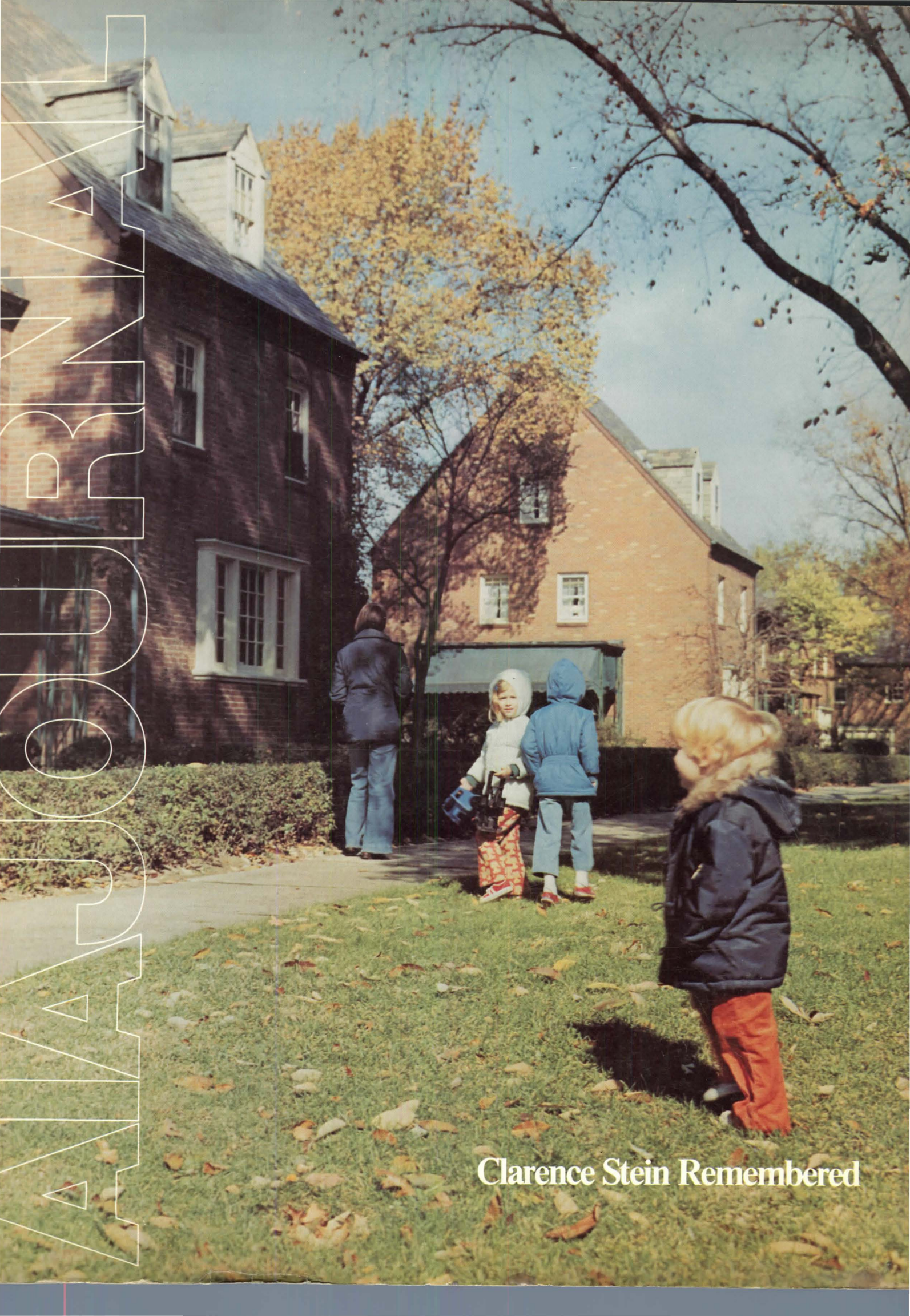
AIA JOURNAL



Clarence Stein Remembered

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Architect: Ulrich Franzen & Associates
William Street Apartments, Wesleyan University Middletown, Conn.
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Photographs: David Franzen

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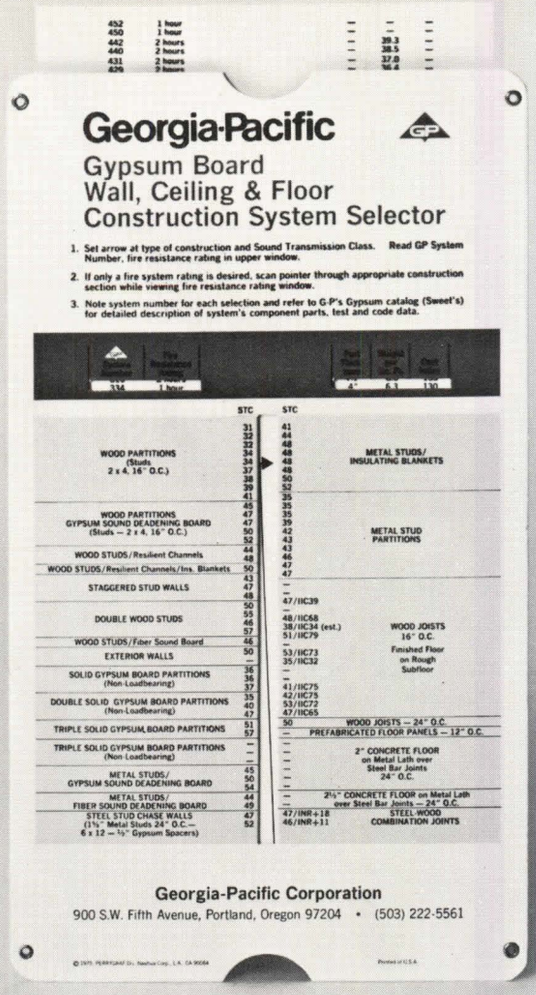

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AIA JOURNAL

In Commemoration of Clarence S. Stein, FAIA (1882-1975)

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Departments

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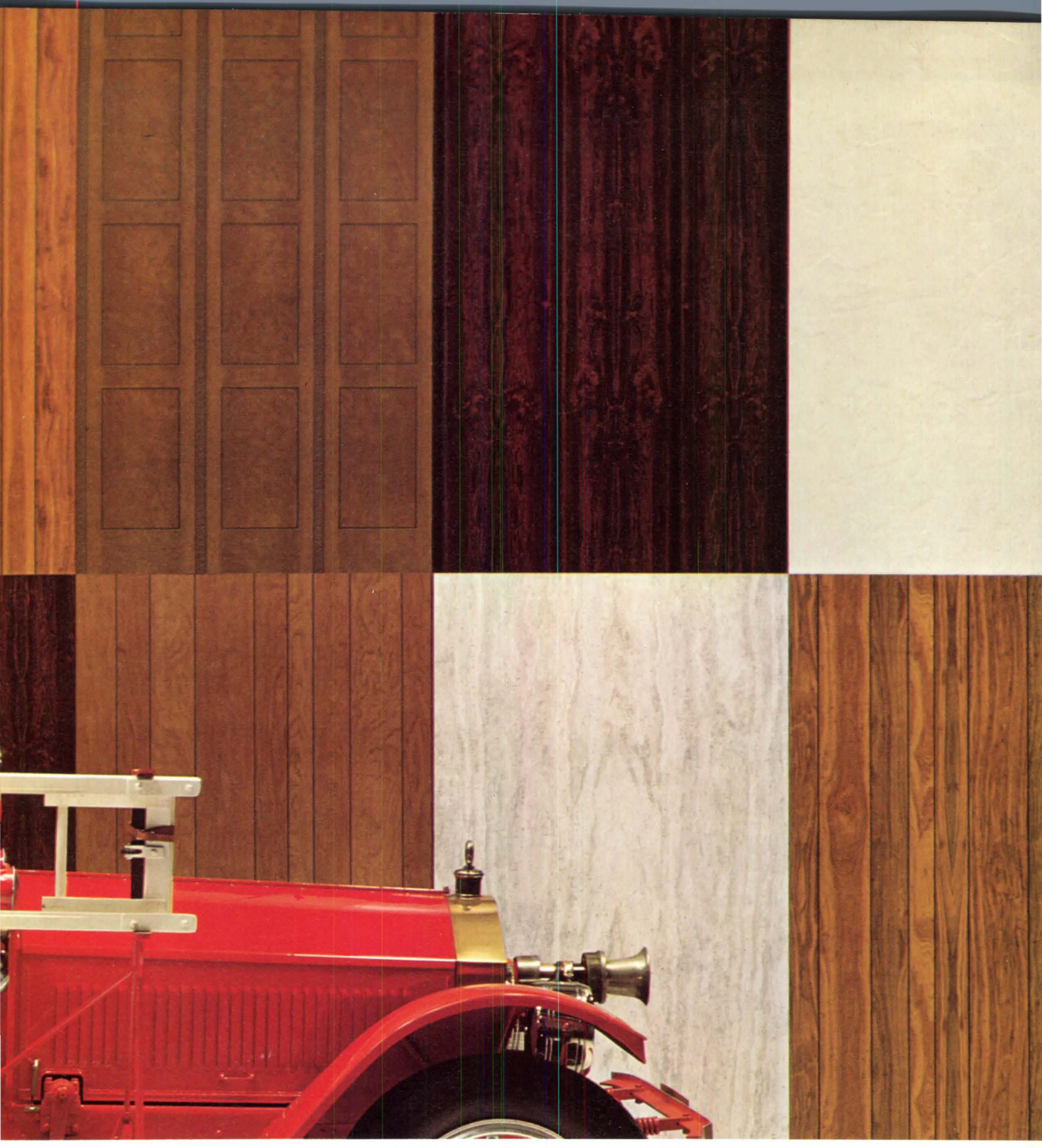

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Letter from AIA to Carter Stresses Energy, Housing And Construction Economy

AIA has sent congratulations, best wishes and a call for action on some major issues facing the nation to President-elect Jimmy Carter. In a letter dated Nov. 5 and signed by Louis de Moll, FAIA, Institute president, AIA offered its resources to the President-elect and to the new Administration both during the transition period and in the "pursuit of economic recovery and the enhancement of the quality of life" in this country.

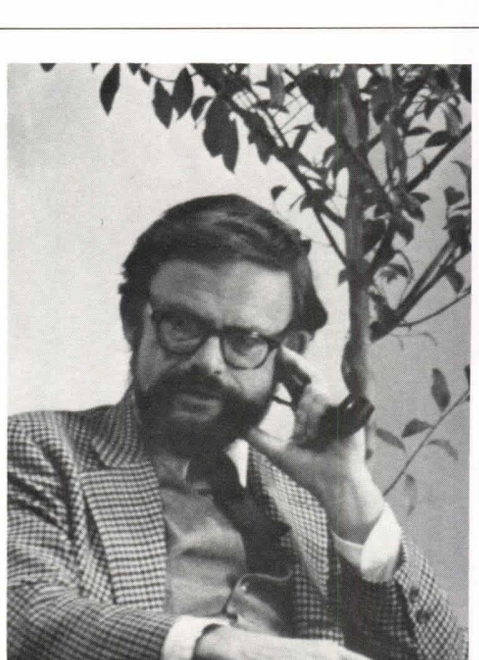
De Moll wrote that AIA had presented all Presidential candidates with its positions on issues of concern to the nation and to the profession, such as economy and the construction industry, energy, housing, land use and A/E selection procedures. During his campaign, President-elect Carter expressed agreement with some statements of AIA policy. "I was pleased to see," wrote de Moll, "that you not only share our concern but advocate parallel approaches to solutions for these complex problems."

Regarding the nation's energy problem, de Moll wrote that the U.S. "must move forward to create additional energy conservation initiatives. The federal government can lead the way by establishing financial incentives to all building owners and constructors."

De Moll wrote that "increased efforts are needed to fulfill the right of all citizens to decent shelter. . . . We must focus our concern on urban centers and reclaim the vast resources of the inner city."

Also, the letter states, we must "renew our fight to preserve the natural resources of this country and promote incentives for wise land use planning and resource management."

AIA's paramount concern "is the problem of the construction industry and the economy," de Moll wrote. "If the construction industry, the second largest in our nation, is to play its role of leading the country out of recession, it cannot be allowed to continue absorbing the brunt of the current economic retrenchment."



Institute President De Moll Reflects on Year in Office

"I leave office with a nagging frustration that I have not accomplished much at all —certainly not nearly what I had hoped," said Louis de Moll, FAIA, retiring president of the Institute who has served for five years on the AIA board and as an officer. This characteristically modest reply was in response to a question posed to him about his accomplishments during the past year. "At the same time," de Moll continued, "I have some very positive feelings about both the profession and the Institute."

De Moll said: "As a profession, we are continuing to survive the toughest economic recession since the Great Depression. Although we have not yet decided precisely how we will meet the challenges of a changing, expanding market, we have at least recognized the need for change. We are talking about it, and we are exploring the alternatives. The on-going study of changes in ethical standards is, of course, symptomatic of all this."

De Moll declared that the Institute "is in good shape. It has re-evaluated many of its programs and reorganized the staff. These actions, I believe, will result in increased efficiency at less cost." De Moll said that the staff reorganization was needed "to establish a controlling mechanism."

He said that in a single year a president of the Institute cannot claim credit for many innovations. "It's really a cumulative accomplishment," he said. *A.O.D.*

New ASCE Code Permits Fee Quotation Submission

The American Society of Civil Engineers has adopted a new code of ethics which stresses the "honor, integrity and dignity" of the engineering profession. The code, to become effective on Jan. 1, has resulted from five years of effort during which time each of the 73,000 ASCE members had the opportunity to comment on the organization's fundamental principles, canons and guidelines to practice.

An asterisk by the code's title indicates that the code was amended on Sept. 25, 1976. Then follows the statement that under the revised code "submission of fee quotations for engineering services is not an unethical practice. ASCE is constrained from prohibiting or limiting this practice and such prohibtion or limitation has been removed from the code of ethics. However, the procurement of engineering services involves consideration of factors in addition to fee, and those factors should be evaluated carefully in securing professional services."

It has been pointed out that this explanation "implicitly" refers to ASCE's involvement in antitrust proceedings. The Justice Department, for example, in 1971 attacked ASCE for its then-existing ethical ban on price competition. The case was settled by a consent decree. In a case now pending before a New York federal court, however, the Justice Department maintained that the consent decree had been violated because a ban against supplanting an engineer limited price competition.

The previous code said that it was un-

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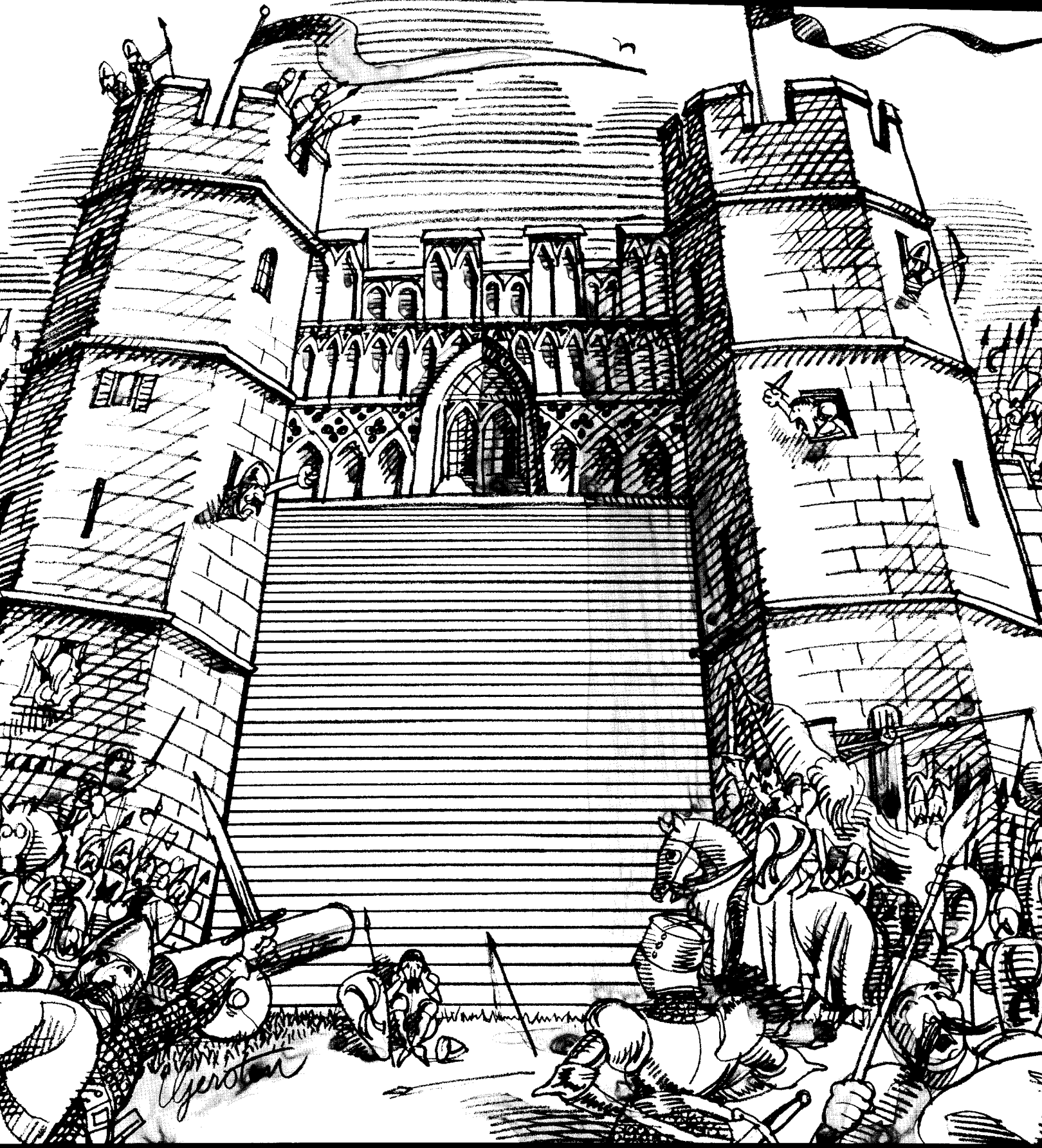

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The result is a building that operates using less than half the energy of a conventional structure of equal size.

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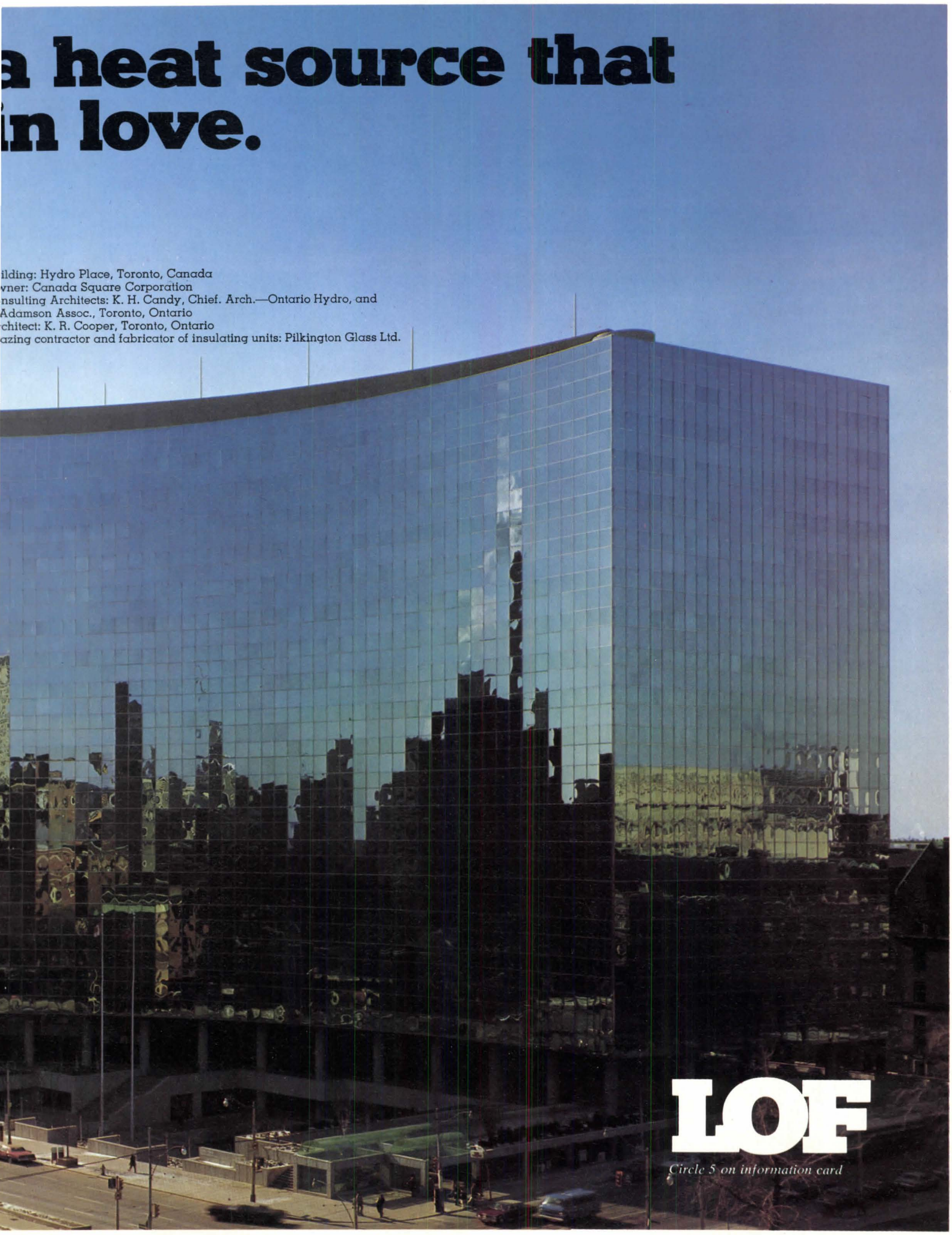

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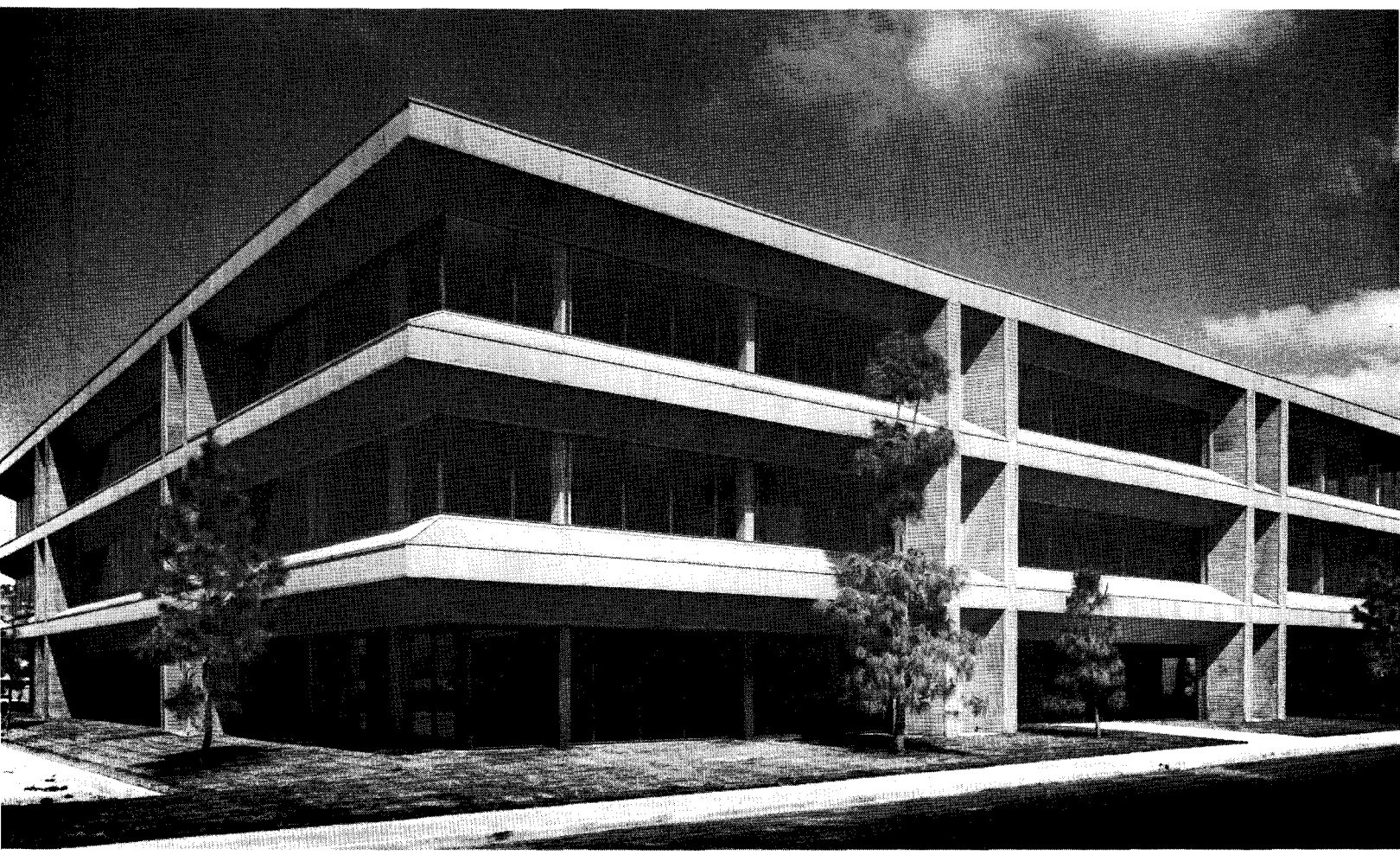
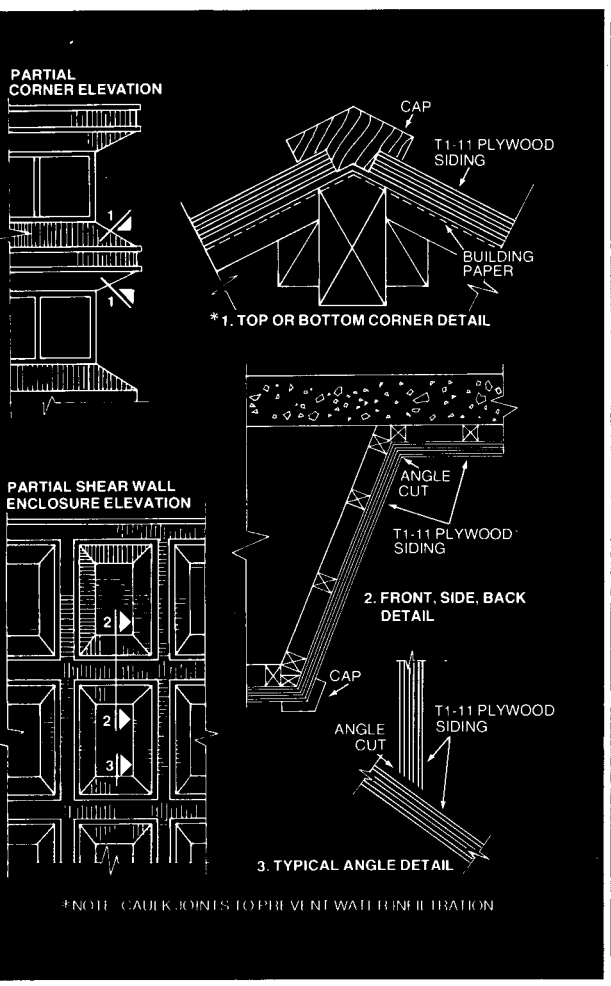
Plywood Design Series–1





The end of the faceless office building.

Two things are responsible for the unique appearance of this large office building in San Diego, California.

Plywood, and the creative imagination of architect Brian Paul, AIA.

With plywood siding and sophisticated detailing, Mr. Paul integrated the building and its large inner courtyard into a refreshing environment for both tenants and their clients. The inherent warmth of plywood also helped form an empathetic tie with the adjacent residential neighborhood.

Plywood offered economic as well as aesthetic benefits. Shiplapped 5/8" T1-11 siding in a simple design needed only semi-skilled labor for installation. Spandrels were detailed to utilize 1/2- and 1/4-sections of a standard plywood sheet. And as sheathing for the floors and roof, plywood extended its cost savings into the structural system as well.

For design ideas and information, write American Plywood Association, Department AA-126, Tacoma, Washington 98401.

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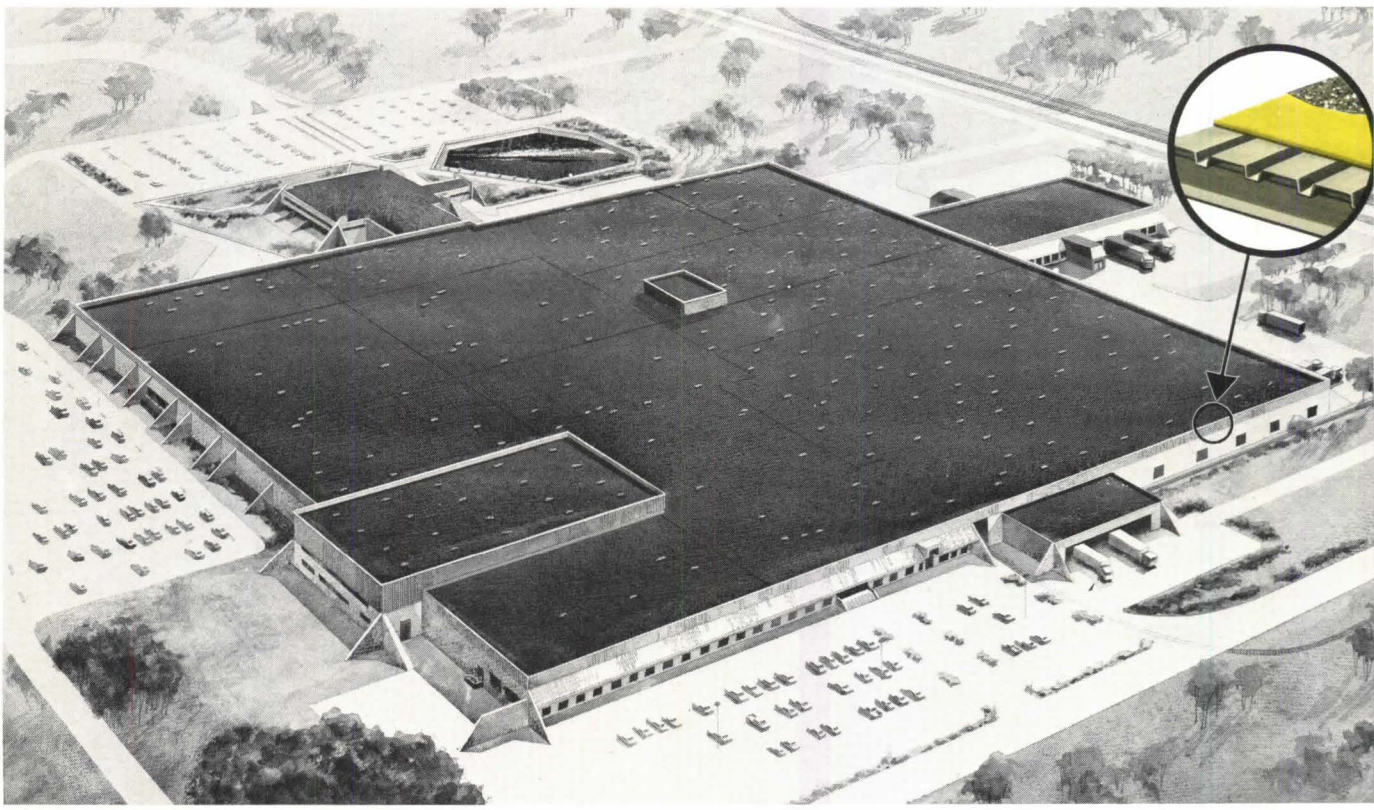
$1,849,996 Projected cost to heat and cool the 46-acre J.C. Penney warehouse for 20 years with only 15/16-inch Fiberglas roof insulation.



