between Los Angeles and San Francisco, sits the exquisite Mineral King Valley, 7,800 ft. above sea level and surrounded by mountain peaks as high as 12,405 ft. Walt Disney



Productions plans to develop this alpine paradise into a year-round recreational complex, and Sierra Club, whose members are devoted to the protection of natural resources, hopes to prevent this from happening.

When the U. S. Forest Service invited bids in 1965 for construction of the commercial ski resort on the 80-acre site, Disney's bid—which outlined a \$35-million complex of hotels, motels, restaurants, ski lifts and a nine-level garage—was chosen. The tourist count was going to be high—twice as dense as Yosemite on a busy day. To accommodate this flood of humanity, a fine highway was planned; access across Sequoia National Park was granted by then Interior Secretary Stewart L. Udall. (Jan./Feb. '68, Mar. '69 issues)

The Sierra Club, horrified at what all this would do to the fragile ecological balance of the valley, sued on behalf of its 78,000 members and the general public, and was granted a temporary injunction in 1970 from the Federal District Court in San Francisco. The Supreme Court has now overruled this decision on the ground that the club of citizens had no legal standing to sue, which we find puzzling: some groups have been

successful in suing as citizens: witness the Hudson River Expressway and the fiercely-fought Storm King Mountain cases in New York.

Last month Walt Disney Productions announced a revised plan for the valley. No highway will cut through to Mineral King. Instead, a narrow-gauge, electrically-powered, cog-assisted railway is proposed, eliminating the need for the highway and, praise God, the nine-level parking garage. Cars will now be banned. The recreational facilities will be scaled down considerably to accommodate the limited number of people (about 4000) the train could carry up to the valley floor every day.

Someone has pointed out that the revised plan means state costs will be only \$2 million (to improve the primitive existing road) instead of \$38 million it would have cost to build the originally-planned highway. Who pays for the cog railroad has not been determined.

Michael McCloskey, executive director of the Sierra Club, has said the project as revised is still huge, and the public will have no guarantee that things won't expand once the hotels and restaurants are there. Says McCloskey of the Supreme Court's decision: "A technical setback, but by no means the end of the line..."

EPA FIRM ON CLEAN AIR

Will we have no new cars after three years? Henry Ford has said the automobile industry would have to suspend production in 1975 because the emission standards set up in the 1970 clean air act are impossible for Detroit to cope with.

The decision of William D. Ruckelshaus, Environmental Protection Agency chief, to deny

The lady is a well-kept woman

in May industry requests for a year's postponement was praised by environmentalists and congressmen who sponsored the act. Paul G. Rogers (D. Fla.) called the decision "courageous, and the single most decisive action taken by EPA yet."

The automobile companies are now obliged to produce an engine with a 90% reduction in hydrocarbons and carbon monoxide from the 1970 models. Improved carburetion and a fast-release choke will accomplish part of the clean-up, but the stumbling block is where most of the cleaning would take place: the final converter containing the catalytic material, usually platinum, which causes hydrocarbons and carbon monoxide to break down to water and carbon dioxide.

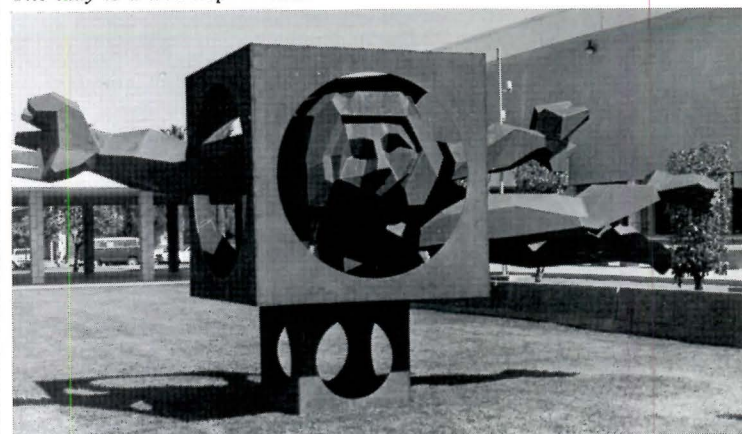
Ruckelshaus appears to be very sympathetic to Detroit's catalyst headache, but felt that, after 2,000 pages of material submitted, the auto makers still hadn't proved that technology can't handle the emission control problem.

