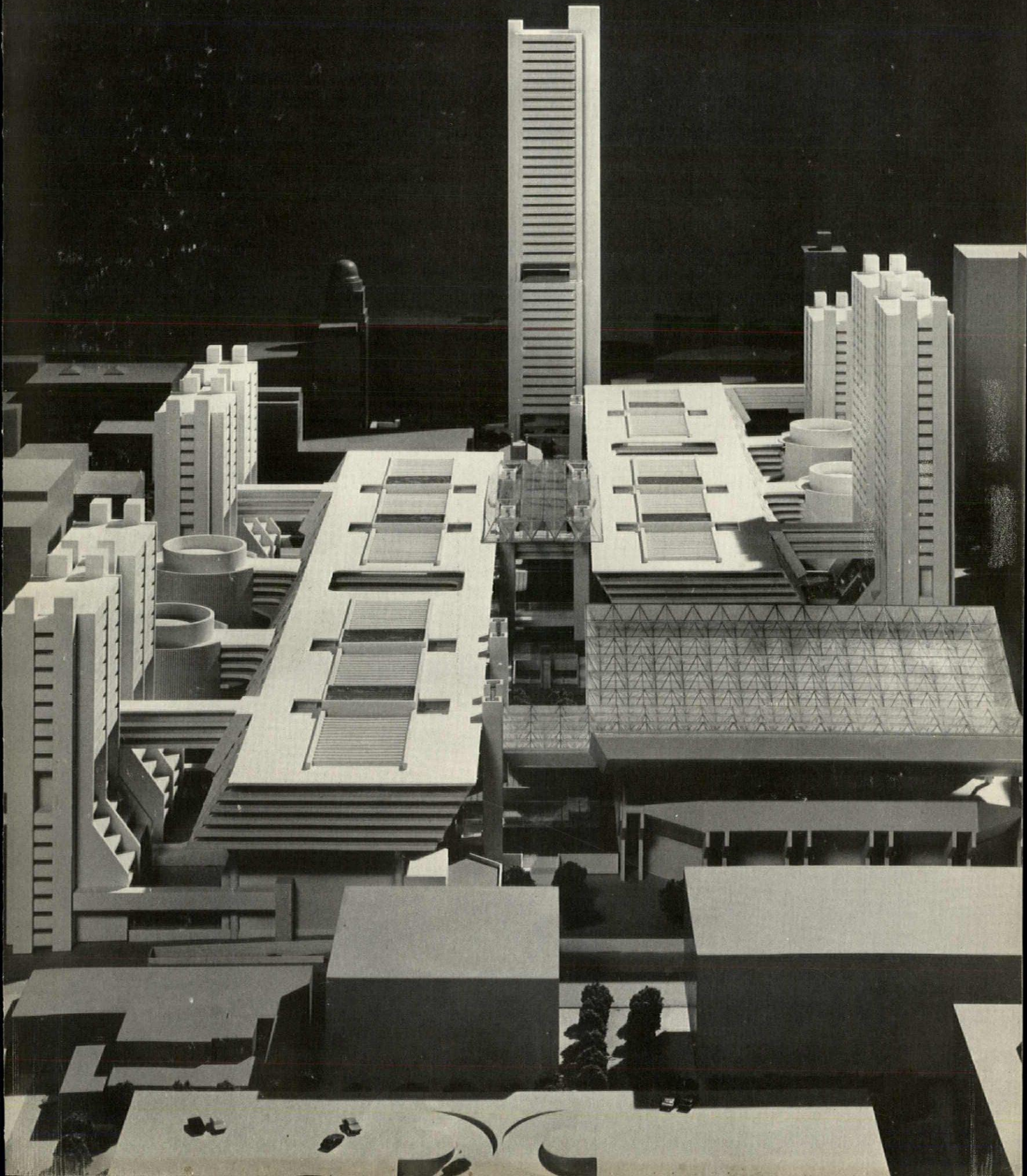


AIA JOURNAL

JANUARY 1970



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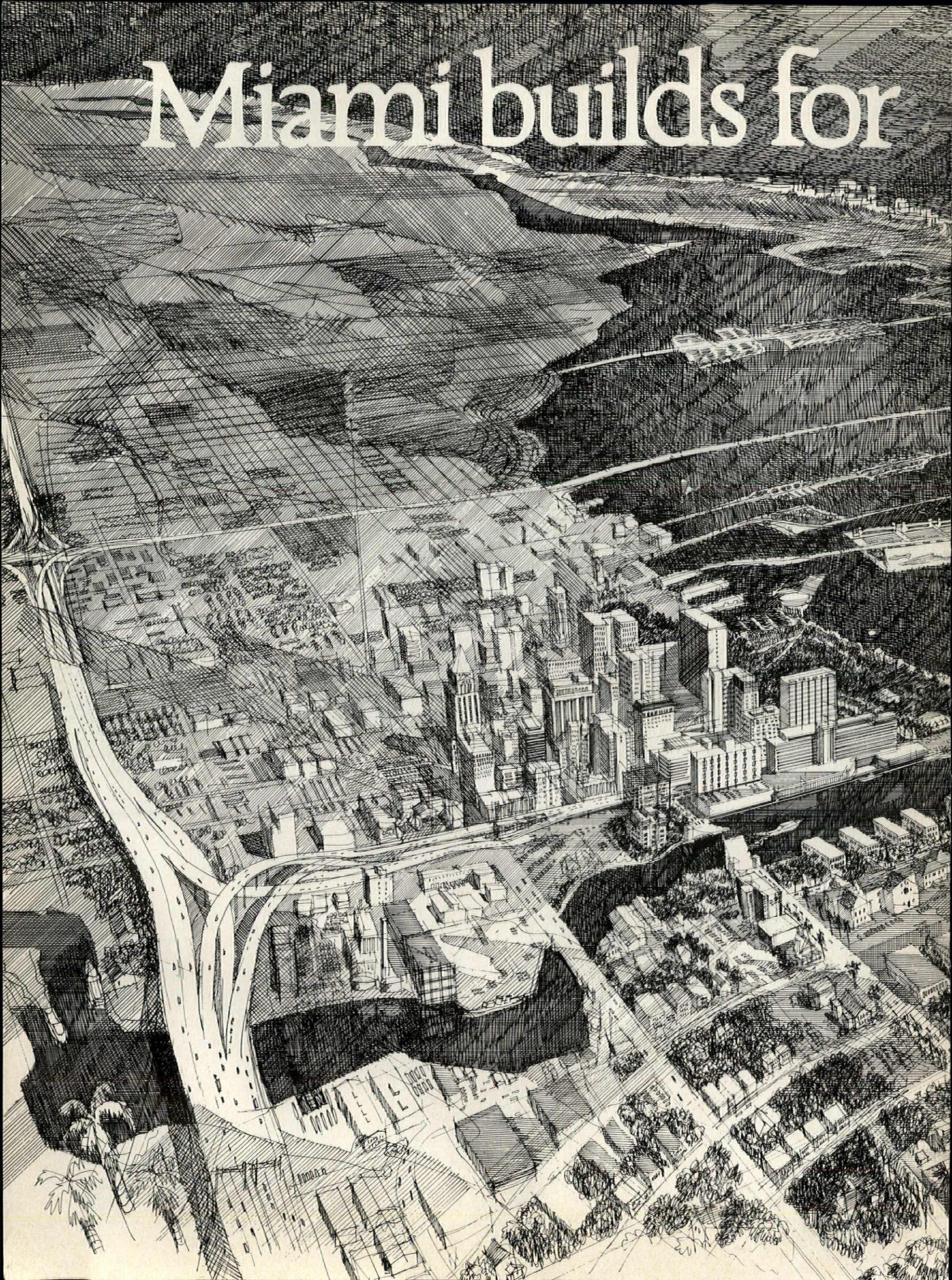
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AIA JOURNAL