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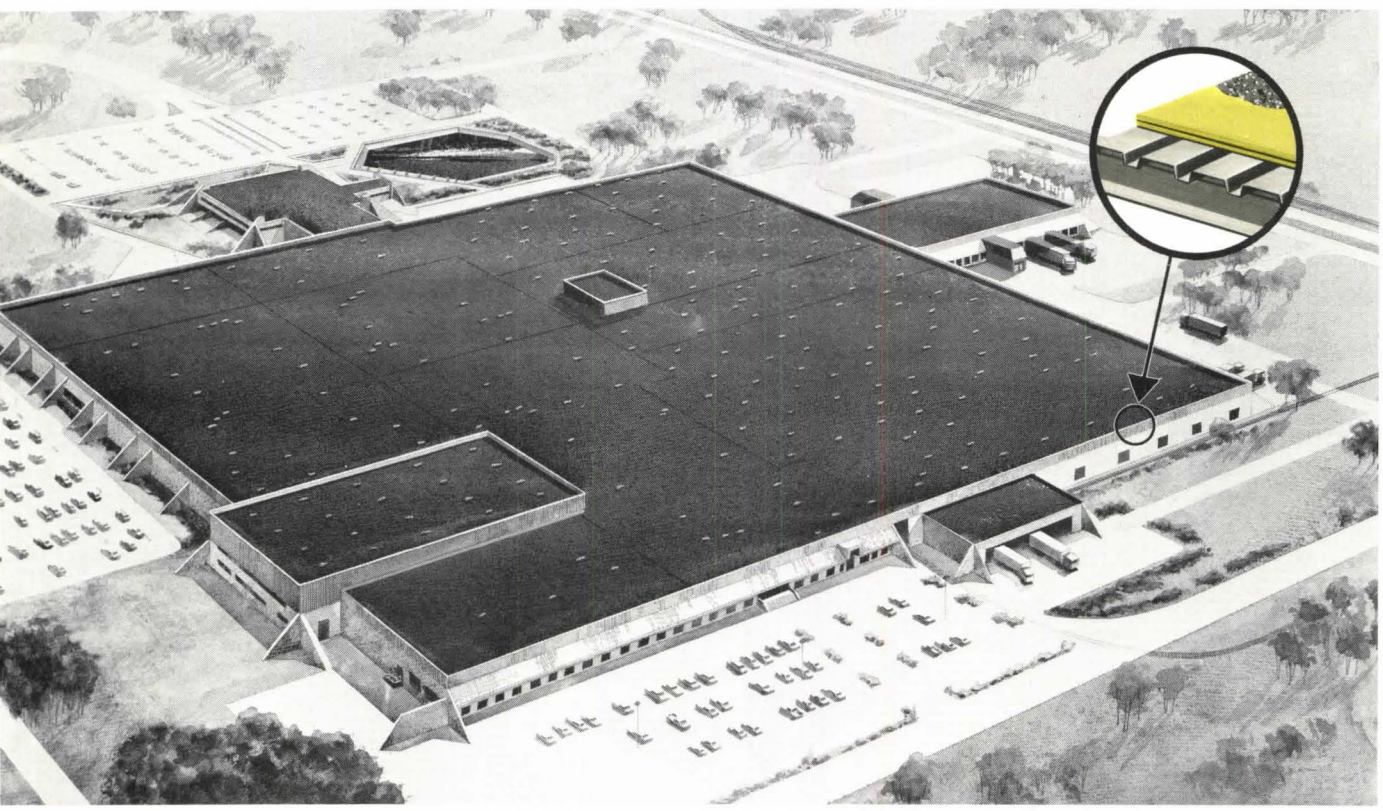
Projected cost to heat and cool the 46-acre J.C. Penney warehouse for 20 years with thicker 2¼-inch Fiberglas roof insulation. (After allowing for the added cost of thicker insulation!)



A remarkable savings of $972,024! With it, architect Paul Slusarev, Project Manager of the massive new J.C. Penney warehouse/office in Lenexa, Kansas, is helping to point the way for designers of schools, offices, stores, and other commercial buildings everywhere.

Saves money two ways

Using 2¼ inches of Fiberglas* roof insulation vs. a conventional thinner layer saves money two ways:

1. It saves on energy costs. Estimated savings per year, based on gas heating and electric cooling in Kansas City, Kansas, with a projected increase in energy costs at 7% per year and future savings discounted at 10% per year: $64,160—or $972,024 every 20 years.

(Due to present availability of natural gas, propane and fuel oil are used as additional fuels for heating, and as a result of using these higher-priced fuels, actual savings may vary.)

2. It saves on construction costs. The first cost of this energy-tight warehouse is actually lower than if a less efficient version had been built! Reason: the improved thermal performance of the roof permits use of less costly heating and cooling equipment. The savings are large enough to cover the added cost of the thicker roof insulation *twice* over.

Smart for re-roofing, too

Thicker Fiberglas roof insulation also makes sense when it's time to re-roof *existing* buildings. It should pay for itself within a few years, then go on saving thousands in fuel bills for years to come.

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Going On from page 6
ethical "to supplant another engineer in a particular engagement after definite steps have been taken toward his employment." The revised code states: "Engineers shall not attempt to obtain, offer to undertake, or accept commissions for which they know other legally qualified individuals or firms have been selected or employed until they have evidence that the selection, employment or agreements of the latter have been terminated and they give the latter written or other equivalent notice that they are so doing."

The new code also considers it ethical for engineers to advertise their services, provided the advertising is done in a way "that does not contain self-laudatory or misleading language or is in any other manner derogatory to the dignity of the profession."

Examples of ethical advertising include "display advertising in recognized dignified business and professional publications. . . . " Also permissible are "listings in rosters or directories published by responsible organizations . . ." and "brochures which factually describe experience, facilities, personnel and capacity to render service. . . ." Also ASCE members may prepare or authorize "descriptive articles for the lay or technical press, which are factual, dignified and free from laudatory implications." Engineers may permit their names to be used in commercial advertisements "only by means of a modest, dignified notation acknowledging the engineers' participation in the project described. Such permission shall not include public endorsement of proprietary products."

The first of the seven fundamental canons adopted states that "engineers shall hold paramount the safety, health and welfare of the public in the performance of their professional duties." The seventh code states: "Engineers shall continue their professional development throughout their careers, and shall provide opportunities for the professional development of those engineers under their supervision."

House Demonstrates Use Of Space-Age Technology

The National Aeronautics and Space Administration has erected a "technology utilization house" at its Langley Research Center in Hampton, Va., to show how technological spinoffs from the aerospace program can be used profitably by the construction industry.

The house was constructed on the basis of research conducted under contract with Forrest Coile & Associates, an A/E firm in Newport News, Va., and Charles W. Moore Associates, architects and planners

in Essex, Conn. The firms designed the house of components and materials that are currently available or will be on the market within five years. The design team estimates that the 1,500-square-foot house would cost about $52,000 if built by a home-building contractor in the Norfolk, Va., area "under mass production."

The house, which the design team estimates would result in $20,000 in savings over a 20-year period, has many energy-conserving features. Located on the roof, facing south for maximum sun exposure, are about 320 square feet of fluid-plate, fluid-type solar collectors. Used in combination with nighttime radiators and a heat pump, the collectors "supply virtually all requirements for space heating and domestic hot water." A larger than normal roof overhang on the south wall lets the sun enter windows from October through March only.

Solar cells made of silicon permit the conversion of light energy into electrical energy without moving parts. A single solar cell is used to charge the battery which powers emergency indoor lighting during power failures, a fire detection system, a security system and a driveway spotlight.

Heating and cooling is controlled by a computer programmed to a family's activities, resulting in substantial savings in energy. Selected exterior and interior walls are insulated with a plastic foam (Tripolymer) which is nonexpanding, nonflammable, nontoxic and rodent resistant and provides a sound barrier. In a fire, the plastic would be self-insulating, forming a charred crust, and would prevent the flame from spreading.

A waste water recycling system "reduces the requirements for community sewerage systems, treatment plants and water supply systems." Waste water from bathrooms and laundry is collected, chlorinated, filtered and recycled to flush toilets, and the waste from toilets goes directly to the sewer. To ensure health safety, the drinking water system is entirely separate.

Among the other features of the house:

- Interior wall studs are made of reconstituted sawdust, "reducing the necessity for new timber cuttings."
- In each light bulb socket is a temperature-compensating thermister that protects bulbs from current surges, thus increasing the life of the bulb by at least three times.
- Floors and walls are of noncombustible, insulating prefabricated materials, reducing heat loss and cutting down on noise transmission.
- Exterior rolling shutters provide heat savings, security protection and light control and reduce noise transmission.
- A tornado detector attached to a TV set sounds an audible alarm when a tornado appears within 18 miles.
- Outside doors have self-locking hinges that automatically lock outward-opening doors. Dual tabs and slots prevent removal of the closed door even after removal of hinge pins.

The design team comments in its study report to NASA that "energy-conserving homes are most efficient when carefully designed to fit specific sites. . . ." Hence, the team suggests that the house not be considered a prototype or a mass-producible design appropriate for all locations. "Rather, it should be a research and development laboratory containing many individual components, systems and ideas . . . which can be applied to some degree in all housing."

An Institute Scorecard For the 94th Congress

When the 94th Congress adjourned, action had been completed on a number of measures supported by AIA. "Our only disappointments were the failure of the House to pass a bill increasing federal earthquake research activities and to appropriate $25 million for restoration of the west front of the U.S. Capitol," says Nicole Gara, director of congressional liaison at AIA. Ms. Gara points to these successes:

- Authorization of the development of energy conservation performance standards for new construction.
- Provision of federal financial assistance for energy conservation retrofitting of existing buildings.
- Encouragement of the multiuse of pub-

continued on page 64

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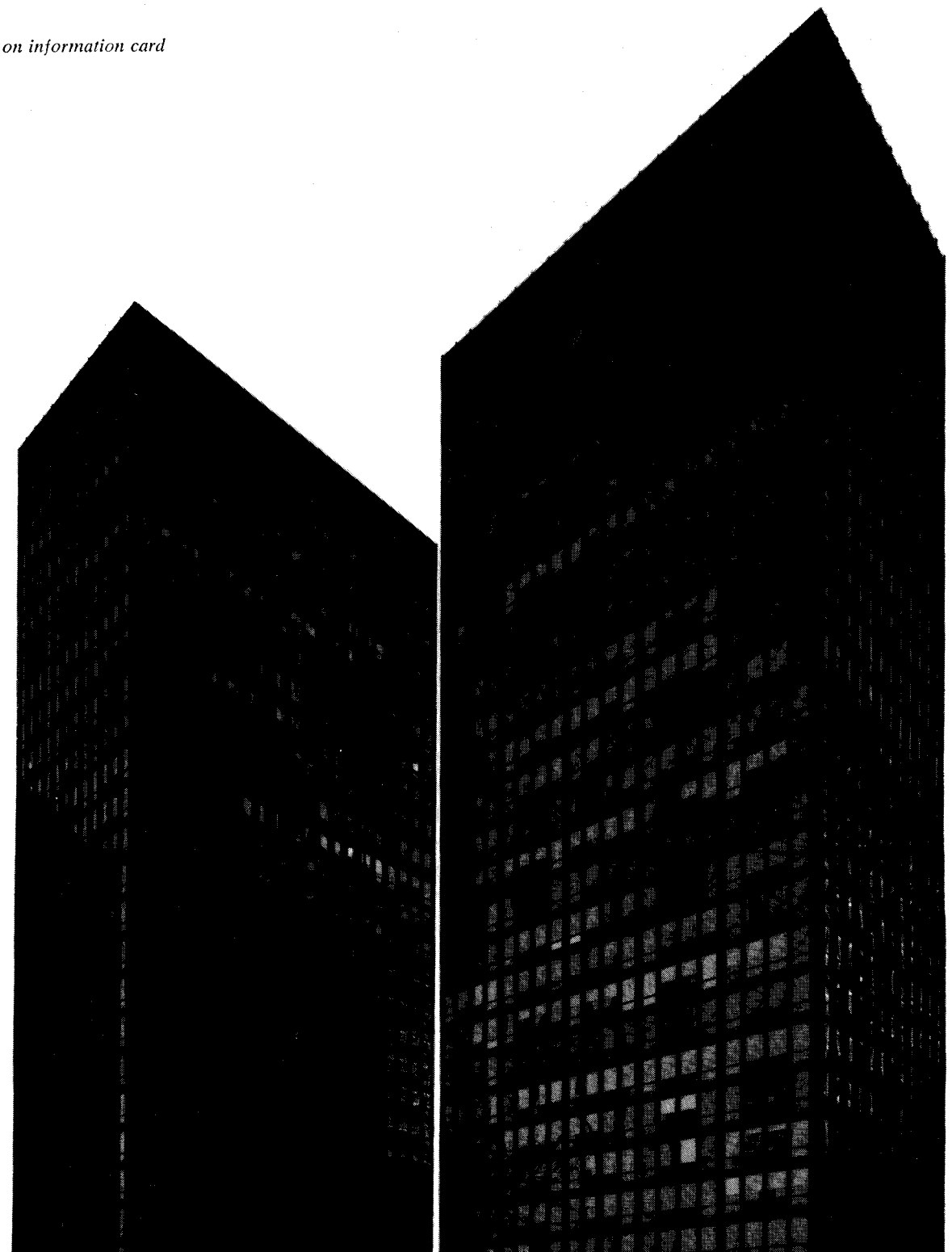

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In the areas of static-control and soil-hiding, Ultron performance is equally outstanding. Because of its special properties, Ultron is able to keep static build-up well below the human shock level, and is also able not only to resist soiling and staining, but to hide the soiling that does occur. We've got a lot more to say about our proud new fiber and we'll gladly tell you everything. Just contact the Contract Carpet Department at Monsanto Textiles Company, 320 Interstate North Parkway, Atlanta, Georgia, 30339, Telephone (404) 955-4000.

ULTRON HAS IT ALL. SOIL-HIDING. STATIC-CONTROL.

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Clarence Stein (1882-1975)

Recipient of the AIA gold medal in 1956, Clarence S. Stein was a prophet not totally without honor in his time. But some friends and admirers of the architect and of his ideas feel that the still-valid wisdom of his environmental prophecy is not sufficiently remembered or recognized. So AIA has organized a commemorative exhibit on Stein that is being displayed at headquarters Dec. 2 to Jan. 31 and accompanied by a series of lectures and other events, and will then tour in this country and abroad. The *Journal* joins in the commemoration with this issue.

Stein had a distinguished early career as a designer of buildings, on his own and in the office of Bertram Goodhue, but he is better known as a designer of communities. The best known among these, in turn, is Radburn, N.J., (photo, next page) which Stein planned and designed in association with Henry Wright. Radburn endures as an island of amenity, convenience and safety in the planless sprawl of suburbia. But even more enduring are the ideas that Stein applied to Radburn and advocated for future urban and regional development.

Some of these ideas were physical: separation of vehicles and pedestrians, clustering of dwellings and sharing of open spaces. But others had to do with the very processes of planning and development. Stein saw and preached the need to undertake planning on regional scale, and to link the rebuilding of existing cities to new development on fresh land. He saw clearly "the distinction between building for people or building for profit" and infused his plans with social purpose.

The quotation above is from his major book *Toward New Towns for America*. The book's title, and the fact that many of the communities he shaped were in the suburbs, have led some to regard Stein as only an advocate of new towns as such. He was that, but his thinking was even broader. He also advocated the redevelopment of old cities "on an adequate scale to form new towns or at least modern neighborhoods within them." And whether in the cities or on open land, he maintained that "the unit of design in new towns is no longer each separate lot, street or building; it is a whole community; a coordinated entity."

What a difference such ideas would have made if tested widely in the 1930s, as Rexford Tugwell and other New Dealers wanted to do, then applied to postwar suburban development and subsequent urban redevelopment.

What a difference they could still make—which is the real message of the commemoration of Clarence Stein. *D. C.*

A Modest Man's Enduring Contributions To Urban and Regional Planning

Lewis Mumford, Hon. AIA

The story of Clarence Stein's life and work need not have waited until his death to be told. Stein's contributions to urban and regional planning would have merited a full-length study any time during the last 20 years. Unfortunately, Stein's old associates waited too long—and in vain—for some younger colleague to take on the exacting but potentially rewarding task of reviewing his career. The book that should have prompted this estimate was Stein's own candid self-assessment in *Toward New Towns for America*. But when it was published in 1951, a later academic generation in urban planning had already dismissed the new towns movement as utopian, romantic or—even worse— out of date.

In order to gain perspective on Stein's career a brief sketch of his background is in order. Clarence Stein was born in Rochester, N.Y., in 1883, the youngest member of a comfortable middle-class family. Clarence's father had become head of a prosperous enterprise, the National Casket Co. Eventually the family moved to New York City. Though Clarence inherited his father's longevity, he was a frail, sickly child, whose education had been retarded; and even in manhood, there was a certain delicacy about his small figure with his fresh complexion and smooth face that made people who didn't know him underrate his energy, his driving force, his sweet persistence.

Stein's somewhat irregular schooling perhaps gave him a certain flexibility of mind and an ability to depart from the accepted patterns for commercial or professional success. After a brief dip in Columbia's school of architecture, he shifted to the Ecole des Beaux-Arts in Paris, and, like H. H. Richardson, emerged from its discipline without being tied to classical or renaissance clichés. After his return to New York in 1908, Stein found a niche in the office of Bertram G. Goodhue, and in time became the chief designer. In this capacity, Stein left his mark on buildings as diverse as those of the Spanish Renaissance assemblage of the San Diego Exposition of 1915, on the little mining town of Tyrone, N.M., and on the colorful Romanesque church of Saint Bartholomew's on Park Avenue.

As with many others of his generation, World War I marked a turning point in Stein's life. Thence forward the sensitive artist became increasingly aware of all that was socially and esthetically wanting in the life of every great city. For those at the apex of the social pyramid, where Stein himself stood, the economy provided many advantages: But this pyramid was set in a spreading urban desert, where even the middle classes were forced to submit, willy-nilly, to a sordid, sense-dulling, life-depleting daily routine from which they fled to the spreading suburbs. In an article on "Dinosaur Cities" in the *Survey Graphic* in 1925, Stein gave an ominous description of the rising costs and social penalties of 20th century megalopolis.

Even before 1918, when Stein served as first lieutenant in the Army Corps of Engineers, his private ambitions as an architect, delighting in all forms of beauty, had been modified by an increasing commitment to public service, especially toward the improvement of the city, as the very condition for the full esthetic success of the buildings he was designing. His association with Robert Kohn, who designed the Ethical Culture Society's new buildings on Central Park West, brought him into contact with those social workers and civic groups who had, in 1904, formed a voluntary "committee on congestion"; for the profit-making congestion of population had for a century provided the environmental underpinning for hopeless poverty, juvenile delinquency, crime, disease and high mortality rates.

Once released from military service, Stein became deeply concerned with the problem of producing humane housing and adequate neighborhood recreation areas for the lower income groups; and he never lost sight of the fact that no basic improvements could be made in urban design which disregarded their deliberate neglect of these needs by the overheated money economy. Soon enough he discovered that every attempt to establish a higher standard of housing by legislation, even if only restrictive, doomed the low-income groups to exile from the improved quarters.

Stein emerged as a leader in housing and community planning—in the 1920s it could hardly yet be called a movement—at a critical moment. To understand the radical changes of course in Stein's work, one must review the conditions that prompted him to push forward in a new direction. Up to this point, the big, favorably situated cities in the U.S. had directed their efforts toward increasing their population as rapidly as possible in order to provide a cheap labor supply, exploited alike by industrial enterprisers and unscrupulous landlords, to further commercial "prosperity" at whatever ultimate human price or ultimate social cost.

'Stein became deeply concerned with producing humane housing and adequate neighborhood reception areas for lower income groups.'

To facilitate this kind of development, the minimal needs of any community for pure air and unpolluted rivers and beaches, for neighborhood playgrounds, for a sufficient supply of housing at low rents, in sanitary vermin-free buildings, with adequate toilet facilities for each family—were not accepted as public responsibilities. In practice the vital functions of urban life were dismissed as unprofitable ornaments, while quantitative gains in sales, profits, ground rents and taxable real estate were treated as the city's basic reason for existence.

So things stood in 1919. At that point Stein, as secretary of

Mr. Mumford is the author and editor of many seminal books and articles on architecture, planning and American culture and society, including *The City in History,* winner of the National Book Award. He is recipient of the Presidential Medal of Freedom and many other honors. His first published writings appeared in this journal, to which he was a frequent contributor. His close and long-standing relationship with Clarence Stein is described in the course of this article.

'His special facility was to evaluate ideas, choose congenial associates, seize imaginatively on their special talents and put them to work. . . .'

the committee on housing of the new commission on postwar housing in New York, moved into a favorable position; and his appointment in 1921 as secretary of the newly formed committee on community planning of The American Institute of Architects gave him the support and collaboration of an emerging group of socially responsive architects, planners, economists and civic leaders. The new term "community planning" distinguished the program of this committee from the then-current conceptions of political reformers, municipal engineers and the miniscule group of professional city planners that then existed, trained, as a rule, in departments of landscape architects.

One cannot give a full and fair estimate of Clarence Stein's decisive achievements in community planning, in neighborhood design and in regional development, without calling attention to the special nature of his talents, which makes him stand out among his contemporaries in the same way that Ebenezer Howard does, by contrast with the more demonstrative and therefore more publicized leaders in architecture and planning. To describe Stein's personality one must resort to a negative statement: *He was no prima donna.* In other words, Stein was no Frank Lloyd Wright, no Le Corbusier, no Doxiadis and (thank heaven!) no ego-besotted Robert Moses. Just the contrary. His special facility was to evaluate important ideas, to choose congenial associates, seize imaginatively on their special talents and put them to work on tasks of research or design or construction that drew forth their best qualities.

Not merely did Stein himself assimilate the contributions of his forerunners, Ebenezer Howard, Frederick Law Olmsted Sr., Raymond Unwin and Patrick Geddes, but he likewise brought forward the special talents of his immediate contemporaries, like Benton MacKaye, Henry Wright, Stuart Chase, Catherine Bauer and, I am proud to add, myself. Stein, for example, never attempted to conceal the fact that the *idea* of the Radburn plan, which he was to make his own, was in fact first crudely outlined on the back of an envelope by Herbert Emmerich, an administrator with no professional qualifications. Similarly, Stein was delighted when I pointed out to him that the Radburn principle—the separation of living areas from traffic routes, and the functional separation of traffic between pedestrian ways, carriage drives, equestrian paths, commercial vehicles and public transportation by bus or trolley—was first embodied by Olmsted in Central Park. He realized that his own daily walks through Central Park had disposed his mind favorably toward Emmerich's suggestion.

One does not lessen the central contribution of Stein if one says that his most dynamic impact came through his influence on the work of other men. This first became visible through his active role in forwarding Benton MacKaye's proposal for the Appalachian Trail, an astonishing achievement that was recently celebrated on its 50th anniversary. For it was Stein's bold encouragement of this proposal, by publishing it in the space allotted in the *Journal of The American Institute of Architects* to the committee on community planning, that gave MacKaye's project the public hearing that was first needed to turn it—with a little further help from the Regional Planning Association of America—into the public movement it became in 1925.

This catalytic function holds true of many later projects properly associated with Stein's name. Although he did not design a single house or terrace in Chatham Village, in Baldwin Hills or in Greenbelt, he left his mark directly on the architects' whole work. Characteristically, in the one new town closely associated with Stein's name, the Alcan industrial town of Kitimat in British Columbia, Stein brought his career to a proper climax by performing the same essential function. In each instance, it was Stein's subordination of his personal ambitions to the work in hand, and his ability to put the whole before the part, that left the stamp of his personality on the work.

It was, in fact, Stein's readiness to seize on original ideas at their very inception, as in his espousal of the Radburn plan, and in his readiness to put such ideas to the test of action, that has made the many-sided activities he started in the 1920s so much more important in their ultimate service and influence than the efforts of the great private and governmental organizations, which have dominated the urban scene and extravagantly supported the sterile technological originalities that have produced the sprawling wasteland of megalopolis.

Stein's second great opportunity, after the committee on community planning, came with New York Gov. Alfred Smith's formation in 1923 of a commission to deal with the postwar housing shortage, by promoting a long-term program which recognized the responsibility of the state to take the lead when private capital evaded responsibility for the decent housing of the lower-income groups. Governor Smith, perhaps prompted by his astute adviser, Bella Moskowitz, recognized that Stein was the best qualified chairman for such a commission. And thanks to Stein's foresight, "regional planning," then a quite novel concept, was added to the province of the commission.

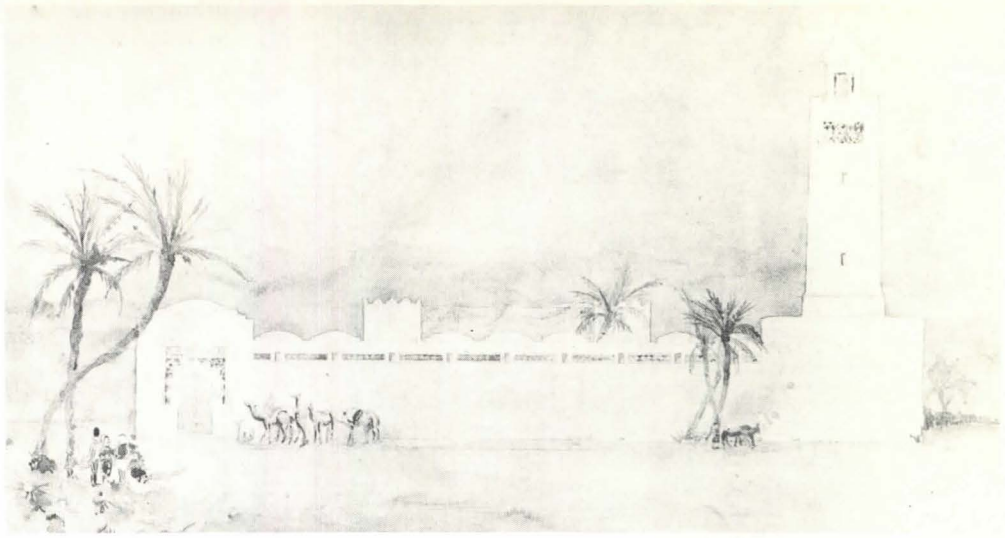
Though Stein took an active part in the public hearings on housing that launched this commission, his was not a one-man job. In the meanwhile, he had made a happy, indeed decisive, choice of a new associate, Henry Wright, known to him through Kohn and Ackerman for his planning in the federal war housing projects. Already Stein had persuaded Alexander Bing, hesitating over whether to give money and time to the labor movement or to housing, to throw his resources into an experimental approach to community housing. Bing was a semiretired realty magnate with just the amount of business shrewdness needed to keep more ideal projects in touch with day-to-day realities. As for Wright, he was another quiet one like Stein, but with a restlessly flashing eager mind, never letting the good impede his efforts to invent the better. Wright's gift as a chess player for pouncing upon a fresh variation of a standard opening combined with Stein's persistent follow-through in the end game to make an ideal team.

Almost overnight, Clarence Stein assembled a group dedicated not just to improving housing, but to acquiring the historic background and practical experience needed to make a fresh start in

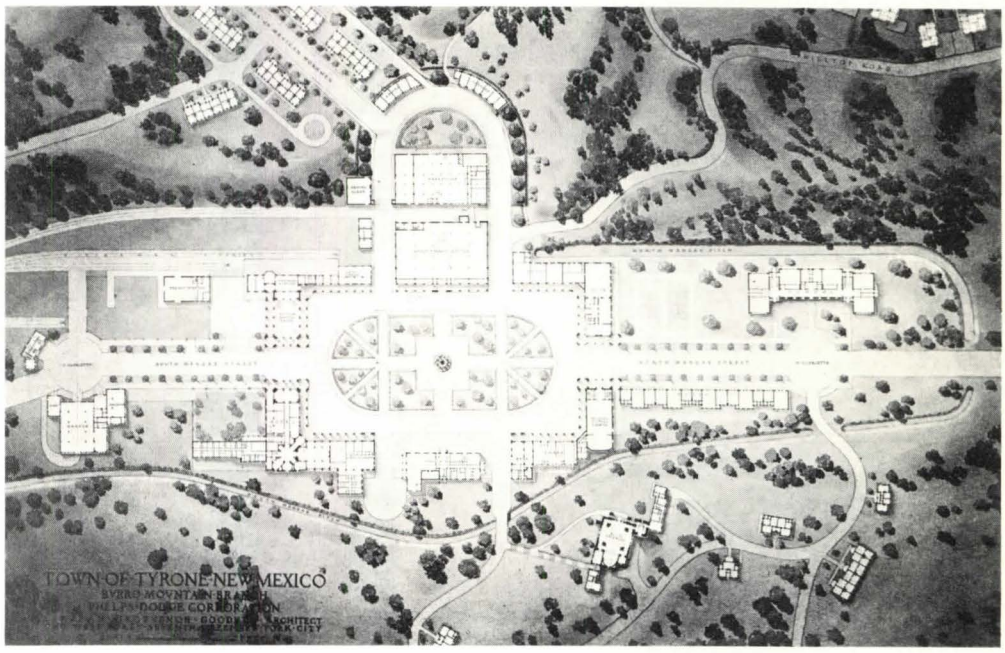
Stein did not design a single house in Chatham Village, in Baldwin Hills or in Greenbelt, but 'he left his mark on the architects' whole work.'