AR1

THE LADY IN THE CUBE

Artist/Architect/Visionary Paolo Soleri has sculpted this lady, which he calls "Il Donnore", for the Phoenix Civic Center. The cube represents shelter, and the woman, "the creature for whom the shelter is made." (They don't have women's lib yet in Arizona.) She is made of steel and will turn rust-red.

Paolo Soleri is the designer/director of Arcosanti, the future-structure city he is slowly building out in the Arizona desert, with the help of architecture students who come every year to do construction work.



UNIVERSITY APPOINTMENTS

Montana State University announces the appointment of Ilmar Reinald as head of the School of Architecture at Boze-



MSU Dean Ilmar Reinald

man. He succeeds James Gough who was head of the school for five years. Estonian-born Reinald has won awards in several design competitions, and has an architecture practice in upstate New York.

- David A. Crane, former chairman of urban design of the Graduate School of Fine Arts at University of Pennsylvania, will become the first dean at Rice University's School of Architecture. Crane is senior partner of an urban planning and architectural firm based in Philadelphia.

Crane has, in turn, chosen Alan Y. Taniguchi, who is currently dean of the School of Architecture at the University of Texas, Austin, to be the new director of the School.

The University of Texas at Austin, on the other hand, knowing that a good man is hard to find, has yet to find a dean to replace Alan Taniguchi, and has set up a search committee. In the meantime, Assistant Dean Sinclair Black has been appointed acting dean.

NEW ARTS COUNCIL PRESIDENT

John B. Hightower, of recent fame as the director of the Museum of Modern Art who got fired (Mar. '72 issue), has been named to succeed John MacFadyen as president of the Associated Council of the Arts. In turning over his office to the new president, MacFadyen said, "Ten years ago John Hightower

joined me on the staff of the New York State Council on the Arts and succeeded me as executive director in 1964. My high admiration for him has increased consistently . . . John is deeply committed to promoting the role of the arts in the process of social change. I cannot think of anyone better qualified to lead ACA."

Mr. Hightower was selected for this post by an ACA committee of three men: one of them is David Rockefeller, who, as a trustee of the MOMA, was quoted last spring as saying of John Hightower on the occasion of firing him, "A year ago we expressed doubts to him." The ways of the great are ever mysterious.

DIED

Henry A. Pfisterer, on the faculty of Yale's School of Architecture for over thirty years, died on May 26 at age 63. Pfisterer was best known as an engineer of great virtuosity, and as an inspired and inspiring teacher of architectural engineering to hundreds of Yale graduates. Shortly before his death, the Yale Arts Association, an alumni group, named him the 1972 winner of its annual Medal. In the accompanying citation, the alumni told Pfisterer that "the bulk of the credit for Yale's long distinction in the structural engineering side of architectural education goes to you."

COMPETITIONS

PPG Industries Foundation has invited ten schools of architecture (one in each of the ten largest cities in the U. S.) to participate in a competition for a \$25,000 grant. Entrant must simply state what the school would do with the money to improve the education of students in subjects relating to energy conservation as it affects construction and building operation. The nine non-winners will receive \$1,000 as a consolation prize.

- The Federation of Artists of Applied Arts of Yugoslavia (FAAAY) announces an international competition DESIGN 72, with cash prizes totaling approximately \$50,000. The aim of the competition is to bring together producers and good designers; and the Yugoslavs hope that

improved design will result in increased market sales abroad.