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COVER

Yerba Buena Center, an 87-acre site to be redeveloped in the heart of downtown San Francisco, the work of a design joint venture (p. 23). Gerald Ratto photo.

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VOL. 53, NO. 1

comment and opinion

A NEW DECADE BECKONS: Architects see the 1970s as being anything from "exciting" to "chaotic," as is reported in the leadoff presentation this month; but surely all of us can agree that the next 10 years will be challenging. It seems only appropriate, then, that the AIA JOURNAL, in its attempt to keep pace with the ever-changing face of the architectural profession, steps into this decade with a radically new format—certainly "radical" in terms of its graphic and editorial history.

The most obvious thing, of course, is the 9x12-inch page size, a 16 percent increase. Less obvious perhaps is the basis of the redesign (done in-house with Frank C. Huseman as consultant, a role he has played with the JOURNAL on a number of occasions), a modular system made up of 48 units—six wide and eight deep—each $1\frac{5}{16}$ inches square with a $\frac{5}{16}$ -inch space between. How the system works is readily apparent on page 38 where the copy proper and the photographs all are fitted to the modular pattern, ranging from one to four modules wide and from two to three modules deep. No one wants to become a slave to any system, be it graphic or architectural, and so deviations are allowed, as is the case in handling the captions. Paradoxically, the graphic artist, working within an orderly and thus simplified framework, is freed to be more imaginative and creative in the broader view.

Along with the new format comes some changes in the editorial content, not in basic philosophy but in emphasis. What Publisher Dudley Hunt Jr., FAIA, wrote in the July 1965 issue still holds true today: "It should be said that over the years there has been a lot of soul-searching about the audience and purpose of the magazine. Now the search has led to a single central editorial purpose—that of serving architects and, through them, serving architecture. There is a small but hardy band of nonarchitect subscribers who read the JOURNAL because they *want* to know about architecture. However, over 85 percent [latest figure: 93 percent] of the circulation is now among US architects, most of them in active practice, who read the JOURNAL because they *must* know about architecture."

And so the JOURNAL continues to be the practicing architects' publication. As such we provide our readers with:

- material designed to stimulate creative achievement
- current trends, developments and techniques in design and construction
- technical information from authoritative sources
- methods for better client and community services
- professional practices that help architectural firms grow and prosper.

It is the latter category which will get more and more attention as the months go by. Some specific changes which have been made in this issue are these:

- Comment and Opinion, which has been introducing the main feature section of the magazine, and prepared by various writers, moves permanently to this page and will be authored solely by the JOURNAL staff.
- Outlook, as the name implies, will look at the current scene in a broader perspective, replacing Newslines, and thus some material formerly covered shift to the *Memo*.
- The Institute Page, with a new flexible format, replaces Unfinished Business and may be written by the executive vice president, other Institute officials and, on occasion, by the editors, as will be noted in this issue.
- Events, encompassing more than a listing of meetings, replaces the Calendar.

And there will be other changes as the situation dictates. We at the AIA JOURNAL look to the 1970s with great excitement.

ROBERT E. KOEHLER

ACKNOWLEDGMENTS

8—Murphy Studio
21—above left, Markow Photography; above right, Lawrence S. Williams Inc.; below right, Walter Sheffer
22—below right, Gil Amiaga
23—Gerald Ratto; below left, Jeremiah O. Bragstad
25—Phokion Karas
26—Hare Photographers, Inc.

28—Ezra Stoller
36, 37, 38 (38 below, nc), 39, 41, Joel Strasser
42—below, Ken Norgard
44—above left, Panagra; center, Braniff Airways; others, Maurice Payne, AIA
45—above, Maurice Payne, AIA; center left, below right, Roger C. Mellem, AIA; center right, below left, Dean F. Hilfinger, FAIA
62—Thomas Airviews

NEXT MONTH

When it comes to a spokesman for industrialized housing, there is probably no better authority than Carl Koch, FAIA, who won the Institute's 1969 Industrial Arts Medal as a tribute to his untiring work "for many years to incorporate prefabricated building materials into his designs with variety and imagination." The gamut of his efforts in the field runs from 1941 when he designed and constructed his first community project, a group of hillside houses using common detailing and materials, to his Lewis Wharf project in Boston, employing his Techcrete system. It is about the latter which he writes in terms of a broad philosophical context, and he raises some questions about professional ethics along the way.

Other articles in the February issue:

- A report from a working session of the Committee on Professional Consultants describing new dimensions in the architect's role in the primary decision phase of the building process
- An interpretative recap of a study on how people react to their offices, what aspects are most important to them
- A personal chronicle of Frank Lloyd Wright's only experience of having the United States as a client—an ill-fated attempt to design a housing project for the Federal Works Agency in 1941
- A brief wrap-up on what's being done with plastics materials in construction, what may be done, what should be done.

ASIDES

Besides the format change, the January issue introduces two new features: a series devoted to Practice Aids and an annotated reference list prepared by the Educational Resources Information Center (ERIC).

Practice Aids will be a continuing series but not necessarily on a set schedule—the next one, for example, will appear in March. Subjects will include *anything* of help to the architect in his practice in *any way*. The computer, no doubt, will come in for its share of attention as the series progresses.

The selected reference list is being offered on a trial basis, its continuation depending upon reader interest. ERIC, for those of you who may be unfamiliar with the operation, is a decentralized information system with its center located in the US Office of Education. Each ERIC Clearinghouse concentrates on an assigned subject field and is responsible for acquiring, abstracting and indexing documents.

The Clearinghouse on Educational Facilities (CEF) has been, since 1967, the responsibility of the University of Wisconsin on its Madison campus, and all correspondence should be directed to the address which is given with the list found on page 71.