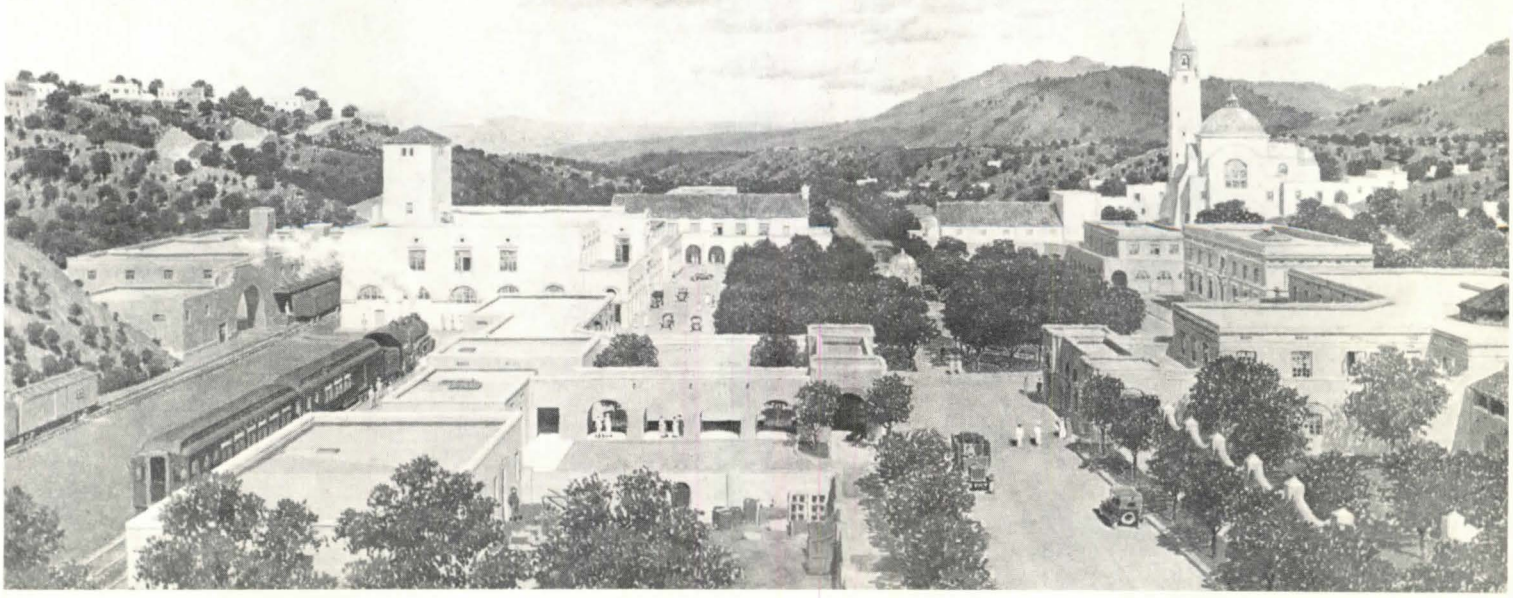
the whole area of city development. In order to lay a sufficiently broad foundation for this whole enterprise, which included the building of new communities as well as the rehabilitation of existing neighborhoods, small towns and cities, he established "regional," rather than "city" or "community" or "state," as the key word for these larger efforts—however nebulous this term still was to American minds. Actually, the new French geographers and the British planners like Patrick Abercrombie who followed Patrick Geddes' lead had already given substance to this term. The full title of the group, the Regional Planning Association of America, was, admittedly, clumsy, and it turned out, pretentious, for we never succeeded in promoting such groups in other parts of the country. Even worse, it was often confused with a later group, the Regional Plan Association for New York, concerned specifically with metropolitan organization.

A book edited by Carl Sussman, covering the multifold activities of Stein's regional planning group and bringing to light their



Stein's design, ca. 1909, of a rest stop for Algerian travelers (above) won 'first mention' at the Ecole des Beaux-Arts. The Beaux-Arts influence is apparent in Stein's site plan (below) for the mining village of Tyrone, N.M., done while employed from 1911-18 by Bertram Goodhue (Stein's rendering at bottom). In 1928, he and actress Aline MacMahon were married (photo below left, 'too domestic,' she says). Stein in city (left) and country (above).





Stein was ready to 'put his boldest ideas to the test of practice and to wait patiently for evidence of their feasibility before taking the next step.'

pioneer studies, has just been published. So far the only work that begins to do justice to Stein's leadership from 1923 to 1933 is that of Prof. Roy Lubove, though unfortunately it confines itself to the '20s. But it is a reproach to American scholarship in urban planning that, apart from Lubove's pioneer study, the two best books relating to Stein and the formative program of the regional planning group, have come from an Italian architectural historian, Francesco Dal Co., and an Israeli planner, Gideon Golany, coeditor of the recent book *Contemporary New Communities in the United States.*

What constituted Stein's special genius was essentially what also distinguished Ebenezer Howard—his ability to elicit the intelligent and often enthusiastic cooperation of the widest range of people, through his combination of personal modesty and political audacity. Beyond this was his readiness to put his boldest ideas to the test of practice and to wait patiently for sufficient evidence of their feasibility before taking the next step.

Not the least important stroke on Stein's part was his choice in 1923 of Henry Wright as his most intimate associate and collaborator. By their combined efforts—never a legal partnership—they energized every other activity for a whole decade. And it was around this central nucleus of Stein and Wright that the diversified personalities of the other members of the RPAA, while rotating on their own axis, moved at varying distances from the center, but always within the common orbit. Though Wright's too early death in 1936 has tempted later writers to identify Sunnyside and Radburn, and even Chatham Village, with Stein alone, Stein was too honest to make any such claims. In his admirable obituary on Wright, published in *The American Architect and Architecture,* Stein gave full credit to Wright for his skillful innovations, including the continuous strip park and pedestrian ways within the freshly designed superblock at Radburn.

Stein, an excellent judge of ideas, was quite as keen a judge of men; and if I had space I would cite for witness his formal appraisal of his very dear friend Benton MacKaye, when the latter used him as reference for a TVA job. Stein set down MacKaye's virtues *and* his limitations with the impartiality of the Angel Gabriel. As for his report, in a letter to Aline MacMahon, his wife, of an abortively one-sided "conference" with Roosevelt, while F. D. was still governor, I know of no more devastating presentation of that bundle of psychological contradictions. Stein's insight even applied to himself; for not long before he died, at a point when his mind presented only a smiling but silent blank, he suddenly remarked to his wife: "You and I have adequately arrived."

Partly because of our loose kind of organization, the members of our group were not easily awed by No Trespass or No Admittance signs that more specialized corporate interests, whether financial or academic, put up to keep outsiders off their premises and prevent them from proposing unwelcome but socially valuable alternatives. Stein had no commitment to any single prefabricated solution: not even to Ebenezer Howard's provisional garden city formula for controlling urban growth by colonization in population units of 32,000; for Stein, again like Howard, appreciated the advantages of the great city and sought, by a more balanced regional development, to preserve and even more to renovate all that was still supremely worth maintaining in a London, a Paris or a New York.

So, too, we were not blind to such shortcomings in our own constructive activities as were already visible. As Henry Wright characteristically put it in a letter to me in 1933: "I'm not too fond of what we did at Sunnyside or Radburn; but whatever it was, the important accomplishments were social rather than technical." He himself had already demonstrated this; for in his breakdown of the costs of housing, he showed that the lowering by 2 percent of the interest rate on housing loans would reduce initial costs more radically than all the combined technological dodges that prefabrication and large-scale organization could promise.

Though each of the members of Stein's group had his own professional vocation and character, there is a sense in which, like the actors in a repertory company, our roles were interchangeable and the one function that none of us pretended to exercise by himself was that of planner; for by a silent consensus we knew that planning was a continuous process which, to be effective, must call upon the varied resources of a whole community, personal and institutional, local and regional and even, when necessary, intercontinental. None of us was a mere amateur or dilletante; but in our best days we shared our experiences and had unrestricted access to whatever practical knowledge our friends and associates commanded.

Under Stein's leadership, accordingly, the RPAA had a pervasive influence out of all proportion to our numbers, for in its palmiest days it did not count more than 20 active members. Though others might reasonably dispute this favorable summary judgment, since it is not open to objective proof, the RPAA's persistent advocacy of public responsibility for lower-income housing, for the redistribution of population and productive resources in regional areas rather than metropolitan centers, for an experimental approach to the building of decentralized urban communities within a regional framework. This paved the way not merely for the plan of Radburn, but for the later federal Public Housing Authority, for the state planning board, even in some measure for the Tennessee Valley Authority. Though the credit for the public electrification program belongs chiefly to

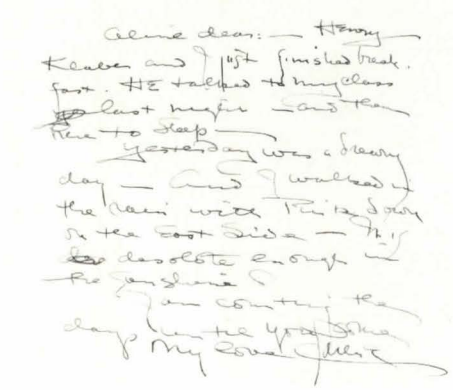
The RPAA 'paved the way for the Radburn plan, the federal Public Housing Authority, the state planning board and even somewhat for the TVA.'

Senator Norris and his vigilant aide Judson King, the larger concept had been prepared by Stein and his group.

If the judgment of one's peers in planning is worth anything, perhaps one should mention here that three members of Stein's group, Stein himself, Catherine Bauer and myself, were placed by the American Institute of Planners among the 10 members who had contributed most to urban planning. If Henry Wright had not been strangely overlooked, still another member of the RPAA might have been cited.

Unfortunately, the full proof of Stein's influence in fostering and focusing fresh thought on the planning of urban communities within a regional network will not become evident until Sussman's collection of articles, papers and reports is assessed and the correspondence and the minutes of its chief meetings are digested. And when the minutes of the RPAA's formal conference at the Hudson Guild Farm are examined, it will be found that the problems raised by Sunnyside Gardens and Radburn did not engross our attention, nor were its provisional successes looked upon as in any sense final. The autumn conference in 1930, for example, was devoted to a discussion of the basic economic and social problems raised by the dogmas and practices of capitalist enterprise. Before that, the RPAA had already called attention to the need for coping with the wholesale migration of underpaid black and Puerto Rican workers in the metropolitan areas, and the segregation of racial minorities by zoning ordinances—30 years before this became a hot political issue.

Stein lost no opportunity to push further the RPAA's program for comprehensive regional development. While Franklin Roosevelt was still governor, Stein presented him a memorandum on



Projects, friends and sketches (clockwise from top right): Phipps Garden Apartments, Long Island City, N.Y.; Hillside Homes, Bronx, N.Y.; Sunnyside Gardens, Long Island City; a birthday sketch by Stein of Benton MacKaye; Stein in beret with students at Radburn, 1960; a whimsical sketch of the Steins' country and city homes; a letter to wife Aline, and Stein with MacKaye.

'Though Stein never openly expressed disappointment, it could not have been easy for a man of 50 to accept his being put on the shelf.'

the subject. But although the RPAA had chosen Roosevelt as the leading speaker at its conference on regionalism at the University of Virginia in 1931, Roosevelt never followed up any of Stein's suggestions, possibly because he bracketed Stein unfavorably with his own one-time friend and sponsor Alfred E. Smith. At all events, when the moment came to carry out the bold national programs in housing and community building demanded by the economic debacle of the '30s, Roosevelt passed over the one group that was best equipped to make the most of the situation. So he gave the key post in the TVA to Arthur Morgan, whose sentimental aim was to restore the sinking village economy—a pet hobby of Roosevelt's—instead of using the TVA's powers to support and extend a dynamic regional and interregional economy based on satisfying the interwoven needs of life in both urban and rural areas.

During the '30s, apart from the short-term service of Robert Kohn as administrator of public housing, Stein's close associates occupied only temporary and subordinate posts in Roosevelt's administration. As for Stein himself, handicapped perhaps because of Kohn's high-minded reluctance to favor a close associate, he was given no opportunity to apply his well-earned knowledge to even a single project in public housing. The hiatus caused generally by the Great Depression, as it deepened in the early '30s, left its imprint on the rest of Stein's life, for it partly sapped his powers and thwarted his proved capabilities as a pioneer in planning, and even worse, it weakened his magnetic influence over the rest of the group.

At first in the '30s, neither the spreading economic depression nor Stein's concentration on his private architectural commissions diverted his energies from the public issues he had brought to the fore during the '20s. After Catherine Bauer became the executive secretary of the RPAA in 1931, Stein, quickly recognizing her gift for clear, abstract analysis and systematic research, set her to work on a series of economic studies, later published jointly in the *Architectural Record*. And as late as 1933, in an address before the Brooklyn League of Women Voters, he analyzed the obstacles to rebuilding Brooklyn, and described in detail the political and architectural techniques for overcoming them. Above all, he stressed the public ownership and control of land.

Ironically, after 1933 the national government's broad commitment to the very policies of state planning, regional planning (the TVA) and subsidized housing for the lower-income groups, which Stein had been foremost in advocating, had a negative effect on Stein's career as an architect and community planner. From the outset the new official bodies in Washington—until he was called in as consultant on Greenbelt, Md.—ignored Stein's qualifications, and called on less far-sighted and less experienced professionals, even as consultants. So, like many other architects during the Depression and the later years, he no longer had enough commissions to sustain his office. Though Stein never openly expressed his disappointment or possibly his inner bitterness, it could not have been easy for a man of 50 to accept his being put on the shelf. Stein's frustration as a practicing planner, after his last big job, Hillside Homes, begun in 1932, probably had an unsettling effect upon his health, and brought to the surface again physical frailties that had handicapped him in his childhood.

In one form or another, Stein's psychosomatic disabilities recurred at intervals from 1935 onward, though with each recovery he resumed his earlier social concerns, and even explored neglected areas. Yet significantly, some of Stein's most original thinking, on the functions and purposes of art museums, dates back to this period—following a commission he had received to design a small art museum for Wichita, Kan. Here his own sensitiveness as an artist liberated him from the clichés of museum curators and the monumental ego trips of a Mies van der Rohe or a Louis Kahn. About museums Stein had something astonishing to propose: The public portions of art museums should be designed solely for esthetic stimulus and delight, not for instruction and not for the personal gratification of the architect or the donor.

One may say of Stein, paraphrasing words that applied to Herman Melville, who encountered similar disappointments, rebuffs and breakdowns: Though light forsook him, he never failed in fealty to light. "How I long to see you," he wrote me in 1945, "and talk to you of the world that might be created. I have been cut off from it so long—a month in the hospital, a thing to be forgotten, and now here [at a sanatorium] regaining my strength." Similar breakdowns had occurred with more than one other frind of mine at the height of his powers—with John Gould Fletcher, Van Wyck Brooks and Lee Simonson—and in all these cases it partly accounts for the tendency of the present generation to lose sight of their vital contributions.

But no psychiatrist, however able, and no amount of "tender, loving care" can supply the essential ingredient for health: a life-

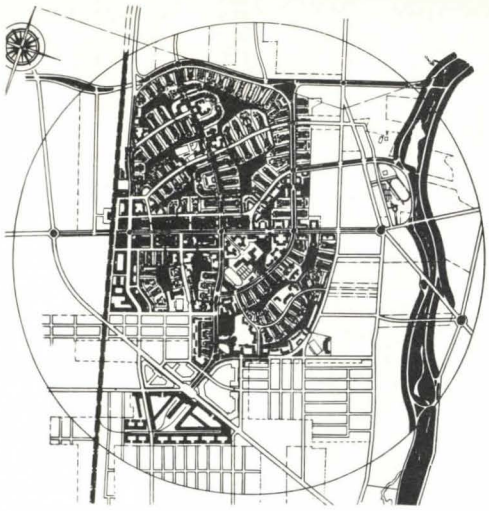
'Stein was again active, personally disinterested but eager and hopeful, attending conferences, lecturing, traveling and sojourning in England.'

time attachment to significant work; and fortunately despite his curtailed professional opportunities that, at least, Stein had. Perhaps, indeed, the most important testimony to Stein's character were his resilient comebacks. As early as 1943, he wrote me about his disillusion with merely formal reports on "state" or "regional" planning. He was again simmering with new proposals. He now wanted first of all a "state development agency with power and ability to do real things."

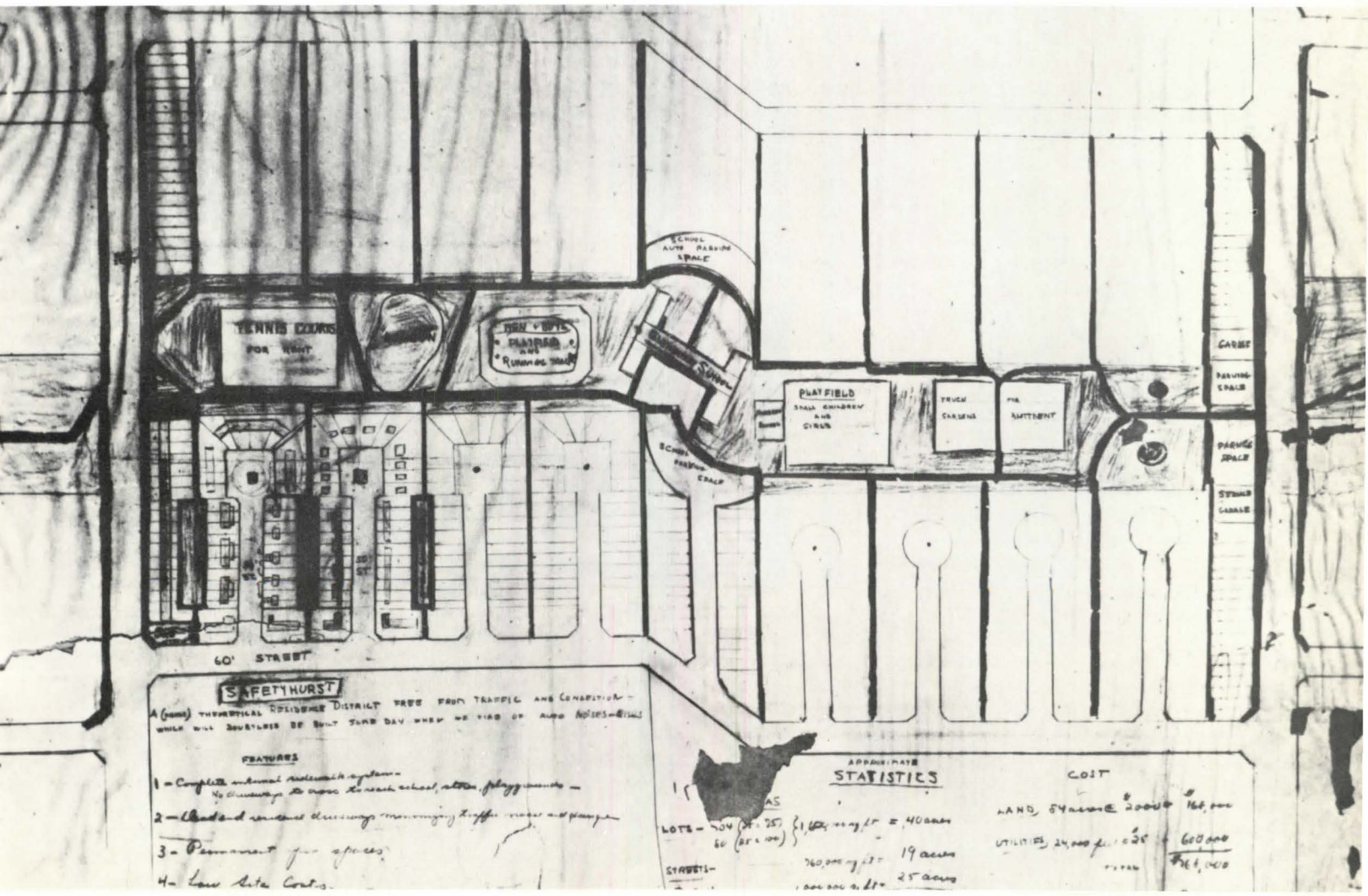
In spite of Stein's eagerness to put his own knowledge and constructive ability to work again, he never lost sight of the more basic conditions for fulfillment. Thus, in criticizing an early draft of my *Culture of Cities*, he caught me up sharp: "I do not think you bring out plainly enough the connection between our present form of metropolitanism and capitalism, nor do you explicitly enough show that the present form of city growth can be changed but to a small degree as long as capitalism exists."

As early as 1937, aware of how our regional planning associations had become dispersed and collectively ineffective, he wrote: "We *must* reawaken the Regional Planning Association." Unfortunately, almost a dozen years passed before he could put this resolve into action. But meanwhile, seizing on the program for the New York World's Fair of 1938, he prompted Robert Kohn to seek foundation support for a film on the city: a proposal partly stimulated by the success of Pare Lorentz's film "The River." Though the director and the cameramen misinterpreted the positive proposals of our scenario, they at least demonstrated with graphic humor the shortcomings and miscarriages of metropolitan life. Unfortunately, their image of the future community was a pallid, sentimental caricature. Still, it helped counterbalance Norman Bel Geddes' all-too-accurate delineation of motordom's coming urbanoid nightmare.

From 1949 on, Stein was again active, almost his old self, personally disinterested but eager and hopeful, attending conferences, giving occasional lectures, traveling widely in Europe and sojourning for months at a time in England with Aline: Once they spent a whole summer at Unwin's old Hampstead home before it was destroyed by fire. Late in the '40s, Stein took the initiative in reorganizing a latter-day counterpart of the



Stein always credited the idea of the Radburn plan to Herbert Emmerich, an administrator with no planning credentials who sketched on the back of an envelope (below) a community embodying cul-de-sacs, a central commons and segregated pedestrian and vehicular traffic. Stein and Henry Wright developed the Radburn site plan (above). Radburn today, as seen from the air (right) contrasts with conventional development (top of photo). Stein and Wright, suspicious of 'final' solutions espoused by lesser architects, planners and engineers, always searched for ways to improve good concepts.



'Stein pointed out that the political and social problems of a company town in the wilderness were far more difficult than the physical problems.'

RPAA under the new title Council for Regional Development. This time he sought to draw into our circle a younger generation, for by now both Catherine Bauer and I belonged to the senior group; and for a few years we held well-attended monthly meetings, as usual in Stein's spacious living room. Unfortunately, though the younger members like Roger Wilcox seemed promising, no active leader took over; and with Matthew Nowicki's early death in 1950, no new mind productive of fresh ideas emerged.

At that moment the obsession of the cold war dominated national policy and vitiated public discussion. Even without the notorious Joe McCarthy and his pixies, McCarthyism was rampant. As in every other aspect of American life, the expectation of a better future was poisoned by our homemade nuclear fallout, which injured the American mind as much as it polluted the environment. Still, the council in its brief life had temporarily reawakened Stein's old potentialities and restored his energies so that, in the early '50s, he succeeded single-handedly in writing his *Toward New Towns for America*. And shortly after that, he had his last opportunity to translate into the planning of a miniature new town, Kitimat, the essence of what he had learned about urban and regional planning.

The way in which Stein was selected to plan Kitimat perhaps tells more about the nature of his genius than the actual plan in which Mayer, a latecomer in the RPAA, along with Julian Whittlesey, interpreted Stein's intentions and advice. Kitimat had been chosen because of the high potential of the site to provide the cheap hydroelectric power necessary for the smelting of aluminum ore. This aspect of the plan was amply treated in *Architectural Forum's* masterly presentation of both Stein's contribution and the collective result. The head of Alcan sought to select the most qualified urban planners to design this town; a young executive had personally interviewed some 30 candidates without coming to a decision. After going the rounds, he asked Holmes Perkins, then dean of the architectural school at the University of Pennsylvania, to advise him on the candidates. When Perkins discovered that Stein's name was not on the list, he expressed his natural astonishment. No one, he found, had told Alcan that Stein by experience even more than age was actually the dean of American city planners. At his first interview Stein won the job by his original analysis of the problem.

What commended Stein to Alcan was his method of approach. Instead of coming to the problem with a preconceived plan—site unseen—like so many of his younger colleagues, Stein emphasized not the opportunities of a new town but its problems and difficulties in a remote, unpopulated area with a harsh climate and limited access. (One of the eager beavers among the candidates had even come up with a prefabricated solution, placing the residential area 20 miles away from the industrial area, connected by an unbuilt road that would often be inaccessible in winter.) Stein pointed out that the political and social problems raised by a company town in the wilderness were far more difficult to solve than the physical problems, and that from the beginning steps must be taken in its organization to turn over the effective government as soon as possible to the local community. This matter, incidentally, had been threshed out in the '20s at a weekend conference of the RPAA. That simple proposal made sense, and Stein's next move, once the commission was assigned to him, made even more sense while it incidentally revealed the value of Stein's regional background.

The usable land in the town area was divided by the river, where naturally the hydroelectric plant and the factory buildings would be located. Instead of taking for granted that these utilities should be as close to the river as possible, Stein's first move was to call in a river expert, an old friend of MacKaye's in his forestry days, and this specialist reported that the river, though usually tame, was subject to savage floods every century or so. Even though the last flood had occurred about 120 years before, it was advisable that all buildings should be located beyond the flood area. This advice might have seemed suspiciously theoretical to "practical" administrators, for in America all too many buildings are heedlessly set down in flood plains. But happily for Stein, within a few weeks of the report a formidable flood actually happened. The new layout of the town heeded these limits.

After these two demonstrations of Stein's talents, the job was his to carry through. But at 68 he no longer had the reserves of energy—nor did he any longer have even a skeleton office force—to carry on the work. To present Kitimat as the crowning achievement of Stein's life would accordingly be a pathetic error. Such a designation would be worse than ironic when one considers how much of Stein's thought and practice had infiltrated into the projects of professional planners in every part of the world who hardly even recognized him by name. Even if 10 times the environmental and social resources had been available there, even if every concrete feature represented the best possible solution, no single community could do justice to Stein's larger urban vision, any more than the first garden city, Letchworth, did justice to Howard's concept of social cities. But that is not the point, for what Kitimat demonstrated was that Stein's approach to the problem of urban planning was equally valid whatever the scale of the community, whether it was a rural hamlet, an urban neighborhood or a regional city.

Not the least-happy effect of Stein's involvement with Kitimat was the fact that it brought a belated official recognition of his talents. For up to then even AIA, the institution which he had done so much to bring architects abreast of the social needs of our time through the committee on community planning, was so little aware of Stein's importance that it was ready one year to pass over the annual bestowal of its gold medal, for lack, supposedly, of a worthy candidate. Fortunately at that point Douglas Haskell, FAIA, marshaled a few wide-awake members who put forth Stein's qualifications for the award. But had it not been for Haskell's exhaustive report the year before on Stein's role in the Kitimat project, this honor might never have come to him. He kept that medal on his living room desk, and I am sure it helped rejuvenate him in the following decade.

'If the late '20s was the seedtime of Stein's ideas, the '50s was a belated harvest, partly nipped by frost, but with bright mellow fruit still left.'

Between 1936 and 1946, Stein's periodic withdrawals broke his earlier contacts with European planning; but soon after the war ended, Stein became acquainted with the work of the younger English planners, like William Holford and Gordon Stephenson, and he was not without influence on the planning of Stevenage, by stressing the necessity of coping with the private motorcar. By his persistent advocacy of the Radburn concept, Stein left his mark on the new housing in Coventry, as Arthur Ling, the chief planner, was quick to point out to me in 1961. Best of all for Stein's work, Gordon Stephenson took the initiative in opening the pages of the *Town Planning Review* in successive installments to Stein's critical review of his own planning career, and turned these chapters into a handsome, richly illustrated book, now in its third edition.

In a way, the 1950s correspond to the 1920s in Stein's life. If the '20s was the seedtime of his planning ideas, the '50s was a belated harvest, partly nipped by frost, but with bright mellow fruit still left. Besides the acknowledgment given by The Ameri-

In Toward New Towns for America, *Stein wrote: 'Radburn is above all a town for children,' and this is borne out in the use of the underpass (right) by younger children on the way from home to school, playground and pool, in the linear park spaces (below) and along the pathways (bottom). Stein wrote: 'The two superblocks that were built and in which people have lived happily and safely . . . demonstrated the essentials of the new form of city. . . .'*

'At one of my last visits in the late '60s, he was still playing with variations and combinations of the superblock in a more comprehensive design.'

can Institute of Architects, the Town and Country Planning Association in England, prompted by F. J. Osborn, bestowed on him the Ebenezer Howard medal: an appropriate honor.

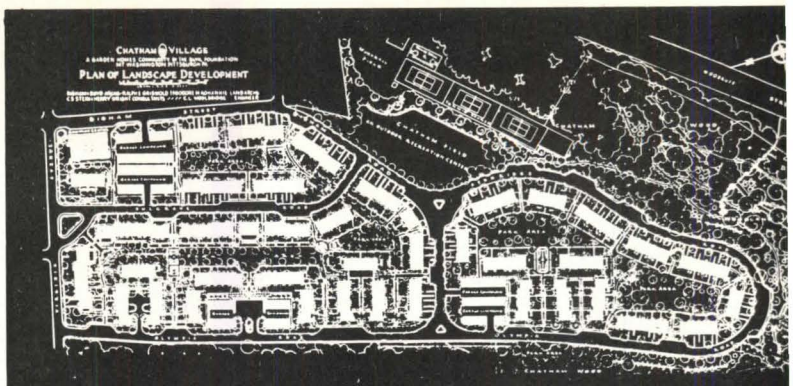
Osborn, who met Stein at a planning conference in Liege in 1958, made a fairly shrewd appraisal of his personality, all the sharper because it was a swift, immediate impression. That October Osborn wrote me: "Unexpectedly by me, Clarence seemed somehow shrunk and frail compared with my memory of him, but after a little he rounded or expanded a bit, or I corrected my memory. . . . I noted in him again, as 10 years ago in New York at sunset, the ecstasy that essentially urban architectural effects give him—quite as acute, I think, as that of the esthetes who edit the magazines. But like Unwin he is pulled two ways, having sympathy with less sophisticated pleasure in simple surroundings. . . . He is much less conscious of other men's thinking than you are, or even than I am; yet he seems to scorn nobody. If he is a bit self-centered, it isn't through common egotism, but because of an almost unconscious sense of creative power—of his mission. And, I think, of partial disappointments that he will not allow to grow into a grievance. His mind, always looking for things to appreciate, obliterates bores; but I think he doesn't recognize enemies. That is a slight criticism; I believe one should love one's enemies but should know who they are. But Clarence is a noble person."

Though Stein had been closely in touch with the Dutch architects and administrators in the early '20s, it was in the later work done in Sweden and Finland that he saw the fullest fruition of his own ideas; and he spoke enthusiastically of the work of both Alvar Aalto and Sven Markelius, as well as the gifted administrator Yngve Larsen. By this time he felt at home with the more humane and sensitive and functionally adequate modern designs, so there was no longer any such mental barrier as had temporarily separated him from Henry Wright's enthusiasms.