Items in all categories are eligible, from furniture, textiles, lighting fixtures and plastics, to tools, toys, ready-made clothing, and souvenirs.

The competition is open and anonymous. FAAAY will have an industrial production option on the winning projects for a period of some months. Designers may enter works that have not yet been in serial production, or published. All projects should arrive in Yugoslavia by October 25, 1972. Participants may send \$3 for full details to: Akcijski sekretariat za industrijsko oblikovanje SPID-YU, c/o DLOS, Titova 21/I, 61000 Ljubljana.

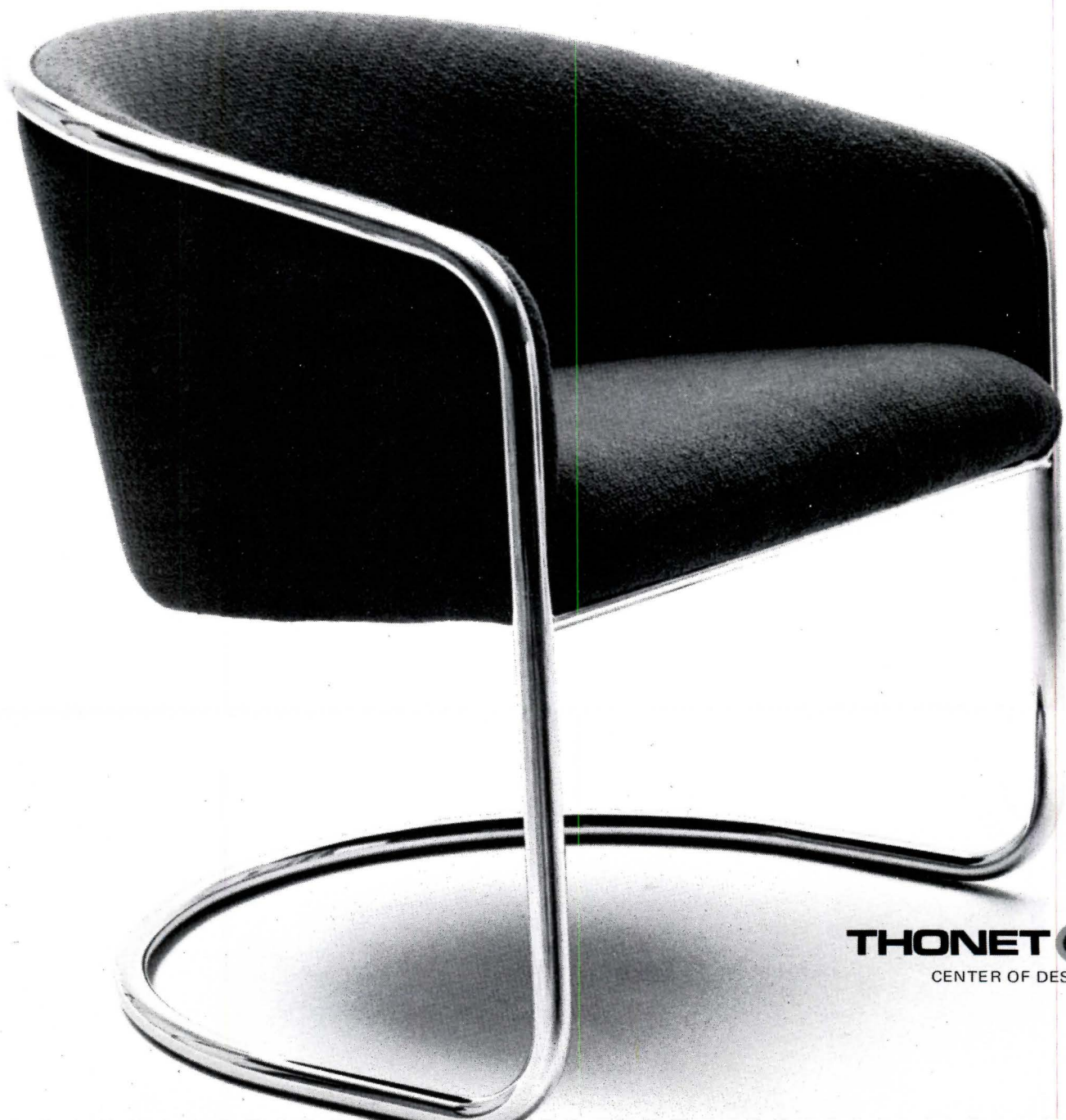
- American Institute of Steel Construction will sponsor a competition to encourage "the creative use of structural steel".