CEF is specifically concerned about sites, buildings and equipment used for educational purposes. Included are the efficiency and effectiveness of relative activities such as the planning, financing, construction, renovating, maintaining, operating, insuring, utilizing and evaluating educational facilities.

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The Next Decade Shows Promise But Raises Many Serious Urban Questions

"The prospects for the '70s are bright. . . . The next decade will be one of prosperity. . . . We will see an accelerating rate of technological advance and an upward surge in innovation."

So predicts the Council on Trends and Perspectives, a special committee in the Economic Analysis and Study Group of the Chamber of Commerce of the United States, in a 40-page report* containing much data of particular interest to the profession.

The scope of the report, called "America's Next 30 Years: Business and the Future," is indicated by the titles of the five sections: Perspective of the Future; The Emerging Profile of Our Future Environment; Changing Institutions; Changing Values and Attitudes; Industry and Future Urban Challenges.

Forecasting a more mobile society, as would be expected, the council says that:

- Accelerated new urbanization will occur in outlying regions of the West and South, with less rapid growth in the older sections of the Northeast.

- In addition, future continuous urbanization by the year 2000 is projected to develop along the Atlantic Seaboard extending from Maryland to Massachusetts. This area will be almost a continuous city development covering a land-mass area of over 7,000 square miles. Most cities will grow toward each other, with green space and open areas between them diminishing, but with density of settlement, in terms of people per square mile, actually declining.

Specifically, the council sees the most significant expected growth to take place in:

- The New York area which will extend further into New Jersey and Connecticut, with a population of 20 million in 1980 and 24 million in 2000.

- The Los Angeles area which will expand into Ventura County and merge with the San Bernardino-Riverside area, reaching 14.5 million inhabitants in 1980 and 20 million in 2000.

- The San Francisco Bay, Chicago, Detroit and Washington-Baltimore areas which will reach populations of 10 million by 2000.

- The Miami-Fort Lauderdale, Cleveland-Akron and Dallas-Fort Worth areas which will each exceed 5 million by the same time.

- The El Paso, Tucson and Richmond-Petersburg, Virginia, areas which will grow to over 1 million at the end of the century.

Commenting on the new-town movement, the report cites the fact that firms in insurance, building materials, oil, timber,

electronics and real estate are getting into the act.

"Major top corporations have entered the field," the report continues, "some to bolster corporate prestige, some to activate large underutilized real estate holdings, some to meet growing needs for an improved living environment."

Addressing itself to the problem of water pollution, the council makes this observation: "In many urban areas, our streams and rivers have been exploited beyond their ability to regenerate themselves naturally. By 1980, it is estimated that demand for fresh water will run to 600 billion gallons per day while the supply available will decrease, if present trends continue."

Air pollution comes in for its share of attention too. "Depending upon local conditions, 50 to 90 percent of air pollutants is traceable directly to the automobile."

With some forecasters predicting restrictions on autos—almost one for every adult by 2000—entering the center of cities, the

1970 Forecast: 1 Percent Increase

A late spring recovery and a second-half expansion will carry this year's total building construction contracts to \$51 billion, an increase of 1 percent over 1969.

That is the prediction of George A. Christie, chief economist for McGraw-Hill Informations Systems Company, who observed that "the difference between a small decline and a small gain for the year will depend on the precise timing of the next upturn. The odds favor an early rather than a late turning point, and therefore, small gain."

council sees "a greater impetus to mass public transportation."

As for housing, the report cites the Resources for the Future figure of new housing starts totaling 4.2 million units in 2000—roughly three times recent rates—and the 1960 national census figure of 21 percent of nonfarm American families who are still ill-housed. The council raises such questions as:

- Is it economically possible to rehabilitate slum housing for the low income market on a profit-making basis?

- Can outside corporations enter the low cost housing field on a profitable basis—with sufficient risk capital and with R&D capability and mass production know-how acquired in other areas?

Tacoma's Environment in for Special Attention by Its Architect-Mayor

When Gordon Johnston, AIA, moved into the mayor's office in Tacoma, Washington, this month, it was to a great extent thanks to his own and Tacoma citizens' concern about their city's environment.

"I campaigned on the basis that I profoundly feel Tacoma to have the most dramatic setting of any city in this part of the country," Johnston explained.

Some items that will get special attention are reconstruction of Tacoma's core area, quality multiple family housing and the city's scenic potential in general.

Several large office buildings and two large parking garages are presently under construction in Tacoma, a city of 150,000 which during the past 10 years has had very poor patronage in its downtown stores. Many of them have closed their doors and moved away to outlying areas. In their place, Johnston sees the core area as a financial-convention-specialty and retail-apartment center. This, he believes, would produce a new era of core growth but he realizes that the area will probably not revert to a major retail center, "at least not in my lifetime."

He also believes more attention must be given to quality-oriented developers who wish to construct multiple dwelling units in other areas besides the core.

"I'm a profound believer in zoning," said Johnston, who served as chairman of the City Planning Commission prior to his election. "But zoning should work two ways. The



zoning ordinances should protect property, which is their intent. Also, in a growing area such as ours, they should have some incentives written into them. I think that when an enlightened developer wants to build a high-rise in an attractive area, there are too often too many roadblocks that can defeat him.

"In the long haul, the city might be better off if there were some incentives to encourage developers."