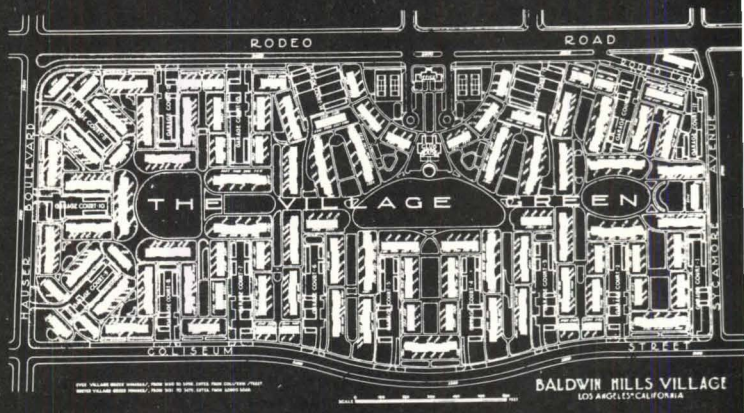
In the Scandinavian countries, as well as in Britain, Stein felt, some of his most ambitious dreams were in fact coming to life in a concrete and durable form. He still hoped—as Patrick Geddes did in his old age—to at least write a book that would give fuller expression to his beliefs and hopes and plans than *Toward New Towns for America* had done. But that task, for lack of an intuitive super-secretary, lay beyond his waning powers. Yet at one of my last visits with him in the late '60s, he was still playing with possible variations and combinations of the superblock in a more comprehensive design.

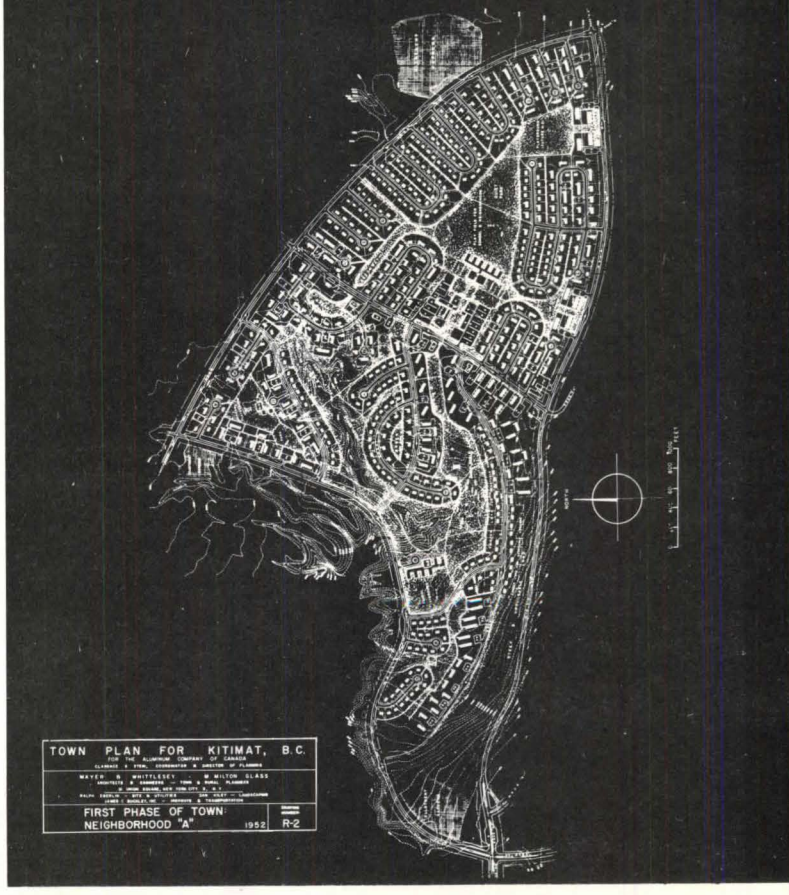
I can think of no better way of winding up this account of Clarence Stein's life and work than by quoting Douglas Haskell's passing words in presenting Kitimat. "The new town," Haskell observed, "has yielded a refreshing reminder of how much greatness can live in quiet. . . . Stein has shed a steady light in contrast with the meteor flashes of our more publicized architects of genius." That central core of Stein's character, his modesty, his hospitality to other talents, his sensitive respect for human individuality, were all directed and reenforced by a strong drive toward an open society freed from the pressures and compulsions of the dominant power system, whether capitalist or communist, whether traditional or innovative.

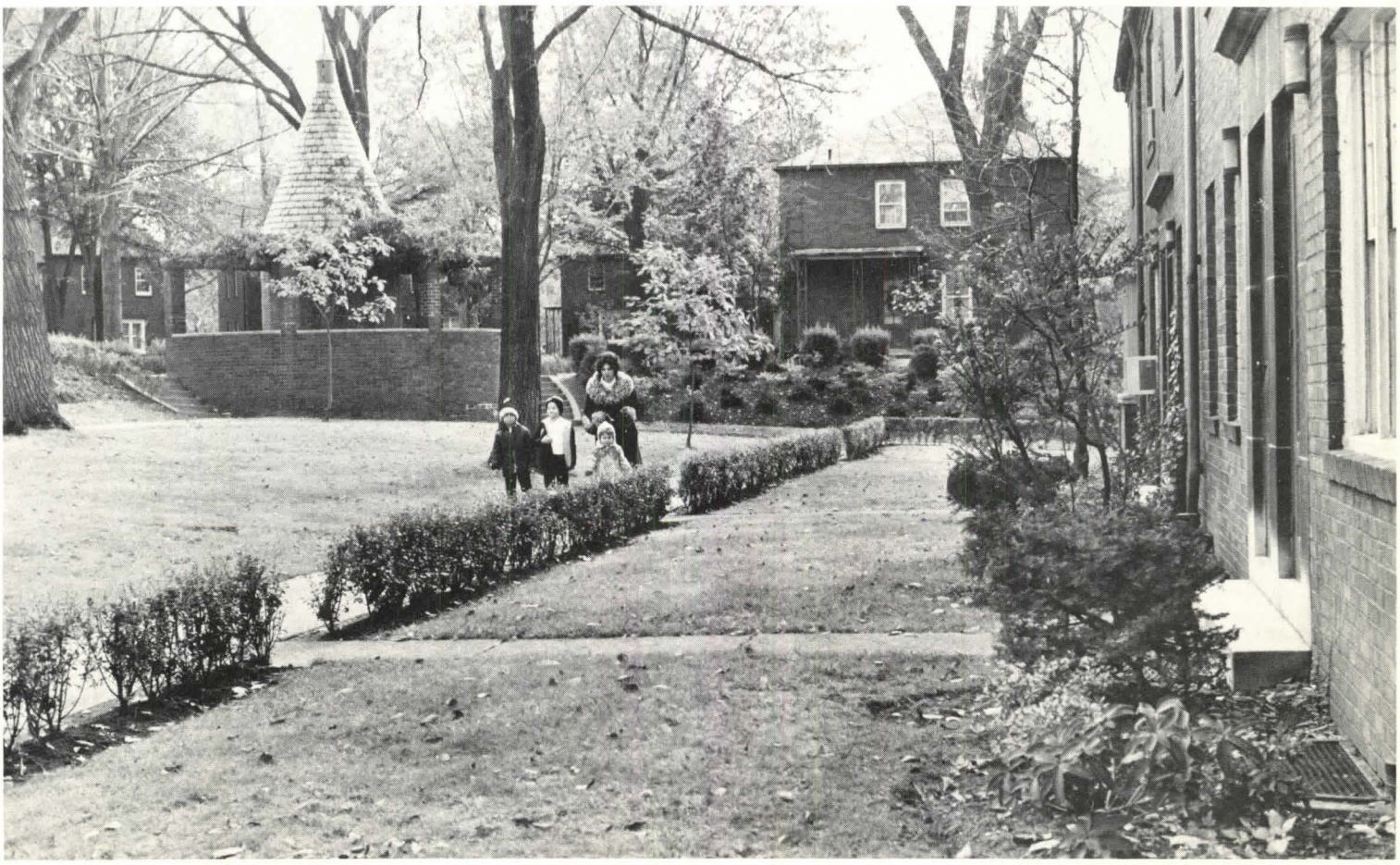
As time lengthens our perspective, it is precisely Stein's lack of exhibitionism and arrogance, his confident cheerfulness and quiet persistence in the face of defeat, that will speak to another generation. Beside Stein, rival personalities that once looked big because they crowded so close to the camera have begun to shrink in size. As for Stein, as is the way with historic characters, he may in time look even a little larger than life because of the aura that still emanates from his person. □



The Radburn idea spread to Chatham Village in Pittsburgh (above and facing page). Stein was the site planner and architectural consultant in association with Henry Wright. A community of row houses on a hilly site, Chatham Village has been 100 percent occupied since completion in the early '30s. For Baldwin Hills Village (below), a 1941 row house development for 638 families in Los Angeles, Stein was architectural and site planning consultant. In 1951, he was selected to plan Kitimat (bottom), a new town in the wilderness of British Columbia near smelter operations of the Aluminum Company of Canada.







A Prophet Honored Abroad Even More Than At Home

Marjie Baughman

The Radburn plan of Clarence Stein and Henry Wright, which has served as the prototype for several U.S. new towns, such as Reston and Columbia, has had an even greater impact on urban design abroad than here at home. The most significant European projects, those in Great Britain and Scandinavia, reflect the influence of the Radburn idea, which had become known internationally shortly after the moment of conception.

In England, Gordon Stephenson became one of the principal proponents of the Radburn idea. He came to the U.S. in 1929 to work in New York City and visited Radburn shortly after his arrival. Later, as a graduate student at MIT (1936-38), he participated in class discussions led by Clarence Stein; and in 1948, in his capacity as editor of the *Town Planning Review* at the University of Liverpool, he published the Stein articles which became the book *Toward New Towns for America*. In Sweden, Tage William-Olsson, another professor and planner, incorporated Radburn into his lectures in the early 1930s. Concerning the Swedish planner Sven Markelius, Stein himself has written, "Markelius, as director of the town planning office, conceived and developed the plans of Vallingby and started that of Farsta. He is a great believer in the Radburn idea, the neighborhood unit and greenbelt cities, as he has shown at Vallingby and elsewhere." In Markelius' words, in a letter to Stein on July 3, 1950, following a visit to the U.S.: "Your ideas in planning have been a great inspiration for our planning work."

In 1950, at the age of 68, Stein played a key role in a major event in planning history. He persuaded the first British new town corporation to accept a plan for a completely traffic-free town center at Stevenage. According to Stephenson, this was one of the first in a modern town; the only rival for that distinction is the contemporary plan for Vallingby by Markelius.

Gordon Stephenson had been called in as an outside consultant and given carte blanche for the design of the town center, but he insisted on enlisting Stein's assistance. Together they studied the site and the region. Stephenson drew the plan for the town center (the original drawing is in Stephenson's possession), and Stein, after discussion with Stephenson, wrote a proposal which stated the criteria for the proposed center, which was to embody the principles of the Radburn idea. The basic principles included inner courts and walkways with buildings facing inward and away from parking courts—all grouped within a traffic-free superblock. There were to be no through roads; the center would be a pedestrian mall connected with adjacent blocks by paths through underpasses.

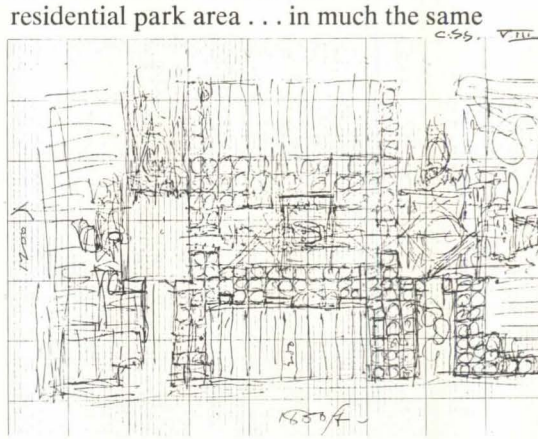
Stein hoped finally to see the results of a lifetime of study of the problem of planning neighborhood and town centers. As a student, he had sketched the European marketplaces and civic squares which he admired, in Tangiers, Florence and northern Italy. With Bertram Goodhue, in 1915, he assisted in the layout of the fair buildings at Balboa Park in San Diego; this plan included inner courts and a main road reserved for pedestrians for the duration of the fair. At Tyrone, N.M., in 1916, he studied the requirements for a complete town center. This design centered on a green, but retained a through road. In 1917, he urged the citizens of Chelsea in New York City to press for the development of a neighborhood center—part of a plan to save the area as a residential neighborhood into which industry was moving. His suggestions in this case sound remarkably pertinent to his later work:

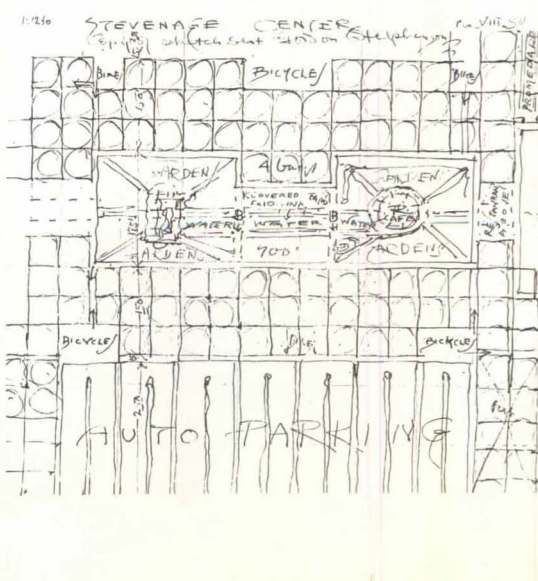
"[A new school] belongs at the side of Chelsea Park. It should form the center of a group of public buildings that should be run as a single unit. . . . These buildings should be used by old as well as young—for clubs, social and political meetings, and voting places. . . . They will form a center which will be a symbol of the cooperative spirit of Chelsea, of the best that is in Chelsea. . . . We have believed that each neighborhood best understood its own needs of better and saner physical surroundings, and if it was only awake to the necessity of physical change, could better find a solution than could a central bureau."

When Stein and Wright designed Radburn in 1928, they did not draw specific plans for a town center, but in February 1931, Stein wrote:

"I am going out to Radburn. We are playing around with the general plan, Henry and I—the location of the civic—or rather the cultural and educational center—and its relation to the plan as a whole. We are all so accustomed to thinking of all flow of life in a town on the highway arteries that it is very hard even for us, who have been working at Radburn so long, to completely turn everything within the town around and face it toward the parks and the walk-ways."

By the time he and Catherine Bauer published their study of shopping centers in 1934, however, Stein had worked up a sketch of a town center, including civic, commercial buildings and green space which was traffic-free. The plan for a pedestrian precinct at Greenbelt (1935-36), for which Stein undertook cost analyses, closely resembles Stein's 1934 plan. And at Baldwin Hills, Los Angeles, for which Stein was also a consultant, he strongly argued that no road should divide the neighborhood from the commercial block: "We had hoped to design a marketplace here with direct safe entrance from the residential park area . . . in much the same





Ms. Baughman is assistant professor of art history at Western Maryland College, and a doctoral candidate at Johns Hopkins University. The title of her dissertation is "The Sources and Influence of the Radburn Idea."

way that I had indicated in the diagram illustrating the neighborhood shopping center article."

Gordon Stephenson published these words of Stein's in the *Town Planning Review,* and shortly thereafter called him back to England to assist with the Stevenage town center plan. On Sept. 5, 1950, Stein wrote the proposal for a traffic-free pedestrian precinct. This paper (with a few changes in wording) was then submitted, along with a diagram of the center, on Sept. 8, under the names of chief architect Clifford Holliday, Stein and Stephenson; Stein, in person, convinced the corporation to accept the plan.

Among other items, the proposal stated:

"The town centre will unite the centres for shopping, civic affairs, culture, recreation, entertainment, professional offices and transportation."

The economic support of the town would come primarily from the commercial center; therefore, the complex was to be a regional center, for which the following suggestions were put forth:

"A regional market to draw shoppers from a wide area must offer unusual advantages. It must be entirely different in arrangement, facilities and character from existing shopping centres. It must offer: To those with cars, adequate parking space with short, safe, direct access to all shops. To those in buses, easy and safe access to all points of entry. To bicyclists, safe access and convenient storage space for bicycles. To pedestrians, complete separation from vehicular traffic dangers and noise; shops facing garden promenades; shops grouped compactly to minimize walking, and with arcades to give protection from rain; all types of good shops and entertainment facilities, restaurants and public houses. The whole family should be able to enjoy the centre in comfort and safety; one or two childrens' nurseries should be provided."

The civic center around the north square framed one end of the north-south axis. The enclosed space "should have dignity, spaciousness and a sense of grandeur . . . for gatherings of the whole town. . . ." It would open on the east side on a vista "of the wooded slopes and central park. . . . The professional office center should form part of the group around the civic square. The main building might be a tower of moderate height designed in relation to the town hall, at the end of the main axis. Other offices should be grouped around courts."

It was recommended that the county college adjoin the town center to serve as a nucleus of the cultural center, at the south. Recreational areas were planned nearby, a cricket ground to the north of the center and the college playing field and town stadium to the south, the latter connected to the center by a pedestrian underpass. "Greenways, paths and cycle tracks from all parts of the town should lead to the center with the minimum of road crossings at the same level."

Concern was shown for unity (at every stage of the development), compactness—to shorten walking distances—and effective massing to attract passing traffic. It was suggested that shops, in contrast to office buildings, should, for economy of construction, be one-story buildings.

Stein helped create the first modern pedestrian center in the British new town Stevenage.

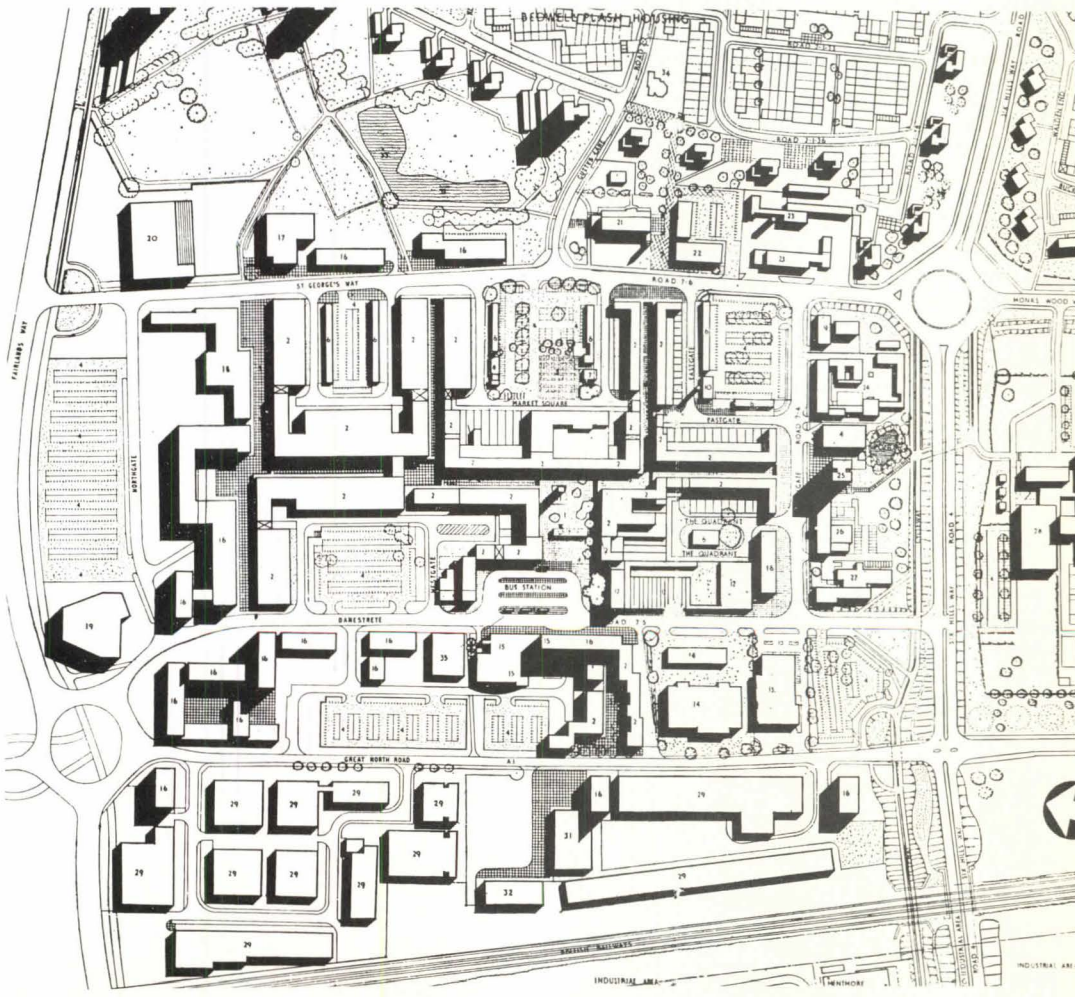
Attention was also given to details, such as: flexible interior space, planting on access roads to screen parking from the highway and passages from parking sides to the main fronts of buildings. It was even conceded that "where desired, shops may have access for customers from both fronts." The central parade "should be landscaped as soon as possible."

The center, the planners believed, could become a prosperous and sparkling community magnet: "Amusements . . . including an outdoor theatre, displays of fireworks and special illuminations, concerts and open air dances, could make the Stevenage Centre as attractive as the famous Tivoli Gardens in Copenhagen."

The fate of the proposal was tortuous. At first it was accepted, "in principle," but then turned down, because it was believed that merchants could not attract customers unless stores were served directly by roads. Local citizens (some housing already had been built) continued the battle and in 1958 succeeded in putting through the pedestrian plan. However, in the *Town Planning Review* in 1960, the later project architect claimed the victory for himself; he stated that "originally an orthodox shopping center was proposed . . ." and completely omitted mention of the earlier plan.

To one familiar with the career of Clarence Stein, the Stevenage town center can be seen as a direct outgrowth of his earlier projects. Subsequent changes in the Stevenage plan, described by Sir Frederick Osborn in his survey of British new towns, resulted in a final project which deviated but little from the original concept.

Gordon Stephenson, the residents of the new town who called for a referendum and voted for the "unknown"—to "pedestrianize" the new town center, and Clarence Stein, who would never have claimed credit for himself, deserve the accolades for the realization of the Stevenage plan. □



At left, Clarence Stein's conceptual sketches for a pedestrian-free town center at Stevenage. At right, the final plan.

A Practitioner of Architecture As the Art of Human Settings

Douglas Haskell, FAIA

The way to celebrate the great contribution of Clarence S. Stein in architecture and planning is first to recognize the contribution and then to get on with it.

What he and the potent group of friends he led were teaching us was how to make of our habitat a place lovely for the human family to live. Undivided in their aim, they did not do their planning and their architecture seriatim. The highly practical planning that they did was of a sort that was conceived from the beginning to convert our surroundings into an effective setting—the job of architecture. What their architecture and planning gave top priority to was a rewarding life on earth; for instance, their "new town" scheme produced neighborhood units where you face grass and trees in the sun, while traffic and its smell and danger and services and car storage are all relegated to the backdoor. Shopping and school and civic affairs and health services are given their own precincts; and foot passages are insulated at *every* point from motorized wheelways. The total idea included a garden-type of "greenbelt" around the town, avoiding today's fringe scatteration into amorphity. This part of the program was rarely completed or maintained thereafter by those of lesser wisdom or determination.

Before going further, let me explain why nothing will be said here about the young man's enthusiastic and hardworking start at the Beaux-Arts in Paris. Think back to that time: The U.S. was just embarking on what it saw as a splendiferous future internationally; so energetic young people went like mad for those splendiferosities. There are aspects we still could use, but today Beaux-Artsism is a *retreat* into nostalgia for those who feel defeated because so much of what we recently did was wrong-track. Let us instead gather the courage for the really mighty forward achievement toward which Stein started us.

Astonishing and worthy of close study was the way Stein's group, led by him, worked simultaneously at several scales. Their view embraced all, from the front flower garden to the region. Thus it was not *after* the two-block plan at Sunnyside and the epoch-making town Radburn but *beforehand* that Stein, as chairman of a housing and regional commission of New York State, was able to delegate his brilliant partner Henry Wright to work out that classic, the Regional Plan of New York. It was out by 1923.

What is being talked about in this regard is a wholeness. Ecologically the Regional Plan of New York was concerned not simply with population distribution but with the geography of resources: how the land should be used and how the population should be distributed accordingly. This touches a great one-sided neglect of the latest 300 years, the years of the so-called Industrial Revolution based on technology based on science.

As we all know, that revolution has produced a widespread deterioration and even misery in *living* conditions— these being ignored not only in the "extractive" areas of mines, pits, quarries, and also the vast fields of agribusiness but also where huge machinery is planned for what puts this energy to use. For example, a 16-lane superhighway for motorized traffic not only uproots the farms, and ruins the productivity of the land at the rate of at least a good-sized farm for every half-mile, but also along its length it disrupts whole networks of social life. Thus anything that exists in the valley must "stand out of the way of inevitable progress" or be destroyed, and with it a large share of "life value" for many lives. By this time the deterioration reaches even to the rich through pollution.

Today, to be sure, we have splendid architects figuring how forms of energy that are less resources-exhaustive and environmentally destructive can be used in building production; but this is not here the point. It is that no form of industry shall keep destroying the earthly *setting* and the amenities it yields to those who live in it.

The largest and most effective counter example by far that Stein and his group and their ideas mainly instigated (largely through their Regional Planning Association of America) employed only a few key people—not including Stein himself—as participants. This was the Tennessee Valley Authority operation in the Appalachians. Arthur Morgan was engineer and Roland Wank chief architect. The project beautifully illustrated the ideas of Stein and his group in their roundness; its later disruption showed the horrible strength of brand new war and super-energy forces. Both events taken together show us what sort of thing must be done in the future; and still more recent developments give us hope that the harmonization of our environment can still be carried much further yet.

'The TVA beautifully illustrated Stein's ideas; its later disruption showed the horrible strength of war and super-energy forces.'

The TVA idea was to resuscitate a failing region inhabited by 2 million people then (possibly now doubled), living along 600 miles of river, on 40,000 square miles of land belonging to three states. Dams and locks were to control the river. At the dams, hydroelectric power plants were to feed new industry and furnish rural electrification; locks were to open up river navigation feeding those industries; there would be fisheries and factories and new towns to live in; reforestation of the hilly slopes would control erosion; education in contour plowing and the like would help poor farmers to restore their income by arresting soil depletion.

Mr. Haskell, editor of *Architectural Forum* (1955-1964), is a prolific writer on architecture and planning and author of a comprehensive report on Clarence Stein's role in the Kitimat new town project. Lewis Mumford (p. 19) credits this report for AIA's bestowal upon Stein of its highest honor, the gold medal. Haskell is a member of the Clarence S. Stein commemorative committee. Chaired by Chloethiel Woodard Smith, FAIA, its other members are Herbert Epstein, FAIA; Frederick Gutheim, Hon. AIA, and William L. Slayton, Hon. AIA; project director, Syd Kasper; research assistant, Marjie Baughman. The committee was set up under the auspices of the AIA Foundation.

This brief description does not pick up what was extra special: the way in which engineers and architects worked together so that both converged on producing a joy of life in that setting, and not utility alone. And so I once wrote ecstatically about "the cunning that quarried the stone so as to leave behind parking slips for pleasure boats after the water has risen," and "the design of a new kind of freeway assuring both rapid deliveries for farmers and enjoyment of the landscape for the visitor on vacation. . . . "

Here was a "glimpse given of man working on the *whole* of his environment to put it into habitable, workable, agreeable and friendly shape. As a concept, architecture today can be no less."

At this point sheer calamity enters in a form of which the prime movers could not even have dreamed. (This we, who daily carry the terror in the inner recesses of our consciousness, can forget.)

The name of the new destroyer of amenities in the Tennessee Valley was atomic energy, which has brought with it not only the vulgarities of Oak Ridge and its own global perils but the deliberate stripmining program associated with it which visually betrays the entire bent.

Now it so happens that where enough tension is put behind a spring it makes a greater release and by this token the country is now ready for a greater leap on the positive side again. Some of the factors are plain.

'Humanity can no longer pretend to omnipotence, but must, as Stein said, abide by powerful nature and the limits it sets.'

Thus during all the time that we have been watching business enterprises worried by possible effects of ecologists in "slowing employment," the big fact is that by now absolutely nobody with his head in place can deny that when science—not just in 1976 but a century ago—turned its attention to the physical effects of nature's own biological processes of architecture there entered an irresistible new age. Henceforth humanity can no longer pretend to omnipotence but must, as Stein said, abide by powerful nature and the *limits* it sets. The disasters of trying to dominate or fight nature are seen to be strewn through the ages in the form of deserts and denudations.

In other words, to treat the world as our home and not as our prey is the best policy, and a balanced program that lives on good terms with nature treated as our home is the most prudent, as well as humanly the best.

Meanwhile, the economists are slowly but inevitably veering to admit that headlong using up of scarce materials must yield to the steadier kind of production that emphasizes the "quality of life." Betrand de Jouvenel describes as "piracy" the policy that makes no inquiry as to where the supplier got the stock that the purchaser is urged to buy, and *how much is left* to the storehouse keeper—which is the earth. When somebody says that 5,000 years' supply exists of some indispensable resource it is like saying that if the million- to four-million year estimate of past human existence is represented as noon on a clock marked to encompass it all in an hour, then the race has just a couple of minutes left.

This shift in the calculations of economics and science from thoughts of endless energy to length of possible life for the race will by degrees become more salutary. It means it is better for us to spend more, in moderate ways, for the improvement of life's quality, and less in endless thoughtless fabrication. And this still leaves plenty of room for an enlargement of architecture. Thus a recent scientific symposium in which Lewis Mumford participated was entitled "Man's Role in Changing the Face of the Earth." Notice "face" as the word. For in removing forests, or

burning them, or plowing the ground, or changing waterways, or producing settlements, and so on, if "man" became so powerful a factor as to change the very *face,* which is the organ of expression and not merely the earth's surface, then his power as an *unconscious architect* has become enormous. At first sight the idea of even attempting to make conscious and controllable the architectural effect of all this global face-changing seems impossible. On second thought, the idea of *not* trying to make this changing of face an architecturally conscious act, wherever it occurs, seems preposterous.

To put it clean and clear, in architecture we had better now redefine things and say "architecture is the art of surroundings" or "architecture is the art of the human setting" and that is the total aim. If we compromise and still call it only the art of the "built" environment, we crawl into a corner *as Clarence Stein never did.*

When we speak of architecture as "the art of surroundings" (surroundings being a term more explicit and graphic than "physical environment"), there are a couple of things that we do not mean.