Buildings of all classifications are eligible. They must be: 1) located in the U. S., 2) framed with domestically produced and fabricated steel, and 3) completed after Jan. 1, 1970 and before Aug. 26, 1972. Winners will receive stainless steel plaques. Deadline for submissions is Aug. 26, 1972. Write: American Institute of Steel Construction, 101 Park Avenue, N.Y., N.Y. 10017.

- Entries in the Portland Cement Association's White Cement Architectural Competition are due July 31, 1972. Any building featuring white cement concrete as the principal material is eligible. The concrete can be precast, cast-in-place, any shape masonry, stucco, terrazzo, etc. Building must be located in and designed by architects having offices in the U. S. Construction must have been completed between Jan. 1 and Dec. 31, 1971, with first occupancy during that time. Write: Portland Cement Assoc., Old Orchard Road, Skokie, Ill. 60076.

- The Prestressed Concrete Institute is inviting entries in their competition for awards in design using precast and/or prestressed concrete, especially where used to achieve "esthetic expression, function and economy." All registered architects and engineers practicing in the U. S., its possessions, and Canada are eligible to enter. Any kind of structure completed within the last three years may be entered. Deadline is July 10, 1972. Write: Prestressed Concrete Institute, 20 North Wacker Drive, Chicago, Ill. 60606.

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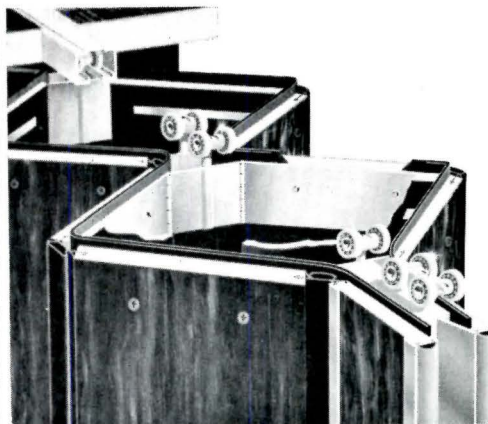
(continued from page 72)

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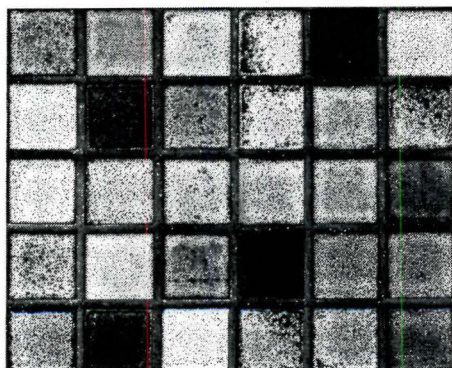
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The Congress will highlight working sessions, visits to the world-renowned Rila Monastery, the Valley of Roses, largest in the world, and the fabulous Black Sea resorts of Bulgaria, which have made this area the new Riviera of Europe.

The I.U.A. Congress has scheduled its calendar plan and working program, including sightseeing tours from September 16th to October 4th.

For additional information on the Congress, please contact The American Institute of Architects, 1785 Massachusetts Avenue, N.W., Washington, D. C. (202) 265-3113, or the Bulgarian Tourist office, 50 East 42nd Street, New York, New York 10017. (212), 661-5733.