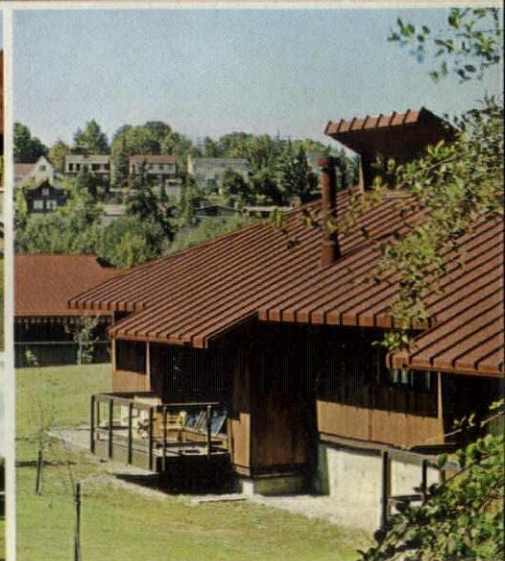
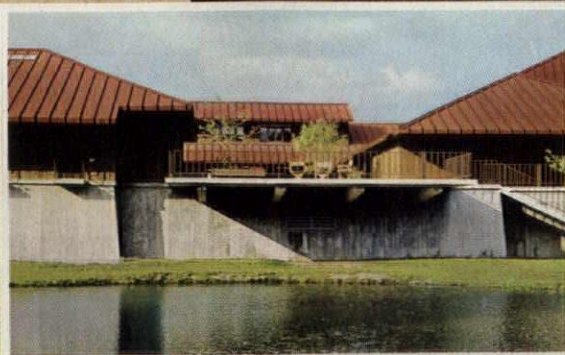
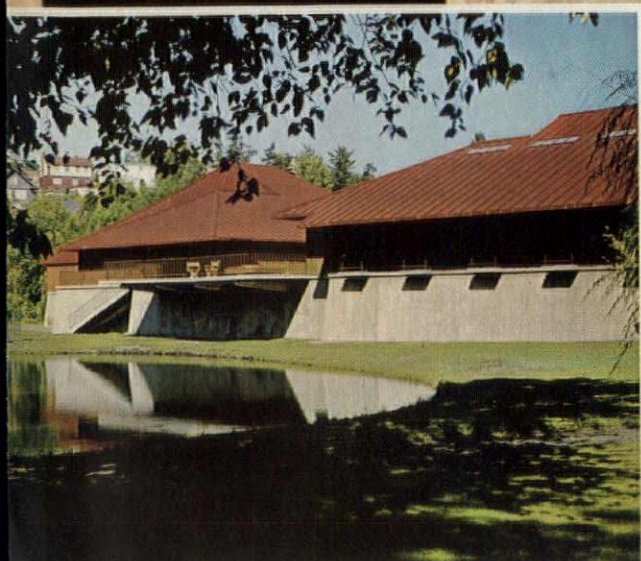
Johnston, 51, who was interviewed for the AIA JOURNAL by Bruce Johnson, will serve a two-year term. Since Tacoma has a city manager form of government, the mayor works only part-time. Johnston will therefore spend about two days a week in the offices of Lyle Swedberg & Associates.

Continued on page 10

*Available from the US Chamber of Commerce, 1615 H St. N.W., Washington, D.C. 20006, at these postpaid prices: 1 to 9 copies, \$1 each; 10 to 99, 80¢ each; 100 or more, 70¢ each.

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Washington's Metro, an Urban Catalyst, A Norm for the Nation, Is Underway

"More than a subway will begin . . . a city will begin to renew itself, a metropolitan area to pull itself together."

Such is President Nixon's view of Washington's Metro, which after years in the planning stage finally is becoming reality. Construction started this month on the first, quarter-mile-long stretch of what will become, by 1979, a 98-mile tie between the inner city of Washington and outlying Maryland and Virginia suburbs, later on taking in Dulles International Airport as well.

The Washington Metropolitan Area

Transit Authority also look upon the Metro as much more than a help to harassed commuters and to ease traffic congestion. During its 10-year construction period, it is estimated that the subway system will generate a \$1-million payroll and create thousands of jobs, also for the unskilled.

Said Secretary of Transportation John A. Volpe during the groundbreaking ceremony of the Metro: "It shall set an example for the rest of the nation. . . . This transit system can and must help set in motion the force and momentum of urban revitalization. This Metro system can—and will—show the nation that there are infinite possibilities for upgrading the standard of living for the people of the community."

In order that other cities might benefit

from the development and construction of Washington's Metro, the Department of Transportation will establish a data collecting center, detailing all elements of the program for later retrieval and use. This will cover such matters as private commercial tie-ins, early land acquisition, property assemblage and reuse and similar consideration where the judgments made in connection with the Metro can be viewed and analyzed later in the light of actual experience.

When finished, there will be parking space for 30,100 cars at suburban Metro stations. To accommodate the riders further, feeder bus lines will be set up, covering the areas close to the stations. Existing bus routes will be relocated to concentrate on these feeder lines and on local and crosstown lines where the subway will not operate.

The basic design for the Metro stations, which was approved more than two years ago (AIA JOURNAL, Jan. 68), is by Harry Weese & Associates of Chicago and New York. The Weese firm serves as general architectural consultant to the WMATA.

Wide-Scale Architectural Contributions Made Possible by Breakthrough

When Operation Breakthrough—the Department of Housing and Urban Development's program aimed at stimulating volume production, marketing and delivery of housing for all income levels—becomes reality, the architectural profession will have significantly contributed throughout the various levels of design, planning and placement of the experimental units. From the broad range of organizations bidding—over 601 representing established firms both in and out of the construction industry, management consultants, advertising agencies, universities, associations and individuals—37 semifinalists and 11 winners have been announced by HUD.

The 37 semifinalists, of whom 20 will be finalists, were chosen from two categories which covered proposals ranging from complete housing systems to subsystems and components or specialized elements of housing requiring further research. The 11 winners, selected for further discussions and negotiations, were all site planners, responsible for the placement of the proposed housing systems' prototypes. In all categories, the majority of those selected utilized architectural input for their designs.

William L. Slayton, AIA executive vice president, commenting on the announcement, said, "Architects are deeply committed to this attempt to deliver new quantities of well designed housing units at prices people can afford. We are particularly gratified to see the emphasis that government officials and Breakthrough consortiums and firms place on the wise use of land and the pledge to deliver variety and liveliness at the 10 sites through quality design."

Further pointing up the architectural professions' commitment to the new program are the appointments of former AIA Executive Director William H. Scheick, FAIA, and AIA Director of Housing Jack Wright to serve on Operation Breakthrough evaluation panels.

continued on page 12



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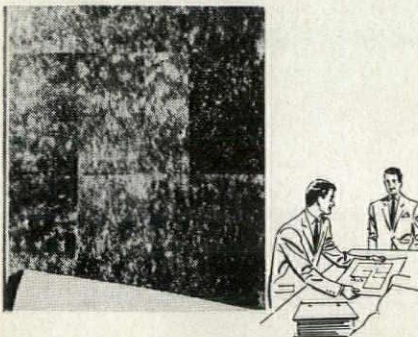
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outlook from page 10

A Chapter Grows in Brooklyn, According To Gambaro, as Do 172 Across the Land

January is the month that the Institute chapters—officially, at least—come in for their due. For this marks the fifth year that Grassroots meetings are being held in three locations (Washington, D.C., San Francisco and St. Louis, in that order). National officers and staff are on hand "outlining the role of the AIA to meet new challenges and responsibilities in order to obtain membership ideas and reaction," in the words of Robert H. Levison, FAIA, of Clearwater, Florida, the program's originator and coordinator.