First, we do not mean an architect must be called every time a street basket has to be moved (even though President Kennedy replaced a whole ring of them around the Washington Monument on reading criticism in an architectural magazine). Nor do we mean that any present type of "environmental designer" shall be unwelcome in the enterprise—the Stein group was enriched *in addition* by philosophers, sociologists and ecologists. We call it all "architecture" because of an incurable regard for the architect as the one who commands the widest *range* of thought and of physical observation that comes right down to impress the spirit through its sensory receptors. Thus "God is the Architect of the Universe."

Also, esthetically speaking—and the poetry of architecture is the art in it—there is required a new vision, a new way of *seeing* which can connect up the most distant elements with the close-at-hand. Architectural forces will do well to spend a lot of time first in getting the public to *see* more analytically *all* that is around. Then it will be more ready to come around. Mere "comparative pictures" are not enough—they must be explained.

Thus Clarence Stein's spirit continues to lead us: from doing small homes for the everyday working family to devising urban diagrams for happily surrounded family living to inspiring the bringing down of necessary regional factors into the instruments of will-firing poetic experience. He helps us now at astronaut range, for the astronauts' photos of the earth showed us our entire globe as that space—circling little striated marble in the great blackness, something round, compact, small, limited, unique, lonesome, intimate: something to which there is nothing we can add, something we must husband and cultivate as our only possible home and setting—and with reverence enough might be able to convert into our only possible present-day cathedral. At Radburn we'll dedicate it to Clarence Stein. ■

Evaluation: The National Air and Space Museum As Barrier-Free Design

Michelle Morgan

The National Air and Space Museum, designed by Hellmuth, Obata & Kassabaum (HOK), opened last summer in Washington, D.C., to rave notices from leading architectural critics. It is a monumental building, as befits its location on the mall, and it contains some of the most spectacular spaces in the capital, three soaring skylit galleries in which aircraft hang from exposed structural members as if caught in a dramatic stop-action moment (page 37).

It is also perhaps the most prominent public building yet designed which substantially conforms to provisions of the federal architectural barriers act of 1968. The architects have provided design alternatives to meet the needs of a wide range of users. There are exterior ramps as well as stairs, interior elevators as well as escalators and a range of hardware and other appurtenances. The building has been approved by the act's enforcement agency, the architectural and transportation barriers compliance board.

Ms. Morgan, a graduate student in architecture at North Carolina State University, was an Institute scholar last summer. She is a partner of Interface, a Raleigh, N.C., architectural programming firm which specializes in design for the handicapped.

Yet, when examined from the viewpoint of all who use public buildings—the very young, the very old, people with disabilities, pregnant women, exhausted tourists, people carrying infants or packages—the museum mainly serves to demonstrate the limitations in the standard requirements. Says Peter Lassen, director of compliance for the board: "Codes and standards require only minimum barrier-free design considerations and don't always reflect the architectural needs of the broader range of users. So even buildings which technically meet the standards may not be functional for, or actually accessible to, many persons."

The first two determinants of accessibility are identifying and entering a building. It must announce itself for what it is. Having to make detours because of not recognizing a building is frustrating to everyone and can be an energy drain for people with limitations of stamina or mobility. Ease of recognition also is especially important for deaf people, many of whom cannot speak well or at all and may find it difficult and embarrassing to ask directions.

In the case of the museum, the fact that this is a building having to do with air and space is effectively, if abstractly, announced by Richard Lippold's towering outdoor sculpture "Ad Astra." Glimpses of the displays through the glass walls that alternate with the museum's Tennessee marble also help, but due to the tint in the glass and the differences between interior and exterior light levels the panes usually appear opaque. The sole verbal announcement of the museum's identity is a handsome but chaste inscription engraved in the marble facade, only really noticeable when sunlight casts shadows on the relief.

Being able to find entrances easily is important for the same reasons that a building should be easy to identify. Approaching the museum from either of the two streets on which it fronts, one looks down extremely long (685-foot) facades comprised of identical masses repeated again and again. There is nothing about the building itself to indicate which of these masses contains the entrances until one gets close enough to them to see the stairs. The only real clues to their location from afar are two large pieces of outdoor sculpture.

The entrances are several feet above sidewalk level so that ramps were a legal requirement. However, the ramps open far

On the Independence Avenue side of the National Air and Space Museum, a swirling sculptural form draws visitors to the entrance. A ramp (below left) opens far down the street. The building's inscription (left) is restrained; large windows (below) reflect distinguished neighbors.

from the entrances, a source of possible confusion and inconvenience. Says Larry Allison of the compliance board staff, "I visited the museum three times before I learned that there was a ramp at the Jefferson Drive entrance. Once I parked on that side of the building and, since there appeared to be no way to get in, I went all the way around to the Independence Avenue entrance." It's a long way around a 225x685-foot building, especially in a wheelchair.

A ramp to the terrace at the east end of the building also has caused confusion. People walk or roll up the ramp expecting to find an entrance to the museum only to discover that there is none. Says HOK project director Jerry Sincoff, AIA, "In the concept phase, the design included an entrance from the east terrace; later that was changed. Still the museum felt everyone should have access to the terrace."

Signage recently has been added to direct people from the terrace ramp to the entrances and also to indicate the location of the other ramps from the entrance stairs. A better approach is to coordinate stair and ramp circulations early in the design process so that they are equally prominent and equally convenient for all users.

Another problem with the south entrance is glare from the light marble walls and light concrete stairs, terraces and sidewalks. Glare is annoying to nearly everyone but can cause severe discomfort for elderly persons and some people with visual impairment or epilepsy. We now know glare to be a common cause of stair accidents as well.

On the plus side, waiting areas at the entrances offer partial shade much of the day, which is especially important to the very young, the very old and those who have had spinal cord injuries. Many of these people cannot easily tolerate extremes of temperature. Also, ledges on outdoor planters in these areas are wide enough to sit on, as are the main entrance stairs.

Arriving at the entrance, one finds doors that meet most essential barrier-free requirements: They are wide enough to accommodate baby strollers and other mobility aids, they have no raised threshold and have hardware that does not require fine motor hand manipulation. The only drawback is that these doors bear signs saying "exit only." Entry is through revolving doors of the type proved hazardous to nearly everyone and all but unusable to many, including those using mobility aids but also including children, people with wheelchairs and other sizable objects. Panes of glass in several door encasements are now cracked where they have been bumped by a knee, an elbow or an object.

Visitors with mobility aids cannot readily enter the museum without getting a guard to open an exit door. Thus, technically speaking, access has been provided but the user is not allowed the dignity of entering the museum independently. Sincoff says that the revolving doors were chosen for orderly entrance: "They allow guards to monitor the influx of people."

Once inside, escalators rise from the lobby in immediate view, and the stairs at both ends of the museum also are easily seen. These provide valuable orientation landmarks as well as breathtaking views of the suspended displays. Elevators, however, are inconspicuously located in alcoves off the main circulation routes.

Separate elevators to the handsome cafeteria are at the extreme east end of the museum and there is insufficient signage to lead people to them. This is a particular problem for people unable to use the stairs and escalators. There is, in fact, a paucity of directional signage throughout the museum.

The interior has some amenities particularly well suited to the needs of a wide variety of users. For example, water fountains occur in sets of three at varying heights suitable for children, adults, persons in wheelchairs. They are in alcoves so that blind persons moving about will not run into them, as they can be used without blocking traffic. The fountains are also spaced far enough apart for a person in a wheelchair to approach from the side, as is sometimes necessary. Telephones, too, are at varying heights.

Says Lassen, "It is often the detailing of a building which determines whether or not it is truly accessible. For example, many complaints which come into my office deal with such issues as inappropriate carpeting." Too plush carpeting is hazardous for crutches, walkers, wheelchairs and other mobility aids, as well as for profoundly deaf persons and elderly persons who tend to walk with a shuffling gait. The carpeting in the museum has been quite well chosen. It has a short nap, and is glued directly to the floor below.

Other interior details such as the spherical doorknobs found in staff areas of the museum are less successful. Knobs require gripping strength, wrist strength and fine motor manipulation, making their operation difficult for many people. European-type lever door handles are far easier to use.

The restrooms provide many carefully considered accommodations. Entrance doors are wide and swing with a minimum of pressure. There are no double privacy doors to harass persons with mobility aids; a right-angle turn provides all the privacy needed. In addition, hand dryers, dispensers, waste receptacles and water controls are all within reach of wheelchair users and children. There is clear space under the sink counter so that a chair can roll under it. Full-length mirrors are provided so that a person can check on his or her appearance, whether tall or short, sitting or standing.

Problems arise where there is less than one foot of clear space on the handle side of a doorway, so that persons in wheelchairs cannot get close enough to pull the door open, as is the case in some restrooms. The toilet stalls are wide enough to enter with a wheelchair, as required by law. However, they are not deep enough for a person to enter with a chair and close the door. This is another instance where the design met current guidelines but is inadequate.

Most services such as restrooms, elevators and telephones are well labeled with words, international symbols or both. Restrooms are also labeled in five languages and display a symbol. This is a particularly good idea since non-English speaking visitors and many deaf persons encounter similar difficulties—they cannot easily ask assistance because they may not be understood and cannot easily understand spoken communication. They encounter a further barrier since many cannot read directions. The same can be true of mentally retarded visitors and others who cannot read.

In all, the National Air and Space Museum is representative of the state of the art of human factors application in architectural design, of which the removal of barriers is only a part. We have come a long way, largely through the work of concerned architects such as these, but much remains to be accomplished to achieve buildings that all can use with physical ease and personal dignity. □

'Ad Astra' sculpture distinguishes the mall-side entrance (right). Fountains (below) are recessed for the blind; some are low for wheelchair users. Cracks mar door shields (center); elevators are inconspicuous.

Earthquake Design: It Cannot All Be Left to the Engineers

The AIA Research Corporation, under a grant from the National Science Foundation, has prepared a primer entitled "Architects and Earthquakes." John P. Eberhard, AIA, president of AIA/RC, says the yet-unpublished report is a primer in the classic sense because "it is a short introduction to the subject. We would like also to think of it in the sense of 'priming the pump'—a primer to start architects thinking about the subject of earthquakes as architects.

"Until now, the earthquake awareness level of non-West Coast architects has been low. The leadership role taken by AIA/RC through earthquake projects funded by the National Science Foundation will help bring about such a national awareness in the architectural profession," Eberhard says.

The research report has several purposes: to develop an awareness in the architectural profession that earthquakes can and do occur east of the Sierra Nevada; to help architects further understand the nature of earthquakes and how buildings respond to seismic forces; to explain how planning and design affect the performance of buildings in earthquakes; to provide architects with a vocabulary in order to talk with clients and engineers about seismic resistance of buildings and their components, and to encourage further in-depth study and research by the architectural profession in the area of building performance and seismic response.

Authors and consultants in the research project were: Elmer E. Botsai, FAIA; John L. Fisher, AIA; Alfred Goldberg, superintendent of building inspection in San Francisco; Henry J. Lagorio, AIA, and Thomas D. Wosser, a structural engineer in San Francisco. The AIA/RC staff responsible for the project, in addition to Eberhard, included: Gary K. Stonebraker, Duncan M. Wilson, Lucy C. Leuchtenburg and Thomas V. Vonier.

Several chapters from the report are drawn upon here, with emphasis placed upon a chapter on "Considerations in Design." MARY E. OSMAN

A rigid structure over an open first story offers this damage potential (hospital, San Fernando, Calif., 1971).

Ancient Greeks believed that Poseidon, god of the watery elements, caused earthquakes when he became ill-tempered. This notion, however quaint, was about as good as any other theory advanced for many years. For at least three generations, however, scientific principles have been explored and a body of literature has emerged. And over the past two decades, the theory of plate tectonics has developed, greatly increasing our understanding of earthquakes. This theory asserts that the crust and upper mantle of the earth are made up of rigid plates which slowly, continuously and independently slide over the earth's interior, with the plate motion creating earthquakes and other geographic phenomena.

About 90 percent of all earthquakes occur in the vicinity of plate boundaries; the other 10 percent occur at faults located within plates. The extremely difficult to predict earthquakes that occur in the Midwest and Eastern areas of the U.S. are in this latter category. Two such earthquakes (in Madrid, Mo., in 1811 and 1812 and in Charleston, S.C., in 1886)

Almost every aspect of a building's design affects its seismic performance.

were equivalent in intensity (and probably magnitude) to some of the most severe earthquakes recorded in California.

Certainly, a severe earthquake is one of nature's most terrifying and devastating events. The 1964 Alaskan earthquake released an amount of energy equivalent to 100 nuclear explosions of 100 megatons each. Recent studies estimate that an earthquake in the Los Angeles basin could result in 21,000 deaths and 82,000 injuries and billions of dollars in property damage. In other seismic areas where there is little control over design and construction, the consequences of a major earthquake could be even more staggering.

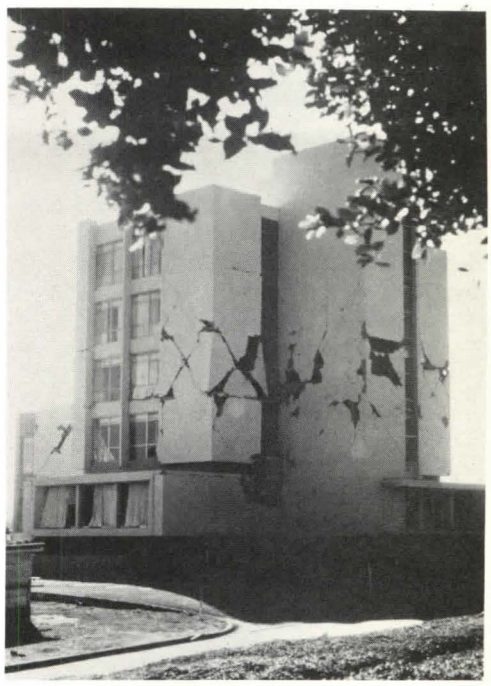
The physical effects of earthquakes depend upon many factors, including magnitude of earthquake, geologic conditions, location and depth of focus, intensity and duration of ground shaking and the design and construction of man-made structures. Human effects are related to such factors as density of population, time of day the quake occurs and community preparedness.

Given the potential magnitude of seismic forces and the general level of earthquake-resistant construction, people may be safer in an open field than in the buildings that are supposed to shelter them. Earthquakes rarely kill people directly, but buildings do—unless specific precautions are taken. The architect who ignores seismic activity, whether he practices in the Western, Midwestern or Eastern states, neglects a primary duty. The architect's decisions about earthquake protection in the planning stages of a project have critical implications.

Code requirements to date have primarily concerned the structural integrity of a building, and less attention has been given to the performance of nonstructural or "architectural" elements during an earthquake. No consideration is given to the basic architectural form of a building which can dramatically affect seismic resistance and can, in fact, adversely affect the possibility of structural survival. Such considerations remained generally ignored so long as structural collapse was a primary factor. Architectural mistakes, literally, were buried. With improved structural design methods, however, building collapse has become less prevalent and this fact, in turn, has exposed the vulnerability of architectural elements to earthquake damage.

The four basic causes of earthquake damage are ground rupture in fault zones, ground failure, tsunamis (seismic seawaves produced by abrupt movement of land masses on the ocean floor) and ground shaking. The principal area of consideration in the design of earthquake-resistant buildings is the effect of ground shaking, and with reasonable and prudent practices, life safety hazards can be mitigated under earthquake conditions.

Motion in the structure is transmitted to the nonstructural components in a variety of ways. Lateral motion of the building due to ground acceleration is a predominant factor. Ground motion causes the building to move, which makes stories drift. This, in turn, creates stresses and forces on nonstructural components. The movement of one floor relative to another creates shear forces on the walls that are tightly fit between them. If the deflection is large, a reduction in vertical height will occur, causing crushing of the walls. Both shearing and crushing forces can be transmitted internally through one component into another. By this process, the racking wall stresses the window frame which crushes the glass, and so on. Connections also fail.



Elevators are extremely vulnerable, and fire is among the most critical secondary hazards. A building's shape (Managua, Nicaragua, 1972) is a determinant in response to seismic forces.

There are many ways in which basic structural movement is transmitted through the structure to various components with the end result being possible failure of the components. It does not take much exploration along these lines to realize one important fact: When the structure starts moving, anything that is attached to that structure, directly or indirectly, is subject to damage or destruc-

tion unless properly designed. Every single part of the building and everything within it requires attention. Without proper design, it is possible for the structure to behave in such ways that all architectural components are damaged or destroyed. And yet, the structure might remain standing. The responsibility for examining these problems lies with the architect.

One possible and natural response to the problem of what the architect can do is to see the problem of architectural component design as a natural extension of the engineering problem. Recognizing that motion is the principal cause of damage and that the ultimate result is a form of failure in the component (crunching, breaking, falling, etc.), it is natural to assume that damage can be reduced or eliminated by better design of components.

Although this is a reasonable assumption, there are questions. Can everything be adequately designed to withstand earthquake stresses? It is not difficult to develop basic principles of design that will accommodate expected forces. For example, crushing forces can be offset by developing varieties of slip joints for components that absorb structural deflection without transmitting stress to the components themselves. This principle applies to a variety of situations, ranging from floor to ceiling partitions to the design of sashes, frames and glazing.

A related problem has to do with the economic ramifications of arriving at satisfactory solutions. For example, extensive bracing or the development of new components may be required, thus causing additional costs. If the architectural profession and the public want to raise the level of building performance during and after an earthquake through improved design, we must face the fact that there may be an increase in construction costs. The question is: How much are we willing to pay?

Clearly, part of that answer depends upon the risks involved, how severe they may be and how many lives and what property are at stake. Although there is not complete agreement on the subject, several experts maintain that meeting current seismic safety demands may result in only a small increase in the cost of a building's structural system.

Because of cost considerations, technical feasibility or simply that an earthquake may exceed design assumptions, it is probably not possible to design a zero-risk building that would be damage-free after an earthquake. Hence, it is necessary to speak of an "earthquake-resistant" building, not an "earthquake-proof" building.

Falling facade panels cause damage outside (Caracas, 1967), while debris inside may block exits (Managua, 1972).

Six performance requirements for a design strategy that protects life and property.

Where, then, should the architect concentrate his attention? The survival of the structural frame is not the only design criterion; other criteria must center around mitigating such consequences as disruption of vital functions, economic losses for families and businesses and the threat of injury and death both to a building's occupants and persons in the vicinity.

In brief, we can begin to set meaningful priorities in earthquake design by stating what we wish to accomplish:

- The expected performance of the building as it affects life safety and property damage.
- The establishment of basic planning and design parameters that will best meet the performance criteria.
- Proper integration of the various building components within the basic planning and design parameters, giving attention to appropriate life safety criteria.

To establish this basic design strategy, several broadly defined performance requirements must be set forth:

(1) Protection of occupants within, and the public adjacent to, a building during an earthquake: Assuming that the structure does not collapse, occupants are still exposed to injury by the toppling of free-standing furniture, equipment and storage systems. Wall-mounted objects are shaken loose. Suspended ceiling components may pop out and lighting fixtures snap off, bringing down sprinkler heads and other components. Door frames may bend and jam doors shut. Partitions may crush and collapse, and if the partitions contain utility lines, there are secondary hazards such as electric shock and fire. Bent window frames may cause glass to shatter; sashes may be sheared from fastenings. Outside the building, persons may be hit by falling parapets, facade panels or elements, glass and other debris.

To protect people from such hazards, building components and systems must be designed with these potential dangers in mind.

(2) Disaster control and emergency subsystems must remain operable after the quake: People and the building itself may be subjected to secondary hazards, such as fire, flooding and electrical shock. Fire protection devices may be destroyed or damaged. Hoses can be torn off and fire extinguishers made inoperable, or they may be blocked by debris. Water supplies for fire fighting may be cut off; fire escapes may be blocked.

In order to prevent such secondary hazards, control and emergency systems should be designed to remain intact after the earthquake.

(3) Occupants must be able to evacuate the building as quickly and orderly as it is safe to do so: Many hazards may be encountered during evacuation. In exit corridors and on stairways, occupants may encounter debris from ceilings, partitions and fixtures, making walking dangerous or impossible. If the lighting system fails, danger in not seeing becomes acute, especially in interior stairways where the darkness hides missing stairs and railings, debris and other hazards. Elevators are extremely vulnerable. As the building shakes, counterweights and other equipment may break away from connections and strike elevator cabs; guide rails and other systems fail. Entire elevator shafts and stairwells attached to the building's exterior, when improperly designed, may experience shearing forces that cause them to fall away completely.

Exits may be blocked; broken glass may hinder passage; doors may not open if the frame is bent out of alignment. And once outside, evacuees risk being struck by loosened debris falling from the exterior.

These potential hazards to life safety can be mitigated through careful consideration by the design team.

(4) Rescue and emergency workers must be able to enter the building immediately after an earthquake, encountering minimum interference and damage: Access to and passage within a building can be blocked for the same reasons that movement within and egress from the building are hindered for occupants.

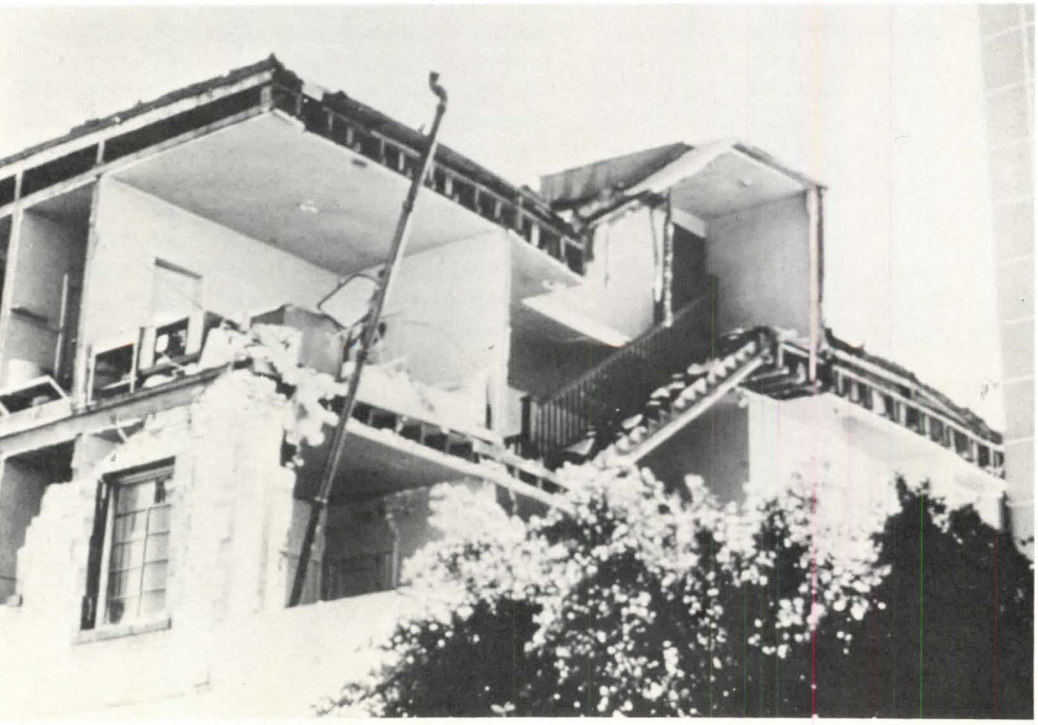
Rescue and emergency team workers need clear passageways to remove casualties; they require control and emergency subsystems operable in order to cope with fire and flooding.

(5) The building must be returned to useful service as quickly as possible: The "cost" of any earthquake is measured in terms of bodily injury or death and property damage and also social disruption and economic losses related to the inability of a city to function at full capacity after an earthquake. There is also loss of business activity and revenue and the cost of having to divert many resources for the repair and restoration of services and buildings.

The minimization of such costs is a most difficult task because virtually every component in a building is subject to earthquake damage. The design team should decide which of the subsystems are most critical to continued functioning of the building and then concentrate upon their proper design. Among the most important subsystems are sewage disposal and potable water supply; electric power for lighting, communications, vertical transportation, etc., and mechanical systems for the maintenance of at least minimum environmental control, particularly in critical use facilities.

(6) The building and personal property within it should remain as secure as possible: An unpleasant fact is that looting and vandalism are likely to occur after earthquakes. Components that contribute to the building's security should remain as intact as possible. Maintenance of the integrity of the exterior may be most difficult of all, due to the severe problems of glass breakage. Broken doors and windows obviously will disrupt security.

As a structure moves, everything inside and outside is subject to destruction, hindering access of rescue workers.



The architect should realize that the design of better buildings is not the only option in dealing with earthquake hazards. Other strategies currently advocated are: better land-use planning in areas of high seismic activity; the reinforcement of many existing buildings that have not been the subject of seismic design considerations; improved building regulatory codes and property standards; predisaster planning to prepare communities to recover quickly from the effects of earthquakes, and earthquake prediction. Each of these public concerns should be used as reinforcement to the strategy of seeking higher performance in terms of life safety and more durable buildings through better design.

All of these concerns are important to the architect. He must be prepared to deal with them in the political and other arenas where in coming years they will be debated and acted upon. □

Hospice: A New Building Type to Comfort the Dying

Lo-Yi Chan, AIA

I was taught that before you design a building you talk to the future users. Talk to the dying! What do I say? Will I muff my lines? How do I avoid becoming tongue-tied by all the fears of death which our society has given me as it gives nearly everyone? And what do *they* say?

Those thoughts were in my mind three years ago. Today, some apprehensions remain, but I have talked to the dying. A design has emerged and it's time to write about it. You and I have been designing for the dying for a long time: They are you and I.

We are acquainted with death mostly through the media where we remain uninvolved spectators. But in real life dying is often solitary, mechanized, inhuman, even more frightening than death itself, and it has become far more so with the medical advances of the past 30 years. If you haven't witnessed this personally, read about Karen Ann Quinlan or the patients in Stewart Alsop's book, *Stay of Execution.*

It wasn't always so. Remember the great deathbed scenes in the theater of a few generations ago? Anxiety and grief were present, but ritual and community support helped everyone to carry on. And death need not continue to be such a gruesome prospect. This is why there is a hospice movement.

What is the hospice movement? What are its goals? What design issues are raised by these goals?

How many of you live with your parents and grandparents or near them? Very few, I would think. And when you die, what will the cause be? Probably a degenerative disease like heart failure or cancer. The American Cancer Society says that 67 percent of all deaths are now due to the chronic, slow degenerative diseases. What does this mean? The mortally ill will be sick longer, and with no one home to care for them, will die in institutions. Currently, two-thirds of all deaths are in institutions, many in buildings that you and I have designed.

These institutions are ill suited to the needs of the dying. The medical establishment has healing and good health as its ultimate goal and in the last few decades has made giant strides toward meeting this goal. Yet, its very successes have made medicine more technological and less able to meet the human and humane needs of the dying.

Dr. Robert Kavanaugh, psychologist and former priest, writes, "A dying human being deserves more than efficient care from strangers, more than machines and antiseptic hands, more than a mouth full of pills, arms full of tubes and a rump full of needles." What is "more?"

Hospice is a medieval term meaning a way station for travelers. Today's traveler is nearing the end of one journey. Dr. Elisabeth Kübler-Ross, author of *On Death and Dying,* says that hospice care is "to help people to live until they die." The goal of a hospice, then, is to provide physical, psychological and spiritual care for dying patients and their families.

Hospice care is essentially diagnostic and palliative. Symptoms such as pain and nausea are alleviated without significant alteration of personality. Anxiety is managed by a supportive interdisciplinary staff and close family involvement. The patient, rather than the disease, is treated because, by definition, the disease is beyond curative treatment.

A place to provide the special care needed to help the mortally ill 'live until they die.'

Where does this take place? Well, where would you prefer to be if you were dying? Probably at home. You don't need the active treatment facilities of a general hospital. You don't want the $200-plus per day bills either. But you do need expert relief from mental and physical suffering, available 24 hours a day. This is a hospice home care program: physicians and nurses, social workers, volunteers and clergy, an interdisciplinary team available for housecalls. Calling dying at home a "radically old fashioned idea," *Newsweek* quotes Dr. Austin Kutscher, head of the Foundation of Thanatology: "The trend toward dying in institutions may be turning around."

If this is true, then why is a special facility, a hospice, needed? Because in practice, many cannot die at home. Some need continuous care. Some have home environments which are not up to the crisis of terminal illness. Most often, home care is possible only until the last few weeks, when an institution is needed.

Why couldn't this institution be a typical hospital? It could be if the medical establishment, from janitor to medical director, and its architects, understood and adopted hospice goals. Donals Kraushaar, health care consultant to the United Methodist Church, says, "It is difficult for the health care professional to shift a mental perspective aimed at . . . cure and rehabilitation to one of recognizing an irreversible and immediate death."

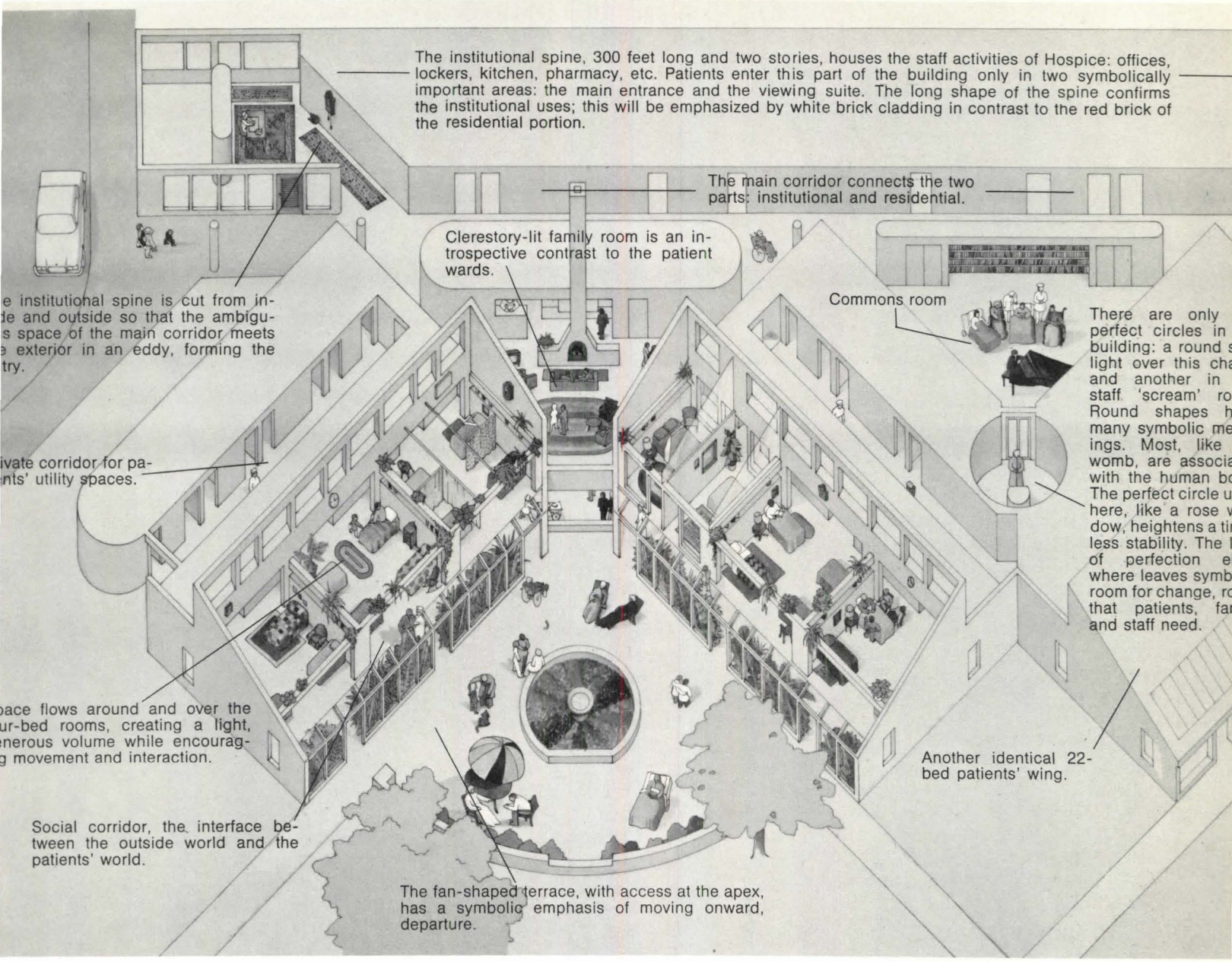
Like most of us, hospitals deny death.