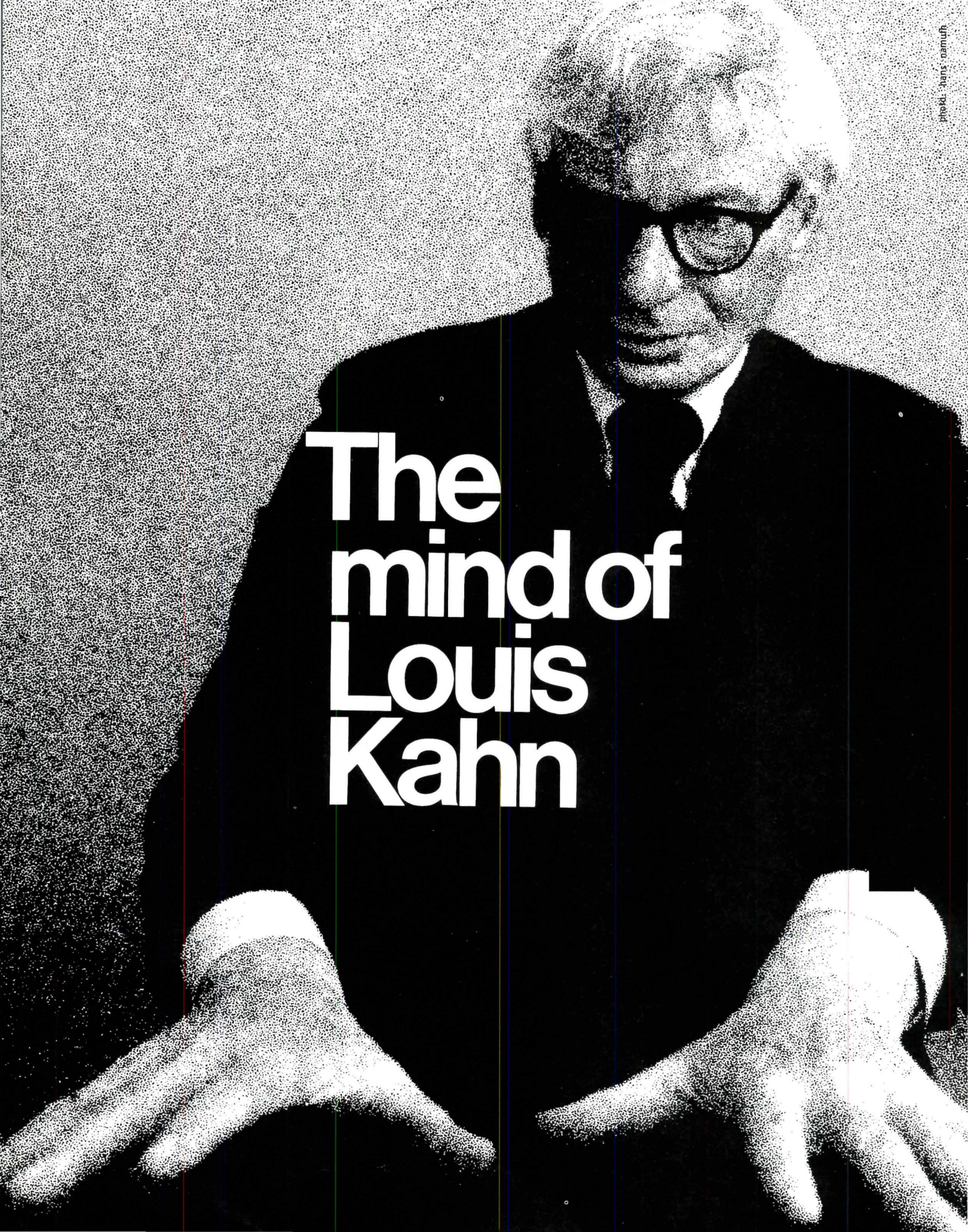
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