Today, there are 173 chapters, of which 23 are statewide. Certainly one of the most colorful histories belong to that of Brooklyn, which, along with Southern California and

Year	Chapter	Seniority
1867	New York City	1
1869	Chicago	2
	Philadelphia	3
1870	Baltimore	4
	Cincinnati	5
	Massachusetts	6
1875	Rhode Island	7
1881	Northern California	8
1887	Central New York	9
	Detroit	10
	Washington-Metropolitan	11
1890	Buffalo-Western New York	12
	Cleveland	13
	Kansas City (Mo.)	14
	St. Louis	15
1891	Pittsburgh	16
1892	Colorado	17
	Minneapolis	18
1894	Brooklyn	19
	Southern California	20
	Seattle (formerly Washington State)	21

Seattle, recently celebrated its diamond anniversary. E. James Gambaro, FAIA, whose picture-taking activity is a tradition at national conventions, has supplied the AIA JOURNAL with these notes:

In 1894, 11 members of the New York Chapter decided to start their own in Brooklyn. Four years later, the City of Brooklyn decided to merge with the City of New York. If you know Brooklynites, this figures.

Our chapter charter, granted August 10, was signed by President Daniel H. Burnham, FAIA, of Chicago and Secretary Alfred Stone, FAIA, of Providence, Rhode Island. The chapter's territory includes all of Long Island and an area within a radius of 15 miles of the Brooklyn Borough Hall. This radius includes the headquarters of the other four New York City chapters, all five boroughs of the city and portions of New Jersey! The AIA Board was either overly generous or someone goofed.

After the Institute purchased the Octagon in 1902, it moved its national headquarters from New York City to Washington, D.C. The "rebels" called attention that this move was in violation of our state corporate laws, and the AIA has maintained an office address there ever since.

Thirty-one years after the chapter was formed, I joined. As a native Mad Hatter from Manhattan, this question has been asked of me many times, "Why Brooklyn?"

My first employer, a London-born Scotsman and Brooklyn Chapter member, Alexander Mackintosh, FAIA, and also a Fellow of the Royal Institute of British Architects, advised that by joining a small chapter, a youngster would grow with it.

A few of our distinguished past members were Harvey Wiley Corbett, FAIA, Hon. FRIBA, who later deserted to the New York Chapter; William P. Bannister, FAIA, who in 1915 wrote the New York State Architects Registration Law and served as the first secretary of the state board for about 30 years; James Monroe Hewlett, FAIA, inventor and mural painter, who served as vice president of the Institute (in those days there was only one) and director of the American Academy in Rome.

During the mid-40s, there was a concentrated effort to enroll new members. The AIA Board directed us to process membership applications for "rebels" who wanted to organize their own chapters in our territory. One of our chapter's officers objected, stating that he did not intend to be a party to the partitioning of the Brooklyn Chapter. A strong majority prevailed, and in 1945 two new chapters were formed: Queens and Long Island Society. Brooklyn being in Kings County, we can still consider ourselves the top banana. After all, our territory is all-inclusive based on our charter and incorporation papers.

Ever since I can remember we have always had one of our members serving in the State Legislature. Currently we have two: Alfred A. Lama and Vito P. Battista, serving in the State Assembly.

Down through these long years, the chapter has served the Institute and the profession well—with loyalty and dedication. We have always believed in President Theodore Roosevelt's philosophy that every man owes some time to the service of his profession.

Congratulations also go to Harry A. Yarish, chairman of our 75 anniversary committee, who was born the same year our chapter was organized. I wonder if he makes the claim as I do—that I joined the Institute when I was 9.

AIA Fellows Team Up with Bowker

One of the most useful references in the architectural profession—the American Architects Directory—will make its appearance in a third edition. The Institute's College of Fellows has offered its sponsorship to the R. R. Bowker Company, providing an honorarium for the architect-editor and his expenses. John Gane, AIA, of Philadelphia has been appointed to this position.

The format and content of the new edition will be similar to the earlier volumes (1956 and '62). The directory is a biographical listing of all architects practicing in the United States. John Noble Richards, College chancellor, urges all members to complete and return the third edition questionnaire when it is received. □



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Why do the harbors still harbor industries no longer dependent on water transportation?

Why have we filled our rivers with sludge and turned our lakes into mires? And why are the banks lined with trash?

Why, if we live in cities that are located on the water, must we go hours away to go sailing or fishing or swimming?

Why have we let our historic waterfronts become breeding places for crime and rats?

Why is our beautiful country growing uglier every year?



why?

Why not inviting shorelines we're proud of?

Why not limit industrial use of urban shores? And require beautification of existing plants?

Why not enforce our pollution laws?

Why not parks and pools and marinas — recreation areas sorely

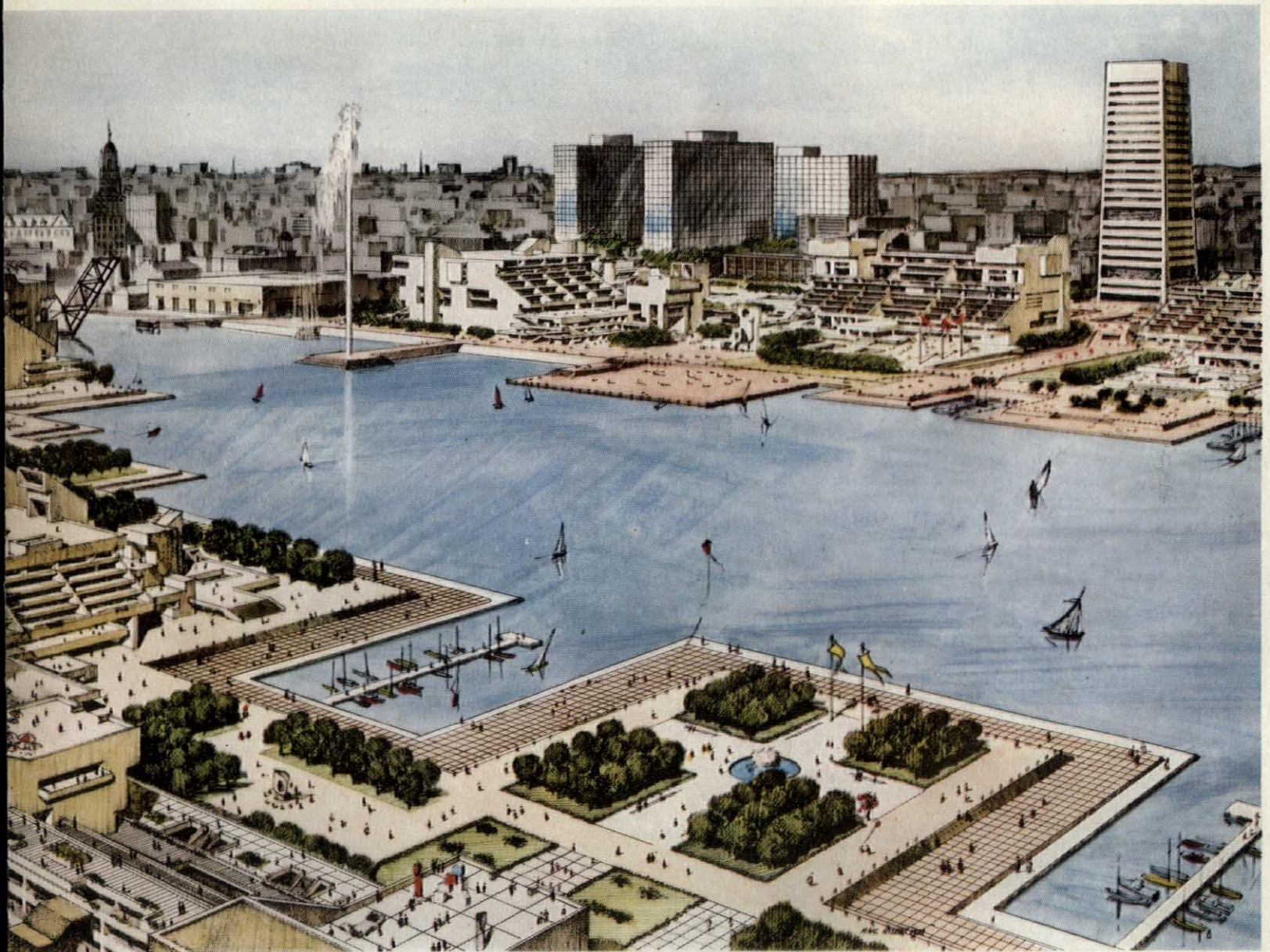
needed by the people in our crowded municipalities?