There are other problems as well. Hospitals have weak or nonexistent home care programs and only tenuous connections with community home care services. They don't have enough space to allow the family to continue its share of care. Mandated by law, they are moving toward private rooms, whereas hospices are moving away from them. They have few transition spaces, while hospices need many. They have necessary rules such as limited visiting, which hinder hospice care. If these problems were resolved and goals broadened to include care of the dying, then the hospital would be a logical place for a hospice home care program with its back-up beds.

In 1963, Dr. Cicely Saunders, a London physician with a background in nursing and social work, spoke at Yale about her efforts to help the dying in England. Her talk pulled together many people of diverse interests and soon their common concerns led to a study of the needs of the dying in our society. The study, under the direction of Florence Wald, former dean of Yale's school of nursing, proved the need for a new level of care. In 1971, Hospice, Inc., was incorporated as a New Haven nonprofit group with the purpose of demonstrating the effectiveness of the care possible and, indirectly, of changing society's attitudes toward death and dying. Hospice, Inc., commissioned Prentice & Chan, Ohlhausen in 1973 to design its hospice.

Among the many people who brought ideas to the design, two stand out. Henry J. Wald, director of planning at Yale-New Haven Medical Center, wrote the original feasibility study as a master's thesis at Columbia's school of architecture. Florence Wald, one of the founders of Hospice, Inc., guided our efforts as we explored many concepts.

Mr. Chan is a partner in the New York City firm of Prentice & Chan, Ohlhausen. Research for this article was supported in part by a grant from the National Endowment for the Arts. The findings do not necessarily represent the views of that agency.



Some of the concepts are based on French hospices of the 15th century. Some were first tried at St. Christopher's in London and St. Luke's in Sheffield, England, pioneer hospices founded respectively by Dr. Saunders and Dr. Eric Wilkes and designed by S. W. Justine Smith. Yet, because the system of care is innovative, the design is innovative, too.

Using the British hospices as models, the Hospice team proposed 44 beds to serve a population of 560,000 in the city of New Haven and 20 adjacent towns. These beds are grouped in two 22-bed units, this number being optimum for social groupings, emotional impact and staffing. Since treatment is mostly palliative, there are spaces for a pharmacy, diagnostic X-ray and physical therapy, but spaces for vigorous, curative treatment, such as operating rooms, are absent. This is essentially what hospitals call a nursing unit. The crucial difference between a hospice nursing unit and a typical one is more space for families and interdisciplinary care. Hospice, Inc., plans 937 gross square feet per bed. This compares with 984 average for community general hospitals and 593 average for voluntary nursing homes. Hospice space is for patients and families, with increased bedside space and a range of community rooms. A day care center for staff use will ensure the presence of children. "Children and children's children are very important," says Dr. Saunders. "They give the feeling of continuity with what you're leaving behind."

Hospice, Inc., looked for a site that was easily accessible to families and in the midst of community life. It took time, but we found one in Branford, Conn., with a church adjacent, a school opposite, single and multiple family dwellings nearby and Interstate 95 one mile away.

Designing a building as a therapeutic tool is an old idea, going back at least to Viollet-le-Duc's use of altars, then the only available therapy. (But an idea can be oversold. Remember when color was the panacea, "tones to soothe, to cheer, to drive away dull fear?") Today, in psychiatric jargon, it's called milieu therapy, and Bruno Bettelheim sets the stage:

"How should the patient see the institution? It shouldn't be too small, so that it seems confining, nor should it be so large that it appears overpowering. It should fit unobtrusively and harmoniously into the neighborhood but without any loss in individuality.

"It should have a character of its own, but not so much that a patient will feel conspicuous as he goes in or out. It should be sturdy and substantial enough to protect us, without seeming restrictive; a comfortable home that fits for living as a comfortable old shoe fits for walking.

"It will bespeak some grace in living, reassure any sense of insecurity without domination and make a positive appeal to our esthetic feelings. It should convey unity, but it should contain well-articulated individual features. It should show us an open face and convince us that within it, individual man is the measure of all things.

"It must suggest dignity and self-

respect, since this is what the . . . patient needs most. If such dignity appears to be time-tested, this is to the good, but a new building will do, if it conveys these feelings. In short, the building should invite us in."

Designing the milieu of a hospice is dominated by one key issue: the philosophy of the hospice movement. Therefore, in this discussion, I'll skip all other design determinants—codes, site, costs, systems of all sorts, even staff needs—to concentrate on that one issue. The prime goal of Hospice is to enable both patient and family to live effectively in the face of impending death. How can a building help do this?

I would like you to consider five ways:

- By creating a community of patients, family and staff.
- By creating transitions.
- By encouraging mobility or, at least, the appearance of mobility.
- By illuminating the passage of time.
- By confronting the meaning of death.

Community: Hospitals, in their drive for efficiency and fear of infection, are often extreme examples of isolation. Hospice is exactly the opposite: Community is our goal. Why? Because fear of abandonment is a major source of anxiety to those near death. To ease this fear and to support these patients, we do everything possible to bring people together (while taking care to guard against infection and unnecessary intrusion). This is no new discovery. Families in crisis respond as soldiers in foxholes: They draw together and help each other.

An obvious key to the goal of community is the use of a range of gathering spaces. St. Christopher's has prayers in the chapel, music in the commons, teas in the garden and barbecues in the parking lot. Hospice, Inc., will follow suit.

A second key to community is the four-bed room. This represents a major departure from a current trend to private and semiprivate rooms, a trend accelerated by federal regulations. In this simple arrangement, two beds are side by side, directly facing two similar beds. Each patient has a roommate on one side and free space on the other for families to gather. All four roommates are close enough to each other so that contact is easily made. The families are a little farther away and can keep the distance or close it as they choose.

'A hospice is not a machine for dying.' It should be supportive and familiar in its design.

I asked a wan, motionless patient at St. Christopher's what I could do better in the design of a hospice in America.

"I'm paralyzed," she said, "and must be turned over every four hours so I won't get bedsores. But you see, the architect located my call button so it can only be reached on one side of my bed. When I face the other way, I can't call the nurse."

"That seems serious. What do you do?"

"My friend over there calls for me," she said.

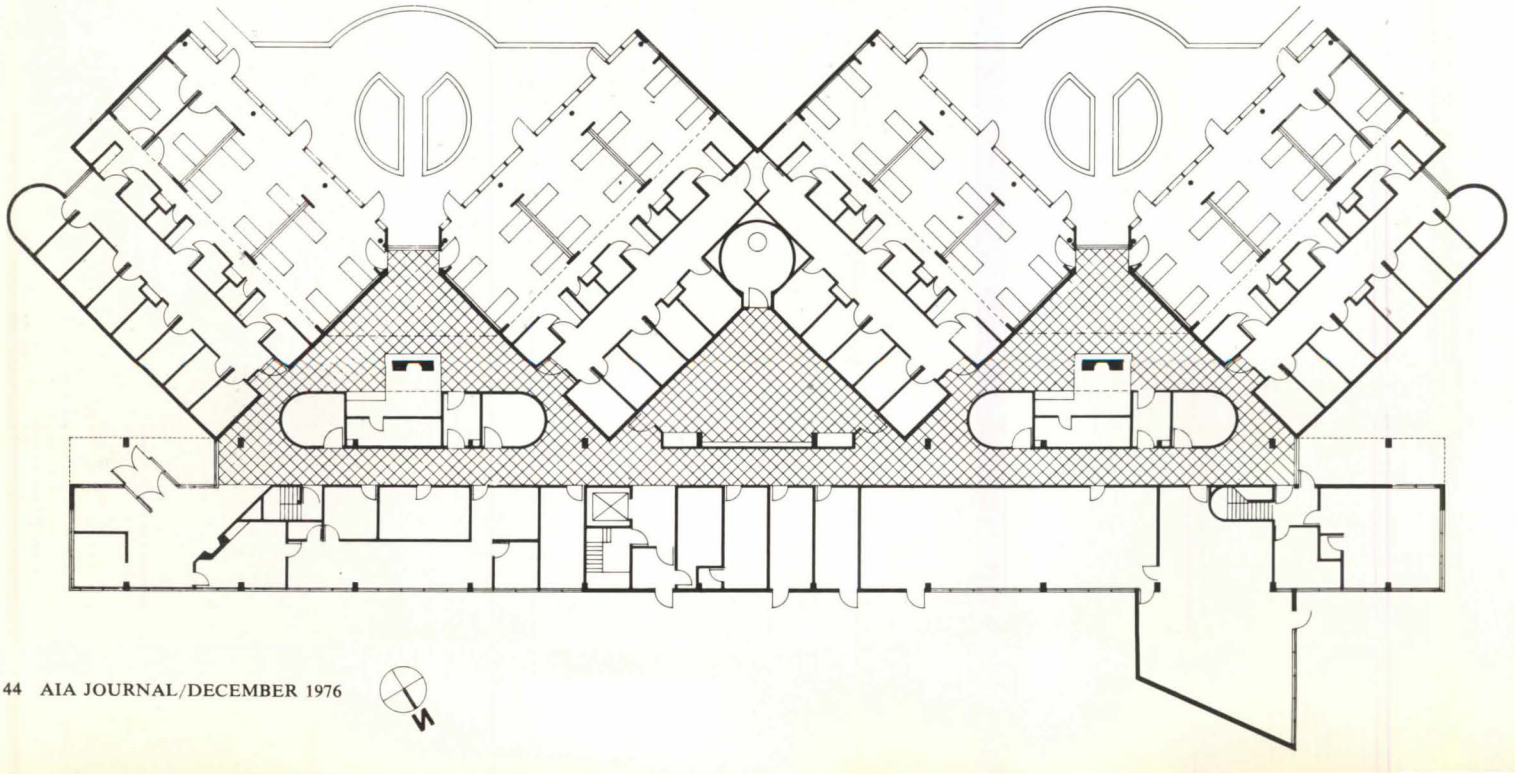
Her friend, mortally ill, smiled.

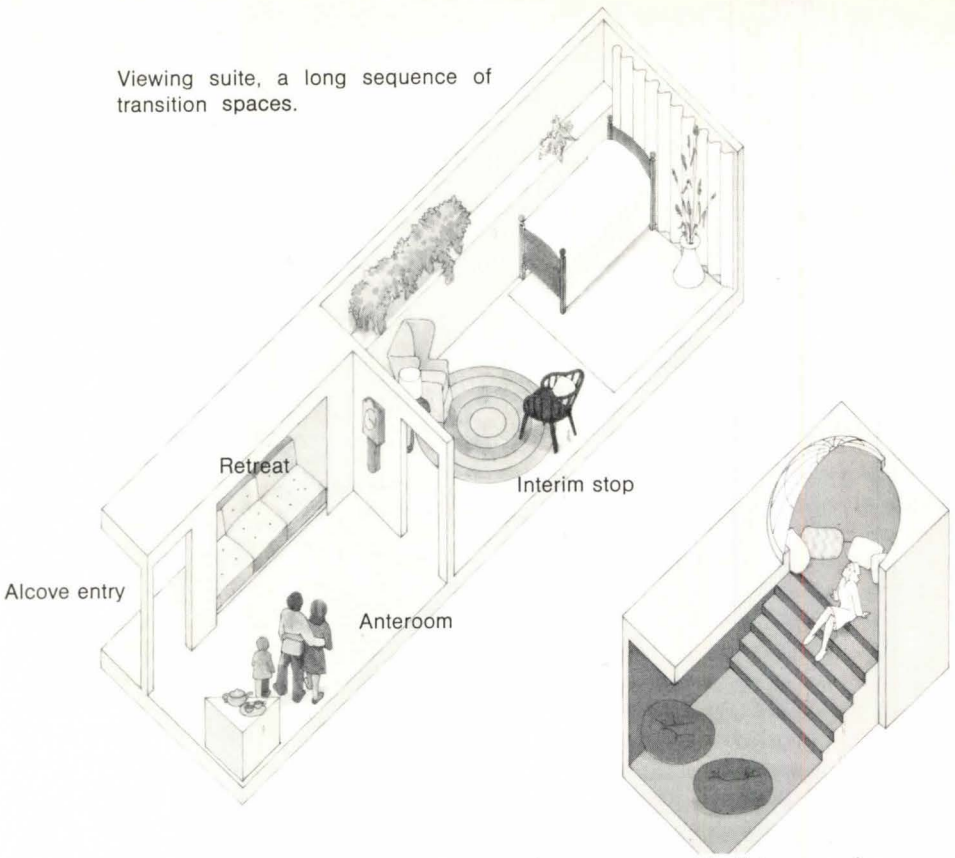
Why four beds? Why not three, two or five? Dr. Sylvia Lack, formerly with St. Christopher's and now medical director of Hospice, Inc., says, "Twos are a disaster. When a patient has made a friend and the friend dies, the loss is traumatic enough to convince the survivor not to risk making further relationships." Threes and fives are better, but they have the geometric problem of an odd man out. Singles are still needed for those whose need for privacy is greater than their need for community support."

A question often asked: What actually happens when a person dies in one of these four-bed rooms? Isn't it awful to expose the other patients to this trauma? Let me relate to you what can happen: A patient is slipping away. Pain and nausea are in control. In fact, most of his symptoms are in control—only the disease is uncontrollable, so he is dying. His feelings are sometimes expressed, often not, because for him the struggle is over. Relatives and staff are around the bed. Someone is holding his hand, assuring him, if possible, that he is not alone. Roommates and their families are nearby. When the patient dies, there is anguish, sorrow. But the important thing is that it was not awful. The earth did not open up. Survivors can see for themselves that what happened was not as bad as they imagined.

The naturalness of the death (without drips, tubes, heart machines) is a clear example to the living that "dying is not such a frightening, horrible thing that so many want to avoid," as Kübler-Ross wrote. Full of sorrow, yes, but natural, a part of life.

Transitions: Most buildings are sequences of spaces. Hospitals are typically dominated by the clean-to-dirty sequence, or by the assembly line, where patients go from prep room to operating room, to post-op, to recovery, to convalescent wing, etc. Hospice has sequences, too, but they are different; they deal in transitions. Why? Because fear of the unknown is an obvious source of anxiety among patients and families, death being the ultimate unknown. How can you design for this? By creating anterooms. Virtually every room should have an anteroom. Movement about a hospice should be through relief valves so that people can confront the unknown gradually, with many opportunities for withdrawal to allow them to understand their feelings.





Staff 'scream' room, a nonobjective space for ventilation of emotions and replenishment of energy.

These transitions start with the site. At Hospice, we deliberately lengthened the driveway and placed it to pass in front of the glassy patient wings. Visitors can see, from a distance, Bettelheim's "open face" and can sense that life goes on.

At the entrance we faced a more complex problem: the need for a supportive, friendly place that was also efficient and professional. We designed a tightly controlled entry with a place for each activity, then softened it with a fireplace and an alcove for coffee. Warmth and food are ancient symbols for hospitality.

The most extreme examples of transitions occur after a patient has died. We have a primitive superstition that death is somehow "catching" and our tendency to avoid death becomes intense when a corpse is present. Yet, psychologists know that survivors who are able to see a dead relative or friend can come to accept the reality of that death and thus come out of grief with fewer problems. So, our design has a viewing room. It is long and narrow, with the patient's bed at the far end. Preceding it is an anteroom. There are several places to stop and retreat. The design does not attempt to distract the survivors (you see this in funeral parlors), but gently nudges them toward acceptance of a final reality.

The viewing room is also where survivors take leave of the dead; most close relatives do so very reluctantly. Again, there's no hurrying in the design. The sequence of transitions is a sequence of farewells.

Mobility: Most hospitals, in order to be efficient, allow patients little freedom of movement. They have tight circulation systems—usually double-loaded and as short as possible. Hospice attempts to reverse this. Why? Because those near death fear a loss of personal control and this fear focuses on the loss of mobility. So you should encourage movement.

Hospice has several layers of circulation, each carefully tuned on a scale from private to public. For the bedridden, the bed can be rolled down these corridors. Of course, in the interest of cost efficiency, we double up the uses of the circulation routes. One passage is also a living room; another serves as family bedside space. Several doors lead to terraces, encouraging movement out-of-doors. They serve as fire exits, relieving the other intensely used passages.

The appearance of mobility is almost as important as mobility itself. I asked one patient whether the noise in St. Christopher's open wards bothered her. She said, "Not so. I like strangers walking by—especially students and doctors."

Sister McNulty, retired head of the outpatient clinic at St. Christopher's, put it well: "Patients are trapped in their dying bodies; they must not also be trapped in their rooms."

Time: Time takes on a new dimension at the close of life. For most hospitals, time is usually thought of in terms of rate of healing or dollars per day. For the dying there is anxiety about time, not enough or too much. It is not surprising that patients speak of it so much.

"In a hospital, time drags. Here (St. Christopher's), how quickly the day goes."

"I want Christmas at home. So I'm doing all I can to live."

"They gave me 12 months to live; that was 15 months ago!"

Ask yourself how you would feel if you saw but weeks ahead? Then how would you design a hospice?

New Haven Hospice, by design, attempts to reveal the passage of time as natural and universal. This assertion of reality is done with the simplest of means: by placing all patients on the ground floor, with windows all around. Sunrise, sunset, summer and winter are all revealed and take their natural place.

Meaning of death: The most important design determinant is the meaning of death. It may seem presumptuous for an architect to seek design determinants on issues that philosophers have spent entire lifetimes considering. Moreover, hospital architects seldom give this issue much thought, even though their building's mission is life saving. But if you design a hospice, and some of you will, then you can't avoid coming to terms with this issue because your patients can't avoid it.

How can your design help bring meaning to the lives of those near death? Listening to the dying may be your best chance of coping with this issue. What you will hear is not so surprising: expressions of anger, depression, fear and hope. Some find meaning in religion, others in work. Most seek meaning in the lives of their families.

I have listened to the dying and have read what they have said to others. From this I have tried to design an environment that encourages community support and eases anxieties of abandonment, loss of control, fear of the unknown. With the help of an expert staff and an understanding family, the patient's limited energy, released from anxiety, is available for living. This freedom is the key, freedom to strip away past evasions, freedom to give up possessions, family, freedom to be himself, to know himself.

How you confront the meaning of death and what you design will depend on what the dying say to you. But there's one thing you must do: Create a place of beauty. Even for the dying, beauty is healing. Put aside the efficiency esthetic: A hospice is not a machine for dying. Put aside the big concept: A hospice is not a Portman hotel. Instead, design a supportive building with familiar materials, familiar patterns. Make it a place where you'd like to be when it's your turn to die. □

Architectural Guidebooks: Proliferating and Maturing

John Fondersmith

The theme of the 1976 AIA convention in Philadelphia, "an American city—the architecture of information," generated a wealth of ideas on communicating information about the built environment. Guidebooks are one approach, and 1976 is the 25th year that a guidebook to an AIA convention city has been published. The small 1952 guidebook to New York City was the first. Since then, the books have become longer, larger and more sophisticated in content and graphic design. However, the 20-page 1976 guide, *Phila. Pa.,* bucked the trend. There were several reasons.

First, Philadelphia has been well documented recently and there was fear of duplication. Second, the authors wanted to reach the largest possible audience and were able to arrange with *Philadelphia* magazine to publish the guide in the May issue, with enough extra copies to distribute to convention delegates.

Whether *Phila., Pa.* turns out to be a hybrid or a trend-setter remains to be seen. I'll offer an appraisal later in the article.

In reviewing AIA and other guidebooks, I have come to think of three generations. The first-generation guidebook is a building-by-building description, generally focusing on landmark structures. The emphasis is on the most important, biggest and most famous buildings.

The second-generation guidebook is more concerned with the overall environment, how buildings relate to each other and form complexes, neighborhoods and cities, and how the urban fabric is used and evolves. Vernacular architecture becomes important.

The third-generation guidebook is a refinement of the second type. It goes beyond description of the urban environment and discusses issues of development and design policy. Additionally, its purpose is to become an instrument of civic education, helping the user deal with policy issues. This type is the most difficult to prepare and is most subject to outdating.

My bias is toward the second- and third-generation books, but I believe good first-generation books are still needed to provide data on individual elements of the landscape.

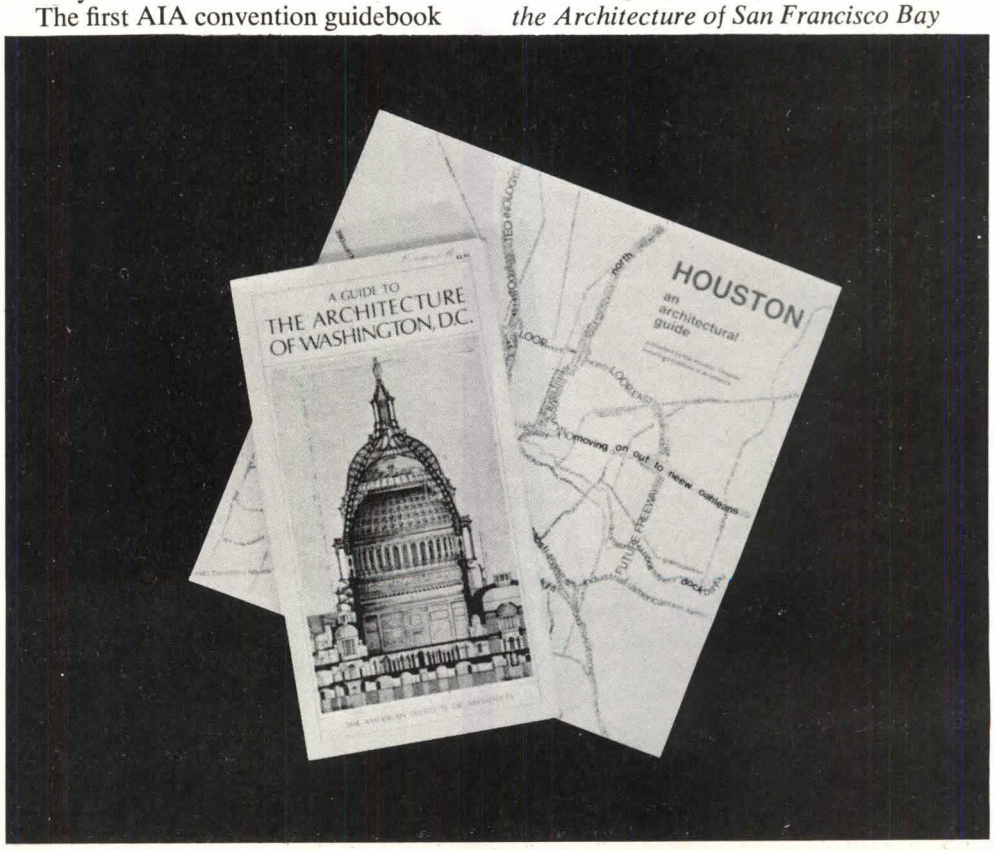
I also favor a balance between historic and contemporary architecture, which has always been the case with AIA books but not so with many others that are exclusively historical. The cultural viewpoint of guidebooks also should be broadened. They essentially have been by whites for whites despite that the fact that almost all cities in the AIA series have significant black or Latin populations. Despite limitations, the AIA convention guides have advanced the state of the art in this country.

The first AIA convention guidebook was *A Guide to New York Architecture: 1650-1952,* written by Huson Jackson and published by Reinhold. Thomas H. Creighton, FAIA, then editor of *Progressive Architecture,* arranged Reinhold sponsorship, which continued until 1963 with one break. During the early years, local chapters collected material, AIA financed photographs and Reinhold edited and published.

The New York guide described 173 buildings and structures with 72 pages of text, 10 photographs and one location map. It was a simple, pocket-size (5½x8 inches) guidebook. The next seven Reinhold guidebooks were similar in format, with some variations in graphic design and emphasis.

For example, *A Guide to Seattle Architecture: 1850-1953* by Victor Steinbreck made several advances. The selections, sensitive building descriptions and an essay on Seattle architecture began to express a feeling for building groups, neighborhoods and the city.

Buildings of the Bay Area: A Guide to the Architecture of San Francisco Bay



Mr. Fondersmith is chief of the special projects section of the District of Columbia Municipal Planning Office. In off hours, he is compiling a catalog of guide materials, *Guides to America: The Built Environment,* and seeks information on current or proposed guidebooks, and information on the historical development of guidebooks. His address: American Urban Guides, Box 186, Washington, D.C. 20044.

Region of 1960 by John and Sally Woodbridge with sketches by Rai Okamoto and design by Philip Thiel was a major advance. Published by Grove Press, the guide was divided into four main geographic areas, each subdivided into smaller areas. A typical arrangement had a key map and a map of the subarea on the right-hand page, and photographs and building descriptions on the facing page. This facilitated use in the field.

Contemporary architecture received the most emphasis, but important landmark buildings and some Victorian buildings in San Francisco were included. This was a very good first-generation guidebook.

Reinhold received increased aid from AIA for the 1961 guide, *Philadelphia Architecture,* and for the 1962 *The Prairie's Yield: Forces Shaping Dallas Architecture from 1840 to 1962.* A horizontal format was used and the graphics were more sophisticated. The Philadelphia guide, designed by Theodore Miller, used full-page photographs, maps and drawings. The focus was on the city as a whole. This was a second-generation guidebook, with David Crane's section on "Philadelphia Tomorrow" being third-generation in tone. This was the most sophisticated of the Reinhold guides, and remains a model of how much written and graphic information can be packed into a small guidebook.

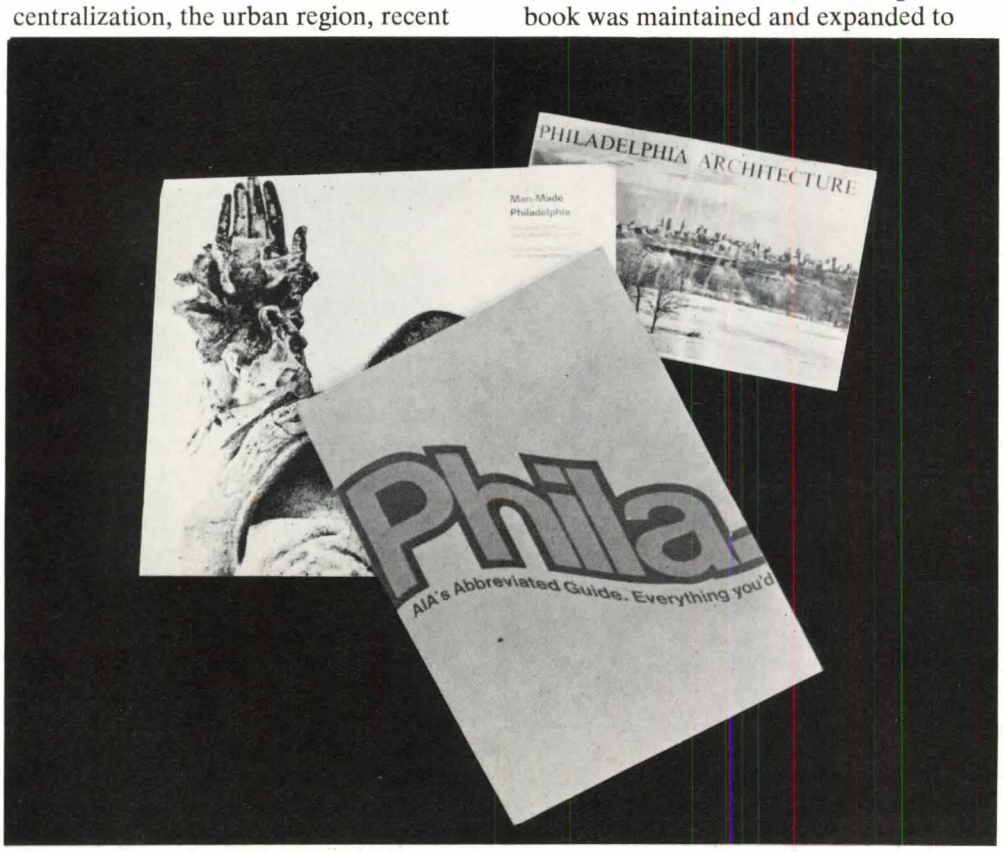
The Dallas guide involved a "time line" —a list of significant buildings in the U.S. and abroad arranged to relate to buildings being discussed in Dallas. The text included discussion of the central core, decentralization, the urban region, recent planning, residential development and institutions. This was third generation in tone, though the format limited its usefulness as a guidebook.

Reinhold sponsorship ended in 1962. Since then, individual chapters have worked out their own publishing arrangements. Of the next 13 guidebooks, seven essentially represented some refinement of the first-generation approach. The 1965 *A Guide to the Architecture of Washington, D.C.,* edited by Hugh Jacobson, FAIA, marked another advance in text and graphic design. A sensitive introductory essay by Francis Donald Lethbridge, FAIA, was followed by 20 sections, each describing a different area. Most photographs had brief, useful captions. The model was the Baedeker/Michelin size and shape, so this was an inch slimmer than earlier guides. Color was introduced for the first time—brown was used for page borders, for routes on the area maps and as a tint over some photos.

They have a larger potential role than as reference books and AIA convention souvenirs.

The 1968 *Detroit Architecture* was a fine example of building description, but still first generation in approach. There was no sense of the agony the city was experiencing, or the problems of large areas of Detroit.