Why not team-plan transformations that make cities places to play in, not escape from, weekends?

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A complete staff listing appears in Structures and Services, which is available to any AIA member upon request.

the institute

By Way of Introduction

As the Institute heads into a new decade, its commitment to social concerns is clearly evident. The Board of Directors at its last meeting determined that the AIA's efforts and plans for funding will be directed toward four major national issues:

1. Housing, primarily in the solution of problems for low and middle income groups
2. Cities, involving the solution of urban environmental problems embracing existing metropolitan areas, new towns and urban growth
3. Social change, as related to concern for the solution of socio-economic problems of disadvantaged minorities which are interwoven with the problems of their physical environment
4. Natural resources, involving the solution of problems of ecology for a viable human environment, air and water pollution, and conservation.

In this context, we welcome William L. Slayton who, on December 1, began his duties as executive vice president of the Institute.

"At this early point in time, I am sure there is much I shall have to learn—but learning is something I enjoy" Slayton told the AIA JOURNAL. "I recognize that the spectrum of interests among architects is great and that the Institute must reflect this range of interests. I also recognize, however, that the Chicago convention was a significant one, and from it the Institute has been given a charge to relate its professional interests to the world of social change as well as physical change.

"The board at its September meeting in Santa Fe adopted an initial program to carry out the charge of the Chicago convention," Slayton continued. "This is the Institute's initial endeavor; with time it will be sharpened, modified, debated and redebated; but the program is underway. I shall do my best to see that it is carried out as intended."

The new executive vice president also noted that the board last month selected four professional practice issues—productivity of architects, comprehensive practice, industrial construction, constraints of codes and regulations—as a means of evaluating the relevance and priority of all 1970 AIA programs.

Slayton, who regards himself as "somewhat of an architectural buff," lives in a house designed by I. M. Pei, FAIA, and completed in 1960.

"Our enjoyment of it can be best expressed perhaps by my two daughters who feel it is 'the Slayton House' (not the Pei House) and, therefore, should always remain in the family. It has become our family heirloom.

"So architecture to me is more than the sometimes obscure language of the architectural critic," commented Slayton. "It is the environment in which we live—an environment writ larger than the individual structures—and thus an environment that shapes our lives, our moods, our personal relationships in many ways.

"And continuing on the personal note, you should also know that I have a considerable interest in urban design. As the federal government's Commissioner of Urban Renewal I tried, through what leverage I could apply, to improve the quality of such projects. I persuaded Roger Montgomery—now at the University of California at Berkeley—to be my urban design adviser. We did some good but clearly left a lot yet to be done."

Slayton comes to the Institute from Urban America where he was president, working toward the improvement of the physical and social environment.

"This the organization did in several ways—through its publications including *City*; through the work of the Urban Design Center; through assisting local groups wishing to build housing for low and moderate income families," he explained.

"So moving from Urban America to the AIA is in part at least a means of continuing my career in trying to improve the quality of the environment."

Slayton brings with him Milly Spence as his executive assistant.

In another appointment, Elliott Carroll, FAIA, has assumed the post of deputy executive vice president, the second ranking staff officer. He has been administrator of Public Services since 1965 and continues in that capacity.

William H. Scheick, FAIA, Slayton's predecessor, remains on the headquarters staff as counselor to the Institute with specific responsibility for the new building program.

Mabel S. Day, Hon. AIA, who has been secretary to three executive directors, has been named executive administrator of the AIA Foundation. Her duties as its first staff executive include the supervision of the Octagon House.

THE EDITORS



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Coming into favor with American architects is the use of "Brickplate," a type of ceramic tile with the density of natural granite that has been popular with European designers for years. Since 1963 it has been made available in this country and Canada by Gail International Corporation, a subsidiary of Wilhelm Gail Ceramics, Giessen, Germany.

Previously, American designers have had to improvise when using exterior tiles with materials primarily intended for flooring use. Brickplate, on the other hand, is intended for the exterior, being completely frost proof, and allows more freedom of design with a wide variety of shapes in glazed and unglazed finishes. Gail conveniently produces these tiles in modular English sizes for the American market.

Because of their low absorption, Gail tiles have dovetail ribs on the back which make a mechanical key with the setting mortar, hence, they are suitable for pre-cast and tilt-up construction as recently employed in the Serramonte Shopping Center, Daly City, California; Welton

Becket & Associates, Architects.

Although mass produced in one of the most automated ceramic facilities in the world, thus modest in price, Brickplate has a warm, handcrafted quality achieved through its controlled color variation. The same dense body is used for both glazed and unglazed finishes.

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Responding to an AIA JOURNAL survey, spokesmen for some 50 architectural firms, including at least a dozen of the largest in terms of volume, offer their own comments in addition to answers to the three questions on the following pages.

Jerrold Loebel, FAIA, Loebel, Schlossman, Bennett & Dart, Chicago: "The next 20 years will be the most exciting of this century as far as architecture is concerned."

George M. White, AIA, (Institute vice president) Cleveland: "Even though the bulk of future construction will be designed by larger firms, the number of small firms will remain large because of the continued need for the small office in many areas and for many kinds of work."

MacDonald Becket, AIA, Welton Becket & Associates, Los Angeles: "As architectural projects grow in size and complexity, clients are tempted to bring in a construction management firm to direct the job and the architect, or even a systems-oriented conglomerate. In either case, the role of the architect is diminished, with efficiency of project management taking precedence over architectural design and planning. The large architectural firms, who believe that the professional architect is best qualified to take the lead in bringing even the most complex projects from concept to completion, must add the services and capabilities required to compete for these large and generally significant jobs."