The last of the refined first generation was the updated Washington guide (1974). The format of the 1965 guidebook was maintained and expanded to include 100 additional buildings. Lethbridge added a thoughtful postscript to his original introduction, stressing changing attitudes about the city and the need to encourage human qualities.



The other six guidebooks in the 1963-1975 period began to place greater emphasis on the overall urban fabric and less on individual buildings. First steps were seen in the 1964 guidebook to St. Louis by George McCue. A major advance came in 1967 when the *AIA Guide to New York City* (Norval White, FAIA, and Elliot Wilensky, editors) introduced a number of new features. It was the shape of the Michelin guide but without rounded corners, and grew to 464 pages. Most important was the sensitive description of the urban fabric. Dropped in among descriptions of the physical environment were the activities that make a city exciting—restaurants, theaters, bars, bookstores, museums, galleries and shops. The guide dealt with the past, the present and issues of the future. It was thus third generation in tone. The production cost of $85,000 was raised from advertisements and royalties.

The 1970 convention committee made *Boston Architecture* a larger size, 9x9 inches, allowing for larger photos and maps. John Coolidge's introduction was followed by sections on seven areas of the city. The layout was crisp, with especially good maps. Certain buildings were located on the maps, but the focus was on the neighborhoods. This was second generation, and in some respects a third-generation guidebook, though there might have been more focus on planning and design issues in the various areas.

Because of its size, it was less of a guidebook for walking the streets and more of a reference book.

Houston: An Architectural Guide, edited and designed by Peter C. Papademetriou (1972), was another advance. He wanted to "outdo the Boston guide." Papademetriou selected the same shape as the Boston book, but had to decide on a new approach. The guide to historic, fine grained Boston covered a compact area, but the guide to booming, sprawling Houston sought to capture the sense of a metropolitan area of hundreds of square miles.

Papademetriou saw Houston as the new urban form of the late 20th century, involving new dynamics of growth, change and an expanded scale of space and time. He tried to convey this in the essays for each subarea. The photographs included subjects which had not appeared in any previous guide—drive-ins, billboards, gasoline strips, fake French, English, Italian, etc. "architecture," mobile homes, freeways, deteriorating neighborhoods and so on. This was an effort to convey what was really happening. In his book,

Close-up: How to Read the American City, Grady Clay wrote: "Annual guidebooks to the convention city of The American Institute of Architects treated each city as a collection of buildings by members of its guild. Seldom before the Houston guide of 1972 did such books recognize major forces that conditioned both buildings and human activity in the city."

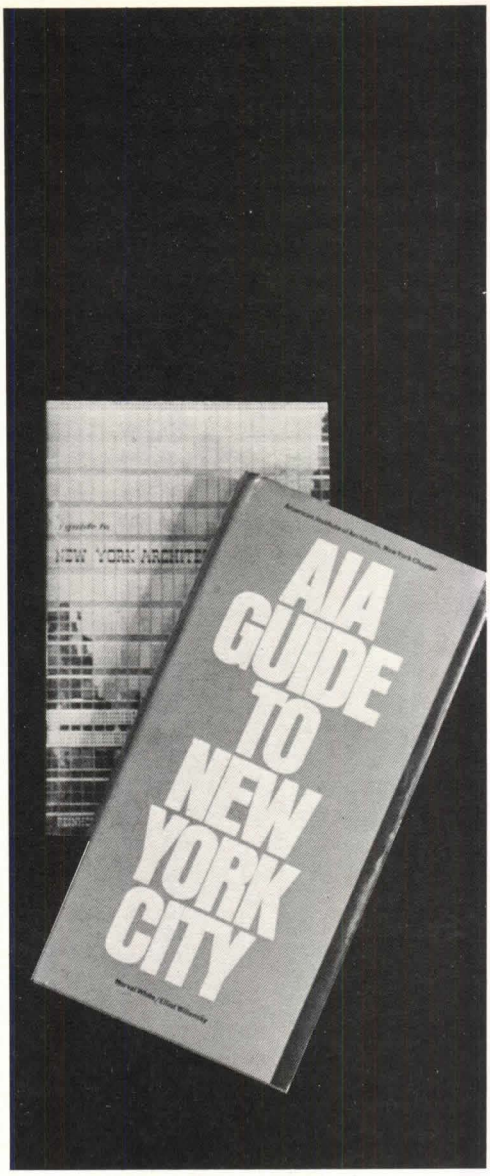
A team of veteran guidebook writers, John and Sally Woodbridge, David Gebhard, Robert Winter and Roger Montgomery, prepared the 1973 *A Guide to Architecture in San Francisco and Northern California.* The idea was to describe the ecological and cultural features of the bay area. As the coverage broadened, some detail was dropped. The team early reached agreement to produce a guidebook free from editorial control of the local AIA chapter. Although the book was to be used for the convention, the authors sought a broader public audience.

The book reflected interests that had shifted since the 1960 San Francisco guide. There was more emphasis on vernacular architecture and more 19th century and early 20th century buildings were included. The editorial comments, freer than before, conveyed a sense of the buildings and places.

The American Institute of Architects Guide to Atlanta (1975) was essentially a background book, as was the case with the Boston and Houston books. There were some buildings keyed to guide maps in the back, but the arrangement was cumbersome and the maps were not clear. The chapters were topical, and varied in quality. Unfortunately, the book suffered from trying to say too much. The type was small, and some of the plans were too reduced. Atlanta's main points of urbanistic interest at present—Peachtree Center, Omni International, Colony Square and others—received limited attention. Overall, this attempt to describe Atlanta in a new way was only partly successful.

This brings us back to the 1976 convention guidebook, *Phila., Pa.,* edited by Richard Saul Wurman, FAIA, Sam Crothers, AIA, and Hy Myers, AIA; designed by Peter Bradford, and with maps by Joseph Passonneau & Partners. What did *Phila., Pa.* attempt, and how well did it succeed? The subtitles, *AIA's Abbreviated Guide. Everything you'd like to know, but no more,* express the dilemma of the guidebook writer. Who is the audience for the guidebook? Is it only the architect, planner and historian? Does the audience also include the "concerned public," or is the guidebook aimed at the man on the street? How much information will the reader want to know, and how can such information best be conveyed?

After awaiting this guidebook with anticipation, I was disappointed. Not



enough of the kind of information a visiting architect or planner would like to know was included. The way the information was presented became more important than the information itself. Five of the six main areas described are in Center City, yet the guide does not provide an orientation to how Center City Philadelphia has been planned and developed over 30 years since the original concepts were outlined in the 1947 "Better Philadelphia Exhibition" and the 15 years since the 1961 AIA convention. The visiting architect wanting such information would have to look elsewhere, perhaps to Wurman's own *Man-Made Philadelphia* (1972) or the recent articles in the architectural press.

The 1976 guidebook, it seems to me, is fun and a useful supplement, but is deficient as a serious device for better understanding the built environment.

After 25 years, a tradition is established. The 1977 *Architectural Guidebook to San Diego* has been completed, and work is under way on the 1978 Dallas guide. Looking back, we see that the AIA guidebooks have gone through three phases. The early AIA guidebooks were considered in-house documents to be used by local architects and as goodwill souvenirs and reference books for visiting architects at the convention. With the 1960 San Francisco guide, the 1964 St. Louis guide and subsequent ones, the audience was enlarged. There are in circulation 63,000 copies of the two Washington guides and 50,000 copies of the Boston guide.

We are now entering a third phase in which publishing a guidebook solely for the AIA convention is obsolete. The target is a larger audience.

I suspect that every American city of any significant size will have an architectural guide of some kind, done by an AIA chapter or someone else, within the next four or five years. Smaller guidebooks may then be published for the AIA conventions.

Considering the effort expended on the guidebooks, the impact has been limited. The architects involved have been more skilled at collecting information and designing the books than in developing a system of advertising and distribution.

Who will write and publish the guidebooks of the future? My own view is that preparing guides to the built environment is too important to leave to architects alone. Rather, architects should think in terms of collaborative efforts with planners, landscape architects, preservationists, engineers, architectural and cultural historians, geographers and other social scientists.

The next phase should be to create coordinated systems of information about the built environment—what Wurman has called the "architecture of information." At the local level, a system might include guide brochures, maps and cards; guidebooks; other guide devices (slides, cassettes, video discs); area surveys and plans, and background books. As such systems develop, it will no longer be necessary to try to cram every fact into one guidebook.

Guidebook content and design need critical review and improvement in many cases. Providing an index to buildings and architects in each guidebook, a matter often overlooked, is especially useful. Many guidebooks need more of a regional orientation.

In the early days of this country, architectural handbooks were a primary method of diffusing information about design, and raising the skill level of craftsmen with very little formal design training. Today, we have an increasing supply of trained designers and planners. There is a need to greatly increase the level of communication with the general public in order to create the cultural and political base for action to improve the quality of the built environment. Guidebooks can be an important part of that process. □

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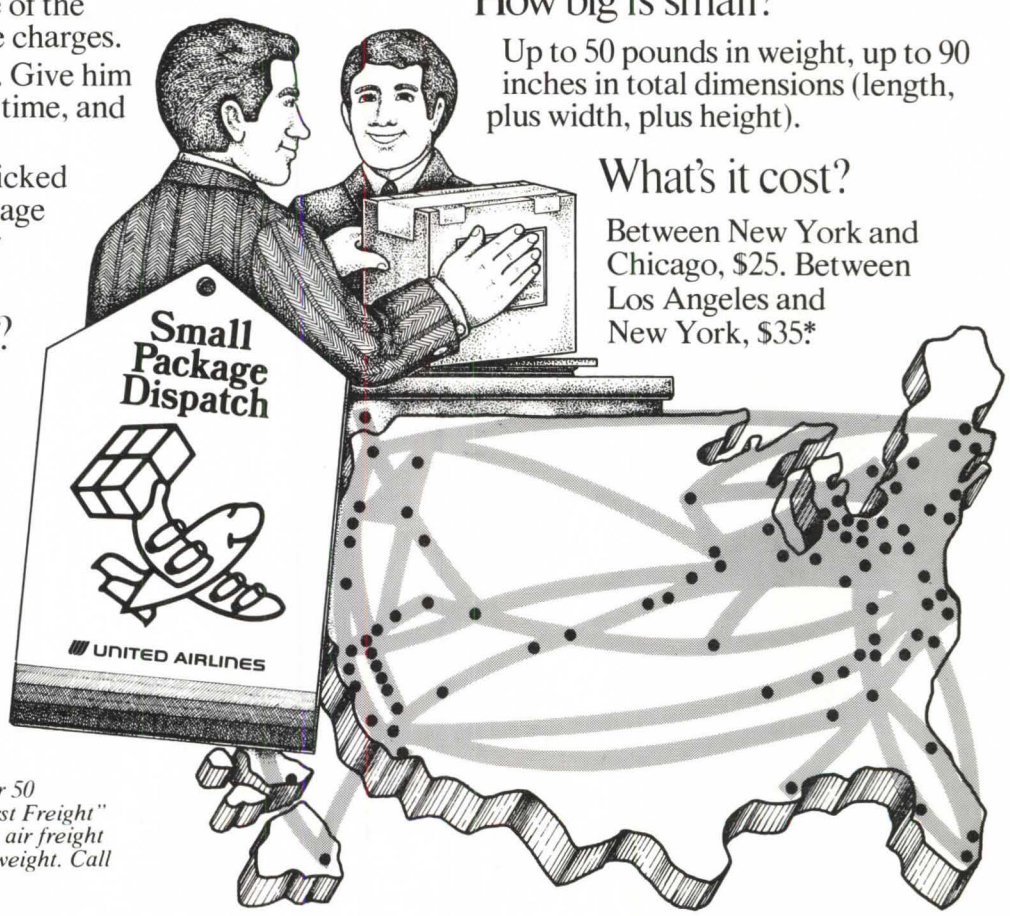

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No. 1 in the U.S. sky

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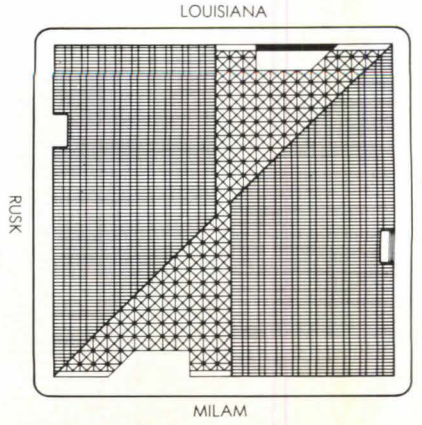
Structural Engineer: Ellisor Engineers, Inc., Houston
Fabricator: Mosher Steel Co., Houston
Erector: Peterson Brothers Steel Erection Company, Houston
General Contractor: Zapata Warrior Constructors, Houston

"We have chosen not to cut the top of the buildings off in the usual fashion against the sky, but rather to silhouette a counterpoint of strong diagonal massing."
—Philip Johnson, Architect.

(1) The use of stub-girders enables the air-conditioning ducts to be carried through the built-up girder system without requiring any web penetrations. The stub sections act compositely with the 3-1/4-in.-deep concrete topping placed over the galvanized steel floor deck.



Each trapezoidal tower measures 120 ft wide, a maximum of 250 ft on the long side, and 130 ft on the short parallel side. The fourth side is angled 45 degrees to the parallel sides.

(2) An eight-story, glass-enclosed courtyard connects the towers at their base. The see-through enclosure provides continuity of design, as well as an airy, visual experience for persons entering the building.

PENNZOIL PLACE...showcase for steel construction

"Stub-girder" design provides construction economies; reduces overall story height.

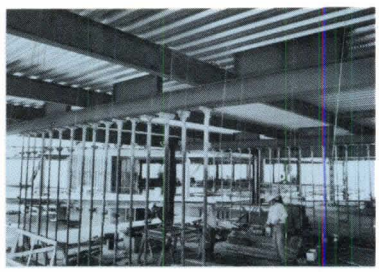
Pennzoil Place, designed by Johnson/Burgee and S. I. Morris Associates, adds a bold, new architectural dimension to the Houston skyline. Rising 516 ft above grade, the twin, 37-story trapezoidal towers of Pennzoil Place contain a total of 1.8 million sq ft, making it the city's largest office complex. A retail mall and a three-level garage are located below the plaza level.

Steel speeds construction. The project's building program was based on a 24-month construction schedule. Several basic structural systems were considered during the early design phase, but steel was selected because of its ability to be erected more rapidly.

The system adopted utilizes a welded rigid steel frame on the perimeter, and concrete shear walls in the core. Three additional welded bents, located near each 45-degree corner, minimize torsion.

According to the engineers, "The steel frame was erected quickly and was well coordinated with the construction of the core."

Stub-girder system cuts material costs. The stub-girder flooring system, a relatively new development in structural design, offers a number of advantages for buildings with a minimum width of 100 ft and clear spans in the range of 35 to 40 ft.



(1)

The stub-girder concept resembles a Vierendeel truss system. The composite concrete and steel floor deck system forms the top compression chord of the Vierendeel and a high-strength steel section forms the bottom tension chord. Stub pieces, shop-welded to the bottom tension chord and connected to the composite concrete and steel floor deck system by welded stub-type shear connectors, serve as the verticals of the Vierendeel.

The unusual floor-framing system enables the air-conditioning ducts to be carried through the built-up girders without requiring any web penetrations. This increases the structural depth of the girder without adding a penalty for increased height. Result: significant economies in structural steel. It's estimated that stub-girders reduce structural steel quantities by approximately 2.5 lb per sq ft compared to conventional framing systems.

And because building height is reduced, savings result in other construction items, such as curtain walls, elevator ropes, and electrical and mechanical equipment.

What's more, because the continuous floor beams can be easily positioned atop the girders, erection proceeds more rapidly than usual.

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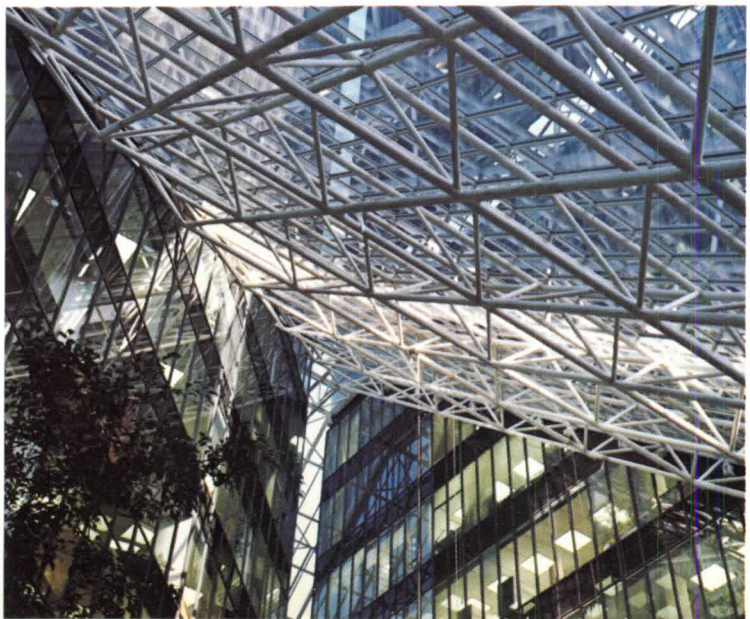

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Stein as Catalyst of the Regional Planning Movement

Planning the Fourth Migration: The Neglected Vision of the Regional Planning Association of America. Carl Sussman, editor. Cambridge, Mass.: MIT Press, 1976. 256 pp. $14.95.

This volume, appropriately and significantly dedicated to Lewis Mumford, appears at a critically important time. The crisis of our cities is no less urgent than the crisis in the environment. What Carl Sussman demonstrates is that these problems were fully anticipated a half century ago and substantial solutions formulated.

The evidence he marshals is based on the 1925 regional planning issue of the *Survey Graphic* magazine, the 1926 Report of the New York State Commission of Housing and Regional Planning and Lewis Mumford's critique of the New York Regional Plan (1923-31), published in *The New Republic* in 1932. The republication of these documents comprises the largest part of the book.

Regional planning, as seen 50 years ago, was an exercise in joining towns and countryside in the larger geographical framework, an effort toward environmental planning, a vision of urbanization as a product of the natural forces of geographical regionalism, as Benton MacKaye has described in *The New Exploration* (1928). Mumford has been the principal recorder of these events, not to say a primary actor in them. They have earlier been examined in detail by Roy Lubove in numerous journal articles as well as in his *Community Planning in the 1920's: The Contribution of the Regional Planning Association of America* (1963). What Sussman has done is to get it all together, and to persuade us that in 1976 this is important, more significant, indeed, than the formal history of urban and regional planning as written by John Reps and Mel Scott.

Sussman's work as editor and commentator is valuable, but his more significant personal contribution is to be found in the introduction, running to nearly 50 pages, with which he launches this presentation of the basic documents of the movement.

Much of this turns upon his analysis of Mumford's thought—the first effort of its kind. Flawed as it is by an uncritical acceptance of Mumford's view, and undoubtedly subject to revision in the light of further documentation and discussion, Sussman's view will stand for the present. But already one may question his version of the relationship between Clarence Stein and Henry Wright, the contribution made by the RPAA to the initiation and development of the TVA and the neglect of its philosophy where it should have had the greatest impact—on the New Deal's National Resources Planning Board.

The *retardataire* architecture of the regional planners has found its apologists, and Sussman joins Mumford among their ranks. It is here that one most regrets the inadequate illustration of this book. The evaluation of the decades of the '20s and '30s, now well under way, has found little recognition in Sussman's presentation. Perhaps most serious, what was taking place in planning (and housing) in this period, the backcloth of the events documented in this collection, receives no serious evaluation, and what little is offered (i.e., the account of the work of Catherine Bauer Wurster) is superficial and wrong.

Sussman's main point is beyond challenge: The analysis of the national urban and regional situation offered by the RPAA in retrospect appears far sounder than anything put forward by their establishment contemporaries, not just in New York City but in Chicago and Philadelphia. RPAA's predictions of "crime and congestion, urban fiscal crisis and wasteful suburban sprawl" characterized more than a half century ago the "still crumbling ruins of our metropolitan civilization." Mayor Abraham Beame could read this book with profit—the better to understand how New York City could accumulate a deficit of one billion dollars, and continue to lose more jobs and at a faster rate than any other large city.

If one were to choose a single contribution to the collection here assembled, it would be Clarence Stein's "Dinosaur Cities," but even this powerful essay is clearly indebted to Frederick Ackerman, MacKaye, Mumford and others of the group, and illustrates Stein at his best, in the role of catalyst.

The spotlight is upon the obvious urban problems—traffic, housing, congestion, environmental degradation in water supply and pollution. "The great city can avoid a complete breakdown only by building an elaborate plant and equipment," Stein noted. "But it does this with blind regard for expense. The growth of the city might be illimitable if its purse were illimitable. . . . The point is that the expense is becoming unbearable."

Urban economists have since provided more detailed contemporary documentation, and not just in the case of New York City. No one since Stein has surpassed his essentially humanistic evaluation of the urban condition, and his sure sense of the goals of urban and regional planning: "a beautiful environment, a home for children, an opportunity to enjoy the day's leisure and the ability to ride on the Juggernaut of industry, instead of being prostrated under its wheels." Upon this platform Stein exercised his leadership of the RPAA, and much of what Mumford and the other contributors to Sussman's volume have to say is an elaboration of these goals. They have inspired urban development worldwide.

Regional planning in the sense described in this volume offers a strategy for dealing at once with the problems of urbanization and those of the environment. If we accept the insights of Stein, Mumford and their associates, indeed, neither set of problems can be solved without comprehending the other. The failure to recognize this brought recent world conferences at Stockholm and Vancouver to frustration and defeat, in the face of the problems posed by world

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GIFT IDEAS FROM AIA

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For idle hands to do . . ." *

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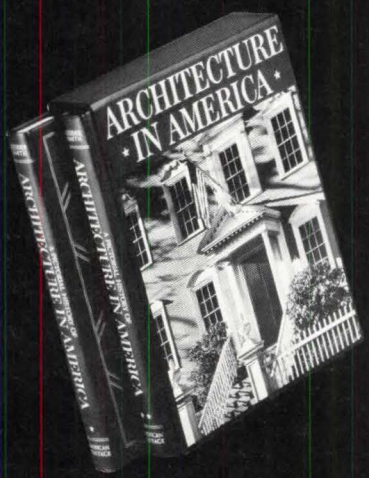
* Isaac Watts



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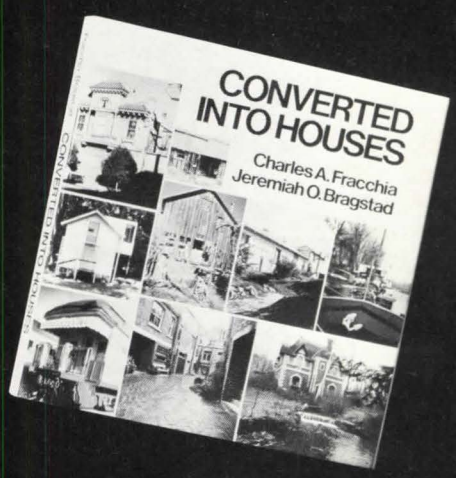

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urbanization. There can be no more telling illustration of the need for what Sussman has aptly called this "neglected vision."

Important as this book is, no serious challenge is offered to the estimate of Stein offered by Mumford in his 1951 introduction to Stein's principal work, *Toward New Towns for America:* "the foremost exponent in his generation of urban statesmanship." *Frederick Gutheim, Hon. AIA, AIP, principal in the international consulting firm of Gutheim Seelig Erickson*

Seven American Utopias: The Architecture of Communitarian Socialism, 1790-1975. Dolores Hayden. Cambridge, Mass.: MIT Press, 1976. 401 pp. $16.95.

Some of the settlers of this country looked upon the New World as a potential Eden where both salvation and material prosperity could be attained. Several hundred groups planned and built towns that they hoped would result in earthly paradises, expressions of their idealistic social beliefs.

The aim of this book is "to explore the relationship between social organization and the building process in particular community groups." The seven groups considered are the Shakers, Mormons, Fourierists, Perfectionists, Inspirationists, Union Colonists and Llano Colonists. The seven sites are Hancock, Mass.; Nauvoo, Ill.; Phalanx, N.J.; Oneida, N.Y.; Amana, Iowa; Greeley, Colo., and Llano del Rio, Calif. Together, says Hayden, "they provide a fair representation of the ideological and geographical spread of the communitarian movement." Each group's planning and architecture are examined revealing insights into how the communards felt about social issues. There is much of relevance in the study for the contemporary architect and planner.

A Complete Guide to Your Second Home. Robert Scharff. New York: Scribner's, 1976. 265 pp. $14.95.

For people who don't even have a first home, this book may seem rather frustrating. For the fortunate ones who can afford a second home, however, it is filled with practical information that a potential second homeowner should have. There are chapters on how to choose a site and a design, how to construct the house, how to go about achieving efficient plumbing, sewage and electrical systems, how to care for and repair the house, and how to enjoy the indoor and outdoor living that a second home can provide. There are tips on such things as theft insurance, taxes, condominiums, closing costs, and even the treatment of poison ivy (wash with borax laundry soap). There are more than 200 illustrations and diagrams. Not much is said about architect-designed second homes, although the author does say that the "ideal way of obtaining a custom-made second home is to have it designed by a professional architect."

The Architecture of Victorian London. John Summerson. Charlottesville: University Press of Virginia, 1976. 109 pp. No price given.

Sir John Summerson, who is curator of the Sir John Soane's Museum in London, knows his subject well and he writes entertainingly about what happened to London "in its physical aspects" between the years 1837 and 1901. The book is divided into three sections, each covering about 20 years. Summerson tells about the public buildings, the railways, the churches, the new estate developments, the drainage system. He also discusses such famed buildings as the Crystal Palace, the Albert Hall, the British Museum of Natural History and Victoria Station. Summerson succeeds in giving the reader a vivid impression of what Victorian London was like "in the sense of an architectural panorama 64 years long." There are many photographs to document the text.

Current Techniques in Architectural Practice. Robert Allan Class, AIA, and Robert E. Koehler, Hon. AIA, editors. Washington, D.C.: AIA and Architectural Record Books, 1976. 275 pp. $25 ($20 to AIA members from the Institute's Department of Publications Marketing).

"Everything you always wanted to know about an architectural practice and its management, but were afraid to ask" could have been this book's subtitle. Prepared by an eminent group of authors, it will undoubtedly become a nationwide resource in the libraries of all progressive firms.

The material is presented in a logically documented manner. The book is a reference compendium; as such, it must be read over an extended period of time for better comprehension—and then reread in parts for specific detail. Although the book is an indispensible tool which has answers to solve immediate problems, it is much more. It is a step-by-step guide for the implementation of specific goals of any practice.

Chapters are written by learned people who evidently practice what they preach. No one architect could have written this volume. And probably no one practice encompasses the ideal of the various presentations, nor should it. Overemphasis on any one phase would be detrimental; balance is desirable. The principles set forth, however, must be planned and incorporated into every practice, if even to a minor degree only, and then built upon and supplemented as the continuation of the practice dictates. The book is invaluable as a guideline for future planning.

This book, while exploring the practical aspects of providing design profession services efficiently, also considers technical innovations and changing marketplace conditions to afford the practitioner an insight into the phase(s) of service which the firm might wish to develop more fully.

There are four parts to the book, the first of which sets forth the various approaches to structuring an architectural firm and the various methods of project delivery affecting operation and organization. Traditional versus nontraditional approaches of providing architectural services are examined in detail. Simple, crisp graphics portray methods and specific comparisons.

Part 2 is devoted to business management, including client relations, marketing, financial management, insurance management and personnel relations. "Good management of an architectural firm is essential to survival" establishes the direction of this section of the book.

Part 3 deals with project management and includes specific project management, budgeting and scheduling, programming, construction cost control and regulations control. The fourth part relates to the processes and tools used in production and management, and there are chapters on information, computing, office machines, drawings and specifications. The final chapter urges the architect to be creative in search for tomorrow and its meaning for the practice of architecture. Now is the time "to prepare for anticipated evolutionary and revolutionary shifts in concepts, applications and vistas."

Finally, mention must be made that the book contains an extensive bibliography on a chapter-by-chapter basis. An excellent aid for the reader! The book is a "state of the art" volume which takes the reader beyond the existing into the "state of the mind." Each chapter is, in some way, provocative for the reader, opening new worlds to conquer, yet admonishing, "Go forth and do likewise." *Henry W. Schirmer, AIA*

The Old House Catalogue. Compiled by Lawrence Grow. New York: Main Street/Universe Books, 1976. 240 pp. $7.95.

Those who are involved in the technical aspects of architectural restoration and preservation will find this listing of some 2,500 products, services and suppliers for restoring, decorating and furnishing period houses an invaluable reference work. It provides information of where to obtain such things as hand-hewn beams, fireplace walls, ornamental metalwork, chair rails and hardware. The information is divided into categories: structural products; woodwork and other fittings; hardware; fireplaces and heating; floors; lighting;

continued on page 57

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fabrics, paints and papers; furniture, and accessories. For each listing there is a brief description of the item, prices if available, name of the company producing the item and its address. There is also much general advice about articles included in each category, a bibliography and a list of suppliers. The periods range from early American to 1930s modern.

New Architecture in the World. Revised and updated edition. Udo Kultermann. Boulder, Colo.: Westview Press, 1976. 29 pp., 144 plates. $27.50.

When the first edition of this work was published in 1965, says Kultermann, it was not possible to foresee that today's emphasis would be upon "the relationship of buildings with the greater human environment" rather than upon individual structures. Kultermann, in an essay which introduces the 144 plates in the book, calls for a replacement of technology and science "as the primary factors determining the nature of architecture" by "humanist values" that would be aimed at "creating a livable environment."

The book presents world architecture in 16 categories, such as buildings for state and municipal administration, museums, theaters and concert halls, housing projects and office and commercial buildings. Depicted, without comments, are such projects as Kenzo Tange's cultural center in Nochinan, Japan; Felix Candela's chapel at Coyoacan, Mexico; Joseph Esherick's Wurster Hall in Berkeley, Calif.; Philip Johnson's nuclear plant in Rehovot, Israel; Moshe Safdie's Habitat '67 in Montreal, and Mitchell/Giurgola Associates' University Museum in Philadelphia. Unfortunately, there is no index to either buildings or architects.

Building Contracts for Design and Construction. 2nd edition. Harold D. Hauf, FAIA. New York: Wiley, 1976. 352 pp. $19.95.