Herbert H. Swinburne, FAIA, Nolen · Swinburne & Associates, Philadelphia: "Operation Breakthrough is pulling teams together who never saw each other before. New concepts of large-space construction will be carried out, whether or not the Department of Housing and Urban Development awards them a piece of the action; and, as a result, these concepts will aid architects in driving down building costs in an escalating economy."

William G. Lyles, FAIA, Lyles, Bissett, Carlisle & Wolff, Columbia, South Carolina: "The next 10 years will probably be the most chaotic in the relatively short history of the profession."

Robert L. Durham, FAIA, Durham, Anderson & Freed, Seattle: "There is a real problem of handling both large and small projects in the same office. We are trying to stay small and, by bringing in consultants, to offer greater expertise on larger developments."

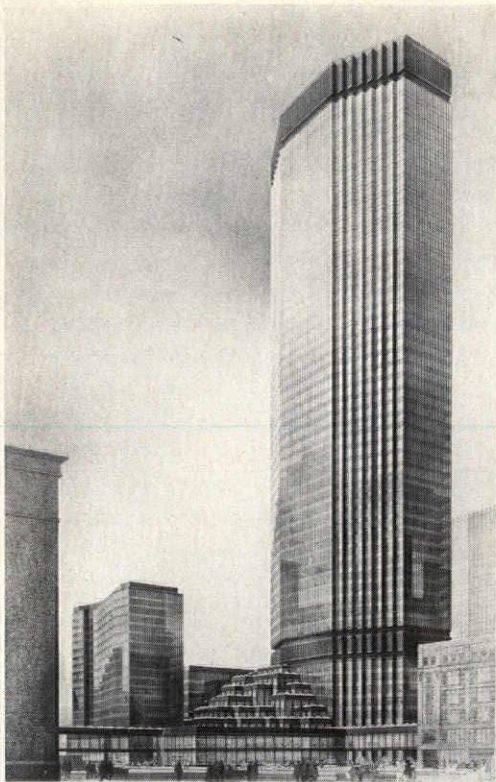
H. Samuel Krusé, FAIA, Watson, Deutschman & Krusé, Miami: "I see a revolution in the way buildings, having similar requirements and a mass market, will be provided. New professional-industrial alignments will be formed to mass produce structures and large components under revised zoning and building codes; labor unions will revise old attitudes about prefabrication and cooperate in developing new methods, tools and procedures; and organization decision, organization performance and organization ownership will replace the individual in these areas. The individual will be indispensable but a part of an organization."

D. Kenneth Sargent, FAIA, Sargent-Webster-Crenshaw & Folley, Syracuse: "The profession must learn to do the time-honored functions in a far more satisfactory manner. It is not meeting the demands for technical excellence which the public expects when it employs an architect."

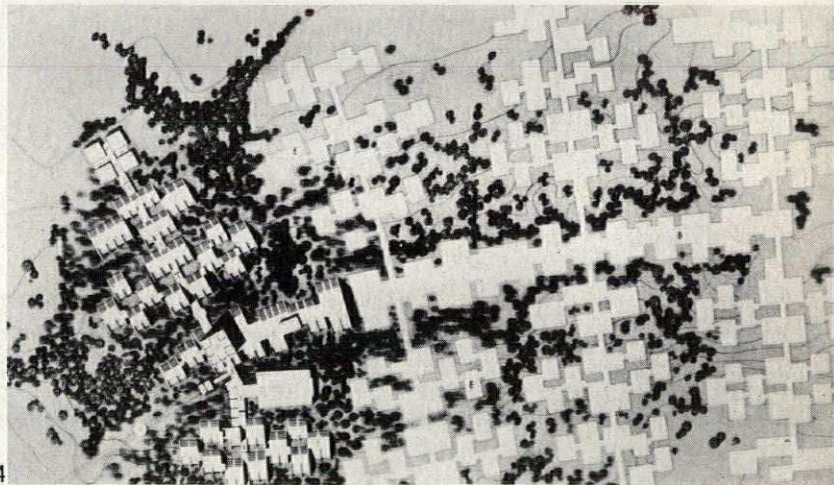
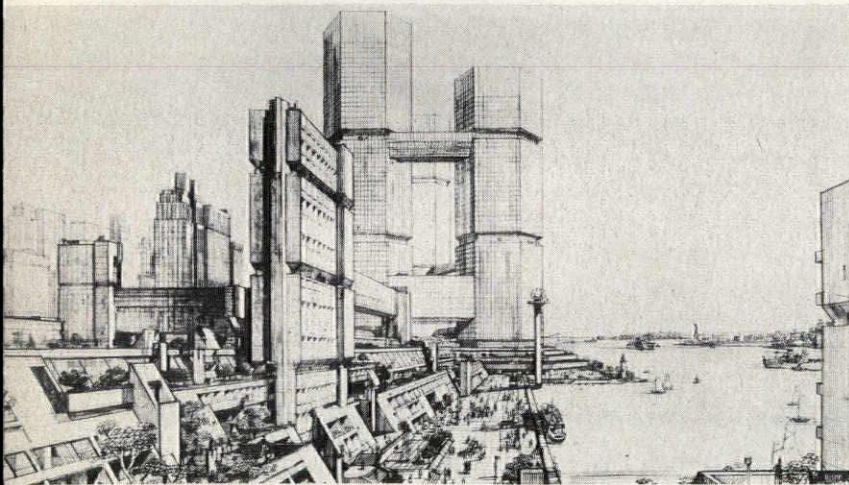
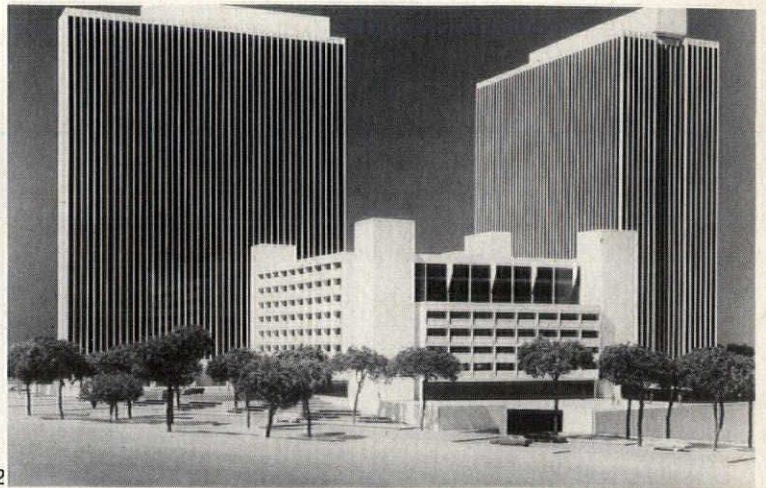
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What's Ahead for Architects?

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A random sampling of commercial and redevelopment projects, most of them in downtown, which are springing up from coast to coast. 1. IDS Tower, Minneapolis: Philip Johnson & John Burgee and Edward F. Baker Associates. 2. Washington Center, Morristown, New Jersey: John Portman & Associates. 3. Battery Park City, New York: Harrison & Abramovitz; Philip Johnson & John Burgee; Conklin & Rosant. 4. Seward's Success, Anchorage: Adrian Wilson Associates; V. M. Piland, consultant.



WHAT'S AHEAD FOR ARCHITECTS?

Do you see the demand for architectural services in 1970 as a) increasing, b) staying about the same, c) decreasing?

Architects express mixed emotions in replying to this question, tempered by the ever-tightening money market and restrictions on government spending. Forty-five percent see the volume of work as increasing, 36 percent as staying about the same and 19 percent as decreasing. In any event, the feeling seems to be that the overall picture will improve in the second half of the year.

Of those predicting a gain in 1970, the statement by the president of The American Institute of Architects is probably typical. Says Rex Whitaker Allen, FAIA, Rex Whitaker Allen & Associates, San Francisco: "Despite tight money, unless there is a real recession, planning and design functions should increase."

Robert R. Cueman, AIA, Convery & Cueman, Summit, New Jersey, is among the respondents who believe the demand for architectural services will be about the same. "In my opinion," the director of the AIA's New Jersey Region reports, "industry in particular realizes that in addition to the money situation, other factors causing escalation of building costs will continue; and if a firm has expansion plans, it is well advised to go ahead with them now and at least be able to beat the escalation."

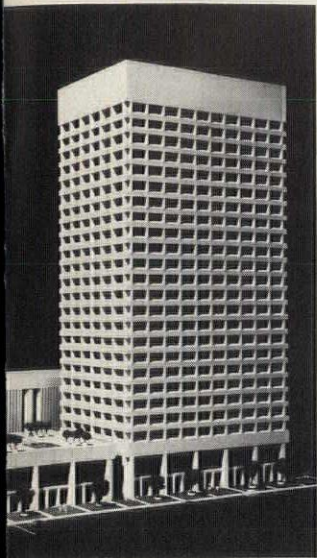
Among those who forecast a decreasing market this year is Milton Grigg, FAIA, Grigg, Wood, Browne & Laramore, Charlottesville, Virginia. The director of the Middle Atlantic States puts it this way: "Although demands for facilities will be greater, the difficulties in financing will be felt to even a greater extent when presently committed works have been completed."

Looking beyond 1970, the Institute's first vice president, Robert F. Hastings, FAIA, Smith, Hinchman & Grylls Associates, Inc., Detroit, observes: "The long-range business outlook is still good in spite of a slowdown in the months ahead. And our services are changing continuously to reflect demand."

Beyond basic architectural services, do you foresee the addition of any new services in 1970 or in the not-too-distant future?

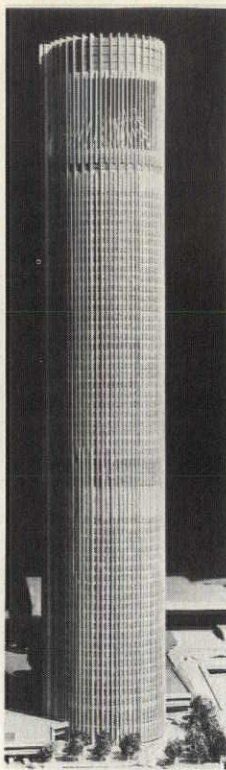
All respondents except seven give an emphatic "Yes," although a number list services—feasibility studies, master planning and interior design, for example—which already are household words in many architectural firms. Among what might be regarded as "new" services, real estate development and its related activities and construction management are mentioned most frequently.

Sol King, FAIA, Albert Kahn Associates, Inc., Detroit, believes the use of the term "basic architectural services" in the context of the question may be misleading. "If by 'basic services' is meant those as defined in B131 as coming within the scope of

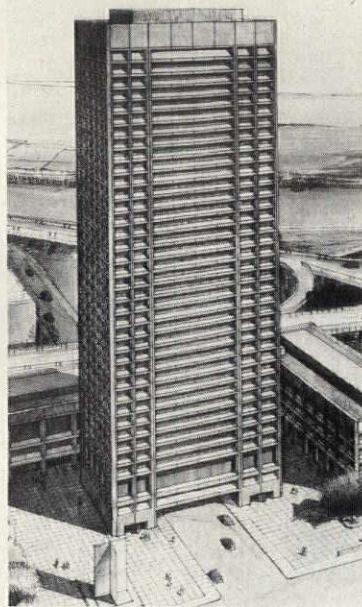


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5. First National Bank of Arizona Headquarters Building, Phoenix; Charles Luckman Associates. 6. The Tower, Dallas: Pratt, Box & Henderson. 7. Marine Midland Center, Buffalo: Skidmore, Owings & Merrill. 8. Centre Square, Philadelphia: Vincent G. Kling & Associates. 9. The City, Orange County, California: Minoru Yamasaki & Associates; Killingsworth, Brady & Associates, consultants. 10. Northridge Lakes, Milwaukee: William P. Wenzler & Associates; Lawrence Halprin & Associates, planners.



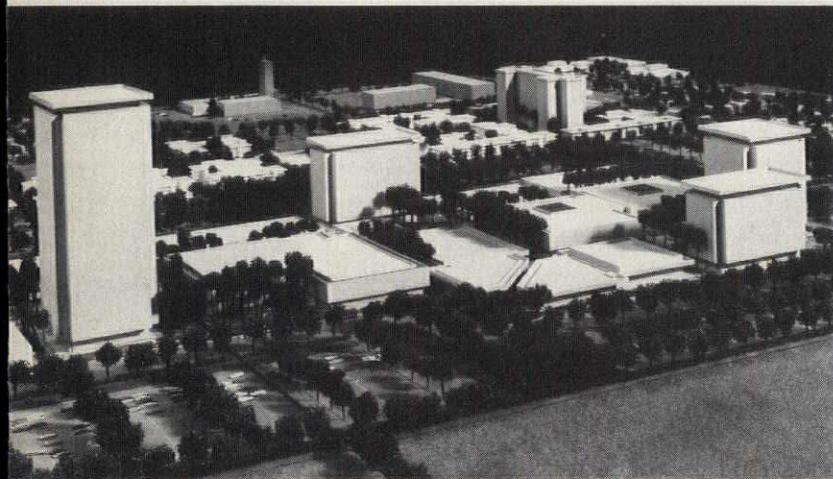
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