This basic handbook on the contractual relations between owner and designer, first published in 1968, is a valuable reference work. The second edition updates information, adding a chapter on construction manager agreements. The book begins with an analysis of building industry relationships, and chapters follow on such topics as contracts for A/E services, architect/consultant contracts, bonds and construction insurance, bidding and award procedures, and subcontract agreements. Many standard documents are included for illustrative purposes; Hauf warns the reader that such documents change and the most recent editions should be consulted. This is good advice, for AIA's document A201 is included in the book in its 1970 edition; a revised edition is now in use. *Books continued on page 58*

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Historic Buildings of Massachusetts: Photographs from the Historic American Buildings Survey. New York: Scribner, 1976. 141 pp., plates. $14.95. **Massachusetts: A Pictorial History.** Walter M. Whitehill and Norman Kotker. New York: Scribner, 1976. 379 pp. $25.

Both these books are commendable contributions to Massachusetts history. *Historic Buildings of Massachusetts* contains about 500 photographs of architectural landmarks in the commonwealth. There are also brief descriptive annotations about each structure depicted in the book, which is the first in a series to be devoted to the work of the Historic American Buildings Survey.

Massachusetts: A Pictorial History goes far beyond architecture to document every aspect of life in the commonwealth from colonial times to the present. Walter Muir Whitehill, recording secretary of the Massachusetts Historical Society, provides a lengthy introduction to the book. The main portion of the volume, however, is a pictorial history by Norman Kotker, editor of many pictorial histories. Photographed and discussed are cities, industries, religion, educational institutions, sea trade, literature, etc. The illustrative materials range from an engraving of the Boston massacre of 1770, "printed and sold by Paul Revere," to a photograph of a model wearing Jacqueline Kennedy's 1961 inaugural gown. There are engravings, maps, models, reproduced paintings and pages from old newspapers and books, and photographs of such architectural landmarks as a Samuel McIntire house in Salem, Nantucket's columned Atheneum and the Old State House in Boston. Kotker's brief but perceptive remarks about such things as the role of women in the early days, railroads and canals, politics and the Boston Brahmins in combination with the remarkable illustrations make the book a treasure for anyone interested in American history.

A Pictorial History of Architecture in America. G. E. Kidder Smith, FAIA; chapter introductions by Marshall B. Davidson, editor in charge. New York: American Heritage Publishing Co. (distributed by W. W. Norton & Co.) 1976. 2 vols. $39.95 until Dec. 31; $45 thereafter.

Anyone interested in architecture will find very special pleasure in these two volumes which are the most comprehensive pictorial study of American architecture ever undertaken. G. E. Kidder Smith, FAIA, has made a singular contribution to cultural history in general and to American architecture specifically in this work. He was not only the photographer of the more than 800 photographs, but he also provided the "essential facts and observations" about some 3,000 buildings to the editors of *American Heritage* for the introductory essays and lengthy captions.

Smith traveled over 130,000 miles into all 50 states and the District of Columbia to make this beautiful work possible. He says in the author's introduction that he believes the structures illustrated "highlight our rich architectural heritage." And indeed they do.

The first volume covers the architectural highlights of New England, the mid-Atlantic states and the South; the second volume covers the Midwest, the Southwest, the Plains and the Rockies and the Far West and Pacific. The introductory essays to each section of the country are admirable, giving the reader an insight into the way in which architecture reflects social history from the beginning of the nation until now. The captions about the individual structures are also informative.

In the two volumes are Indian villages, early Georgian houses, austerely beautiful meetinghouses and magnificent churches, imposing public buildings, plazas and fountains and urban complexes, churchyards, bridges, airports, skyscrapers, early mills and huge industrial buildings and other landmarks that capture the spirit of our American architectural heritage.

Smith wisely advises: "Look closely at the man-made chaos which surrounds so many of us so much of the time. Then examine the structures shown on these pages, for in addition to rewarding as any work of art rewards, they can hone our appreciation of the elements of quality in our environment."

It's a privilege to study and admire the buildings Smith portrays, and quite enough to fill the most cynical with national pride.

Temples of Democracy: The State Capitols of the USA. Henry-Russell Hitchcock and William Seale. New York: Harcourt Brace Jovanovich, 1976. 333 pp. $29.95.

This book lives up to its promise. The research seems quite thorough, the writing is intelligent and readable, the type faces and layouts are handsome and the illustrations, many of them photographs taken shortly after construction, are interesting and well reproduced.

The narrative is chronological, starting with Virginia's capitol at Williamsburg and ending with Hawaii's 1969 capitol at Honolulu. The text emphasizes design symbols within historical and geographical frameworks. Capitols often are contrasted and compared, and the stories of their conceptions through design competitions, political storms and economic bad times are fascinating.

(For an excerpt from the book, *see* the article entitled "How Nebraska Acquired a State Capitol Like No Other" in the Oct. 1976 AIA JOURNAL.)

Autobiographical Sketches. Maxwell Fry. New York: Paul Elek, Inc., 1976. 167 pp. $14.95.

This book reveals that Fry is not only an innovative architect but also a competent writer. He reminisces here about growing up in Liverpool, his experiences in the city, in school, in family life. He also describes the city of London when he arrived there in 1924 to launch an architectural career. He tells of his friends and associates, including Gropius, Moholy-Nagy and Arthur Korn. Delightfully written, the book is recommended when a lift of the spirits is required.

Residential Condominiums: A Guide to Analysis and Appraisal. Robert W. Dombal. Chicago: American Institute of Real Estate Appraisers, 1976. 77 pp. No price given.

It is predicted that 50 percent of the nation's population will live in some form of condominium housing within the next two decades. This booklet, although directed to the real estate appraiser, has some valid tips for the architect who is called upon to design a new structure or to help convert an existing rental building to condominium ownership. Indeed, the appraiser is advised to "concentrate on the fundamentals of good planning and design because it is these criteria that motivate people to purchase the units."

American Architects from the Civil War to the First World War: A Guide to Information Sources. Lawrence Wodehouse. Detroit: Gale Research Co., 1976. 343 pp. $18.

Architectural librarians will welcome this reference source. The first section of the book annotates 46 general works on American architects and architecture for the period covered. The second—and major—part of the book is a selected annotated biographical bibliography of 175 American architects who worked in the period from the Civil War to World War I; included are such well-known designers as the Greene brothers, Richard Morris Hunt and Frank Lloyd Wright. This section is followed by bibliographical references to 46 "significant" architects "about whom little has been written." There is a general index, as well as a building location index.

Formulas for Stress and Strain. 5th edition. Raymond J. Roark and Warren C. Young. New York: McGraw-Hill, 1975. 624 pp. $19.50.

Now in its fifth edition, this handbook is intended for design engineers and stress analysts, providing a summary of the formulas and principles pertaining to the strength of materials. It has been updated to present the most recent advances in stress analysis.*Books continued on page 60*

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Participating in Architectural Competitions: A Guide for Competitors, Promoters and Assessors. Judith Strong. London: Architectural Press, 1976. 151 pp. 5.50 pounds.

Judith Strong, who has been advising for several years on competitions at the Royal Institute of British Architects, has written a book describing how the competition system works. Her approach is naturally that of the British and the terminology is sometimes different from that to which we are accustomed.

Following a very brief historical background, Strong outlines the jurisdiction over competitions, and then describes the various types of competitions. Several of these have been recently introduced, i.e., developer/architect, regional-special category and promoter choice competitions. They have been designed to meet special conditions and, in some instances at least, to make the competition method more acceptable to the client.

Two chapters follow on the mechanics of competitions from the competitor's point of view, covering such topics as working on the design, visiting the site, materials to be submitted, deadlines and presentation techniques. A chapter on legal aspects makes the point that the conditions issued by the promoter, not RIBA regulations on which they are based, bind the promoter. Another point is that the copyright remains with the competitor.

Other chapters consider working with consultants and winning—from judging through the presentation ceremony and exhibition to setting up in practice, if the winner is a young practitioner who has gone into the competition on his own or with some associates.

The promoter's duties, responsibilities and costs are treated in some detail, and there is also a chapter on the work of the assessors. This is most markedly different from American practice, because the assessors have to determine whether the project is suitable for a competition; then they must draw up the conditions, provide the answers to questions, carry out the judging and finally assess the ability of the winner to carry out the work effectively. This puts a considerably heavier load on assessors in the United Kingdom than is carried by jurors in the U.S., who basically have only the judging functions to perform, the other duties being the responsibility of the professional adviser.

There are chapters on international competitions, with an account of procedures in the Commonwealth countries and in the U.S. The latter could not reflect the recent changes in procedures of AIA following a change in the ethical standards bearing on competitions and the abandonment of the necessity of approval as a prerequisite to participation by members.

A final chapter comments on some of the pros and cons of competitions. The author admits in her introduction that if the book has a bias it is in favor of competitions. Although those favoring competitions have been able to do much to further them in the last few years, they are still not a significant element in British practice, although obviously more so than in the American scheme of things.

From interest expressed, there probably is a place for at least a few more competitions in this country, but I am not convinced of the desirability of conducting them on the same scale as in Germany and Switzerland. I hold this view despite the eloquence of a British architect with whom I discussed the subject the day after I had read this book. The architect answered objections about cost to the profession by stating that many young practitioners competed on their own, while often established architects might enter a competition simply for the challenge of the problem.

This, in brief, is a good overview of the competition system as applied to architecture. *George E. Pettengill, Hon. AIA, Institute Staff Executive for Competitions*

LETTERS

Ethics and Existing Architecture: I am delighted to learn that the AIA board approved as policy the statement that "there is a need for the study, development and public understanding of a system of land use ethics" (*see* Sept., p. 50). May I further suggest that the architectural profession develop a system to guide its relation to existing and historical architecture?

Some architects have taken heroic stands in efforts to prove that not only historic preservation but also the reuse of old structures makes both economic and social sense, but the majority does not take this position in philosophy or practice. In fact, the building industry, in general, and many architects also, see preservation as a threat to their incomes and the ever-evolving art of architecture; they view the reuse of someone else's architecture as demeaning and consider the hindrance to the leveling of a building, a block or a city and starting anew as a hindrance to the architect's innate freedom to create.

In these times of crisis in energy and resources, money and national identity, the architect has a moral responsibility to exercise his craft not only to conserve our precious natural and built resources, but also to act as a bridge in his new designs between the past and the future, linking the human scale with modern commercial needs.

Of course, the architect can't dictate to his clients. The architect is in business basically to stay in business in order to pay for office rent and employees and to make a living wage. Therefore, his professional style must be aggressive, competitive and, above all, unique in order to show clients that he is different from hundreds of other architects and, therefore, better.

Although it can be argued that architects and master builders throughout the ages have always tried to make their structures the biggest, the best, the most awe-inspiring, it may be safely suggested that never before has there been such a cacophony of new architectural styles literally fighting with the environment and shouting in raucuous visual expletives, "Look at me! Look at me!"

We can blame the automobile which spawned the concept of the building as billboard, straining with bright color and plastic verbosity to capture the potential customer's attention for that precious millisecond as he cruises by at 55 per. We can blame the building developer for his lack of taste. And, of course, we can blame the state of the economy as construction starts have plummeted and over one-third of the architectural profession is out of work.

But isn't it time that the architect, who has always seen himself as the structural prophet of the future, also attempt to form some small alliance with the past in order to conserve our resources and to provide some degree of social and design continuity for America? Any vital city or community is under pressure to change, to move toward a better future. But as every architect learns very early in his schooling, new foundations must be built with knowledge of and carefully planned use of the existing earth below and its surrounding environment.

Buildings that are designed solely to satisfy the wild whims of the client or to act as a monument to the architect with no thought of their surroundings are, I believe, a socially destructive form of visual and cultural pollution.

It is admirable for AIA to be concerned about "reverence for life" and the "endangered species." I would be more assured, however, if AIA dealt with another form of endangered species, which it has inadvertently caused to be endangered: the many historic structures and the not-so-historic neighborhoods that are endangered by both new construction and the strawman-specter of "economic infeasibility." Here AIA has the ability and the authority to make a specific social contribution.

As Carla Hills, HUD secretary, recently said, "The solutions to our national problems will be found only in the solutions we find to recycle our cities and the housing and physical resources they contain." By helping to link the best of the future with the best of the present and past, AIA would be of immeasurable value to a more stable and humane society.

Richard E. Reed
Urban Preservation Consultant
La Jolla, Calif.

West African Museum: As chairman of the Taiama Museum committee and in the name of the people of Kori Chiefdom in Sierra Leone, I appeal to AIA members to help us with a self-help community project to establish a folk museum in Taiama [below].

As West Africans, citizens of Sierra Leone and members of the Mende people, we are apprehensive about the encroachment of the "Western" way of life, although we acknowledge that change must come. But such change can only be accepted if it is rooted in and nourished by our own culture.

To preserve our national identity, we have come together as a people in a spontaneous and voluntary project to establish a museum and cultural center which will collect, preserve and display the records and attributes of our historical culture and serve as a vehicle for its onward transmission and development.

The people of the town have given the land. Our first concern has been the type of structure to erect. Paul Cole-King, a Unesco expert in antiquities and museums, gave us useful advice on structural requirements, and Edward Pryce of Tuskeegee Institute, a visiting professor at nearby Njala University College, has helped us produce a design in the Sierra Leonean West African "round house" style.

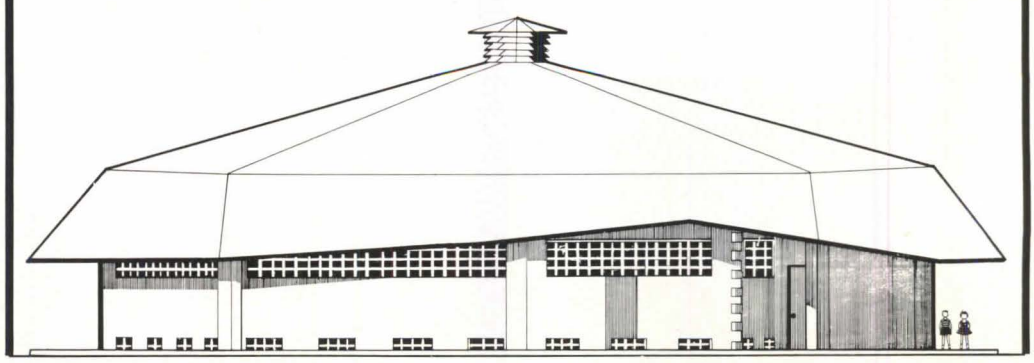
If any reader knows of the existence of old documents or photographs relating to the area, we would welcome them either as a gift or a loan. Also we need building materials, fixtures, fittings and furniture. Principally, of course, we need money. We estimate the initial phase of the project may cost about $60,000.

If there is some way in which you would like to join our project, please write to me with your offer or donation. Checks should be made payable to the Taiama Museum committee. If you would like to know more about the museum or make suggestions, please write me.

George B. Goba
Njala University College
PMB Freetown
Republic of Sierra Leone, West Africa

The Last Word: I understand the need to edit material to fit available space and for other reasons, but some of the changes made in my article (p. 48) in the August issue have me saying some things I didn't and wouldn't say.

For example, I wrote that, viewed from the marketplace, there are three kinds of architectural office: the design office, the volume office and the line of strength of-



fice. Concerning the design office, I said: "The most successful of these can pick and choose among the institutional and corporate clients for whom cost is at most of incidental concern."

In print, this became: "The design office is generally the most successful of the three types of firm, and can pick and choose . . ." which means something entirely different. The statement can be supported, I suppose, if one tinkers with the definition of successful. But I had and have no intention of getting into that kind of debate. It could turn ugly.

Concerning the line of strength office, the article as printed says: "For such an office, the potential for a wide and interested readership of a brochure is not great."

This is not true at all. For many, perhaps even most, line of strength offices a brochure can be an effective marketing tool. It depends "entirely on their ways of developing business," which was cut. What I said was that *in the case of the hypothetical office* described in the article "the potential for a wide and interested readership" was not great. In my opinion, the firm would have to change its way of marketing drastically to truly justify the expense of a brochure. I don't think the young architect will make it.

David Travers
Santa Monica, Calif.

EVENTS

Dec. 31: Applications deadline, Rome prize fellowships for 1977-78. Contact: American Academy in Rome, 41 E. 65th St., New York, N.Y. 10021.

Jan. 2-7: Conference on Building Materials, Asilomar Conference Grounds, Pacific Grove, Calif. Contact: Engineering Foundation, 345 E. 47th St., New York, N.Y. 10017.

Jan. 6-7: Institute on Recreational Vehicle Parks, University of Wisconsin, Madison.

Jan. 9-14: Annual Aspen Construction Conference, Aspen, Colo. Contact: William E. Dunn, 4828 Sumner Drive, Washington, D.C. 20016.

Jan. 13-15: AIA Grassroots West, Frontier Hotel, Las Vegas.

Jan. 15: Applications deadline, Training Courses in Conservation/Restoration, International Centre for the Study of the Preservation and Restoration of Cultural Property, Rome. Contact: Executive Director, International Centre Committee, Advisory Council on Historic Preservation, 1522 K St. N.W., Suite 430, Washington, D.C. 20005.

Jan. 17: Nominations deadline, National Society of Professional Engineers' achievement awards competition of 1976. Contact: NSPE, 2029 K St. N.W., Washington, D.C. 20006.

Jan. 17-18: Effective Production Planning and Inventory Management Seminar, San Francisco. (Repeat seminars: Mar. 7-8, Houston; Apr. 4-5, Toronto.) Contact: Heidi E. Kaplan, New York Management Center, 360 Lexington Ave., New York, N.Y. 10017.

Jan. 17-19: AIA Grassroots Central, Hyatt Regency Hotel, Houston.

Jan. 20-21: Hospital/Health Care Planning Institute, Las Vegas. Contact: American Association of Hospital Consultants, 2341 Jefferson Davis Highway, Suite 830, Arlington, Va. 22202.

Jan. 21: Entries deadline, lighting design awards program. Contact: Illuminating Engineering Society, 345 E. 47th St., New York, N.Y. 10017.

Jan. 23-27: National Association of Home Builders annual convention-exposition, Convention Center, Dallas.

Jan. 24-26: AIA Grassroots East, Washington Hilton Hotel, Washington, D.C.

Jan. 24-26: Architects and Engineers Lighting Conference, Nela Park, Cleveland. Contact: Lighting Institute, General Electric Co., Nela Park, Cleveland, Ohio 44112.

Jan. 25-26: Effective Business Planning for Architects and Engineers Workshop, Orlando, Fla. (Repeat seminars: Feb.

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1-2, Houston; Mar. 1-2, San Diego.) Contact: Linda Ackerman, Coxe Associates, Inc., 1900 Chestnut Building, Philadelphia, Pa. 19103.
Jan. 31: Postmark deadline, bicentennial design awards program. Contact: Maryland-National Capital Park and Planning Commission, 6600 Kenilworth Ave., Riverdale, Md. 20840.
Feb. 2-6: Society of Architectural Historians annual meeting, Biltmore Hotel, Los Angeles. Contact: SAH, 1700 Walnut Ave., Philadelphia, Pa. 19103.
Feb. 3-4: Energy Conservation in Plants Seminar, San Francisco. (Repeat seminars: Apr. 21-22, New York City; June 9-10, Toronto.) Contact: Heidi E. Kaplan, New York Management Center, 360 Lexington Ave., New York, N.Y. 10017.
Feb. 10: Entries deadline, Reynolds aluminum prize for architectural students, 1977. Contact: Maria Murray, AIA Headquarters.
Feb. 15: Abstracts deadline, call for papers, International Solar Energy Society meeting to be held in New Delhi, India, Nov. 14-19, 1977. Contact: Committee of IES, Atlas Corp., 2060 Walsh Ave., Santa Clara, Calif. 95050.
Feb. 16-17: Construction Management Workshop, Iowa State University, Ames.
Feb. 24-25: Federal Programs Conference, New Orleans. Contact: Patricia Parker, AIA Headquarters.
June 5-9: AIA annual convention, San Diego.

GOING ON

Going On from page 14
lic buildings, as well as their adaptive use.
- Authorization and appropriation of $2 billion for an emergency state and local public works program.
- Authorization of funds for implementing the Pennsylvania Avenue plan in the nation's capital.
- Establishment of an Alpine Lakes wilderness area in the state of Washington.
- Provision of higher funding levels for the Land and Water Conservation Fund, permitting up to 10 percent of a state's allocation for sheltered recreation facilities.
- Establishment of a historic preservation fund with authorized spending of $500 million over the next four fiscal years.
- Call for a study of the feasibility of naming the Frederick Law Olmsted home and office in Brookline, Mass., as a national historic site.
- Provision of guidelines for the management of the national forests, including provisions for sustained yield practices and protection of marginal land.
- Expansion of the Indiana dunes national lakeshore.
- Establishment of management guidelines for public domain lands.
- Authorization and appropriation of funds for housing and community development programs.
- Creation of tax incentives for the preservation of historic buildings and removal of architectural barriers.
- Maintenance of incentives for investors in low- and moderate-income housing.

Foreign Markets

As announced, the AIA JOURNAL, in cooperation with the Institute's government affairs department, will inform American architects and engineers, as occasions arise, of job opportunities in foreign countries. The following positions open to A/Es supplement those listed in the November issue (p. 19):

Nigeria: A director of architecture and planning is wanted by the Federal Capital Development Authority. Responsibilities will include the development and appraisal of proposals, supervision of work by outside consultants in the design of Nigeria's new capital city, preparation of training programs and liaison with FCDA's executive secretary.

Interested persons should submit résumés by Dec. 31 to: Executive Secre-

tary, FCDA, PMB 12534, Lagos, Nigeria.

Israel: Prequalifiers are sought for the design and construction of 250 offices, showrooms and stores in a centrally air-conditioned shopping center, with underground parking facilities for 1,000 cars. The estimated project cost is placed at $50 million.

Contact: Eli Wagner, Sales Department, Dizengoff Center, Ltd., 50 Dizengoff St., Tel Aviv, Israel, or Andras Behr, business facilitation staff, U.S. Department of Commerce, (202) 377-4441.

Also design services are needed for a new country club in Netanya, between Tel Aviv and Haifa. Project cost is estimated at $1.5 million.

Contact: Naftali Rabin, Director, Kiryat Nordau Development Corp., Ltd., 6 Shapiro St., Tel Aviv, or call Andras Behr, (202) 377-4441.

Kuwait: Design services are required for a 16,000-unit low-income housing project to consist of a series of complexes of 3,000 units each, with roads, schools and mosques.

Contact: Kuwait National Housing Authority, Kuwait, Kuwait.

For additional information about these positions or about economic plans and priorities of the countries, telephone Patricia Parker, assistant director, federal agency liaison, at AIA headquarters, (202) 785-7384.

NOMA Elects R. J. Nash

Robert J. Nash, FAIA, of Washington, D.C., a former Institute vice president, has been elected president of the National Organization of Minority Architects, succeeding Leroy M. Campbell, AIA, also of Washington. President-elect is Charles F. McAfee, AIA, of Wichita, Kan. Norcell D. Haywood, AIA, of San Antonio, Tex., will continue to edit NOMA's newsletter and will also serve as secretary. Robert T. Coles, AIA, of Buffalo, former Institute deputy vice president for minority affairs, will continue in office as treasurer.

Women Architects Show

AIA is preparing a traveling slide exhibition of the architectural designs of its women members. The object of the slide collection, which will be circulated to AIA components for public presentations, is to show the range and quality of work designed by women architects today.

"There are no restrictions on building type, and the designer will be given full credit for any work submitted," says Kevin Green, a staff member in AIA's public relations department who is assembling the exhibition. "Increasingly, public attention is being focused upon professional women, and we'd like to show the public the work of women in architecture."

Women who are members of AIA are invited to send Green 35mm color slides of their work, with appropriate captions about it. Or telephone him at (202) 785-7265 for more information.

Deaths

Chaplin Bills, Stillwater, Okla.
Colin Cobban, Delmar, N.Y.
Walter N. Holmquist, Birmingham, Ala.
Fred T. Kines, Casanova, Va.
Thomas F. Litaker, Honolulu
Gordon A. Phillips, San Rafael, Calif.
J. Marcus Pinsker, North Miami, Fla.
William H. Roberts, Morrisville, Pa.
Morris W. Scheibel, Toledo, Ohio
Robert V. Wade, Cleveland Heights, Ohio

Antonin Raymond, FAIA: Born and educated in Czechoslovakia, Mr. Raymond emigrated to the U.S. in 1910 by obtaining a job on an Italian tramp steamer. His first position in this country was as a draftsman in the New York City office of Cass Gilbert. In 1916, he joined Frank Lloyd Wright at Taliesin East, Spring Green, Wis., thus fulfilling an early dream. He accompanied Wright to Japan to complete the design and construction of the Imperial Hotel, and in 1921, he began private practice in Tokyo where he worked to synthesize traditional Japanese

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forms with the design philosophy of the West.

Until his death on Oct. 25 at the age of 88, Mr. Raymond maintained an office in Tokyo, except for the war years of 1937 to 1945. Examples of his work in Japan include the Gunma Music Center, the Nanzan University campus in Nagoya, the *Reader's Digest* office building in Tokyo (now demolished) and St. Anselm's Church in Tokyo. During World War II, he contributed to this nation's war effort, designing Camps Kilmer and Shanks and working on Camps Upton and Fort Dix.

Mr. Raymond, who also designed buildings in India, Ireland and the Philippines, was honored by many governmental groups. He received the Third Class Order of the Rising Sun of Japan and was a lifelong member of the Japanese Institute of Architects. His last days were spent at his farm near New Hope, Pa.

Alexander Calder: "Calder's Universe," a 50-year retrospective show, opened Oct. 14 at the Whitney Museum in New York City. Soon thereafter, the 78-year-old sculptor "came down the street with a can of paint and a brush and touched up a mobile," according to Thomas Armstrong, director of the Whitney. Calder returned five times before he died Nov. 11 after a heart attack. "The other visitors got quite a kick out of seeing him," Armstrong told the *Washington Post*. A large man with a shock of white hair, he was good-humored and earthy and showed no decline in his creative powers or popularity as an artist. He was the grandson of the sculptor of the huge statue of William Penn atop Philadelphia City Hall and the son of Alexander Sterling Calder, a sculptor, and Nanette Calder, a painter. After studying engineering at Stevens Institute of Technology, he worked as an engineer, a sailor and a lumberjack before studying at the Art Students League. Marcel Duchamp named Calder's kinetic sculptures "mobiles" before World War I while the American was living in France. In addition to the current Whitney exhibition, Calder had major shows of his work at the Museum of Modern Art (1943), the Tate Gallery in London (1962), the Guggenheim (1965) and the Museum of Modern Art in Paris (1965). His works range in size from jewelry made for his wife and friends to bright designs to adorn Braniff airplanes. His large sculptures dominate plazas in Paris, Chicago and Grand Rapids, Mich. (*see* Oct., p. 40) and at the time of his death a Calder was being considered for the atrium of the new Philip Hart building in Washington, D.C. If chosen, it will be the first piece of contemporary abstract art for the U.S. Capitol complex. Calder received the Institute's fine arts medal in 1961.

Newslines

George K. Ikenoyama, AIA, an instructor at the California Polytechnic State University since 1964 and architectural consultant in San Luis Obispo, Calif., has been selected as the 1976 distinguished alumnus of Cal Poly's school of architecture and environmental design. He was honored at a recent homecoming.

"America: The Disappearing Past" is the subject of a 1977 calendar which depicts old buildings and streets and contains appropriate quotations on preservation by such persons as Ada Louise Huxtable, John Ruskin and Eric Severeid. Suitable for a Christmas gift, the calendar is available for $3.95. It is published by Universe Books, 381 Park Ave. S., New York, N.Y. 10016.

Der Scutt, AIA, a partner in the New York City-based firm of Poor, Swanke, Hayden & Connell, has become the first architect ever to receive the Illuminating Engineering Society's distinguished service award.

The Society of Architectural Illustrators has been formed in the United Kingdom. Its president is Edward D. Mills, a fellow of the Royal Institute of British Architects and architect of the new National Exhibition Centre near Birmingham, England. The society issues a publication entitled *Vedute*. For more complete information, write: Eric Monk, Secretary, Society of Architectural Illustrators, Minchinhampton, Stroud, Gloucestershire GL6 9DE, England.

Wallace K. Harrison, FAIA, member of the New York City-based firm of Harrison & Abramovitz, has received the gold key award of the Avenue of the Americas Association in Manhattan. An architect of Rockefeller Center and other buildings on the avenue, Harrison was cited for his contributions "to the development of the avenue."

"Urban Wheelchair Use: A Human Factors Analysis" is a booklet authored by three Illinois Institute of Technology students which pinpoints the environmental factors that restrict access to public spaces and transportation. It is available for $2 from: Rehabilitation Institute of Chicago, 345 E. Superior St., Chicago, Ill. 60611.

Fifty-five treasures from the tomb of Tutankhamun (1334-1325 B.C.), in an unprecedented loan by the Egyptian government, will be on exhibit at the National Gallery of Art in Washington, D.C., until March 15. The exhibition will also be seen at five other U.S. museums: Field Museum, Chicago, Apr. 15-Aug. 15; New Orleans Museum of Art, Sept. 15-Jan. 15, 1978; Los Angeles County Museum of Art, Feb. 15-June 15, 1978; Seattle Art Museum, July 15-Nov. 15, 1978, and the Metropolitan Museum of Art, New York City, Dec. 15, 1978-Apr. 15, 1979.

Alternative careers chosen by trained architects is the subject of a study being undertaken by the Association of Student Chapters/AIA in conjunction with the AIA Foundation, with funding provided by the National Endowment for the Arts and the Graham Foundation for Advanced Studies in the Fine Arts. Ella Hall, past president of the ASC/AIA, who is currently completing postgraduate degrees in architecture at Howard University, will direct the one-year research project. It is anticipated that the research will provide useful career planning information.

Albert A. Dorman, AIA, of Los Angeles is the winner of the Harland Bartholomew award of the American Society of Civil Engineers. The award is given annually "to the person who is judged worthy of special commendation for his contributions to the enhancement of the role of civil engineering in urban planning and development." Dorman is president of Daniel, Mann, Johnson & Mendenhall.

Jon A. Jerde, AIA, of Charles Kober Associates, Los Angeles, won an Illuminating Engineering Society of North America award of excellence for his design of the West Covina Fashion Plaza, an enclosed mall and courts in southern California. Out of the 100 entries in the annual awards program, five were chosen by the jury for awards of excellence.

Robert G. Cerny, FAIA, who retired last June from his position as professor in the University of Minnesota's school of architecture, was honored recently by friends and alumni at a dinner "in recognition of his service to the profession, to education and to the community." Cerny is president of Cerny Associates, Inc., headquartered in Minneapolis.

The National Catholic Educational Association has re-established its cooperative college register in response to requests for placement information. The register is a communications link, matching positions and position-seekers in higher education. For details, write: Cooperative College Register, P.O. Box 298-A, Alexandria, Va. 22314.

Syracuse University has an opening for a person to administer its department of design. Contact: Arthur J. Pulos, Chairman, Department of Design, College of Visual and Performing Arts, Syracuse University, Syracuse, N.Y. 13210. □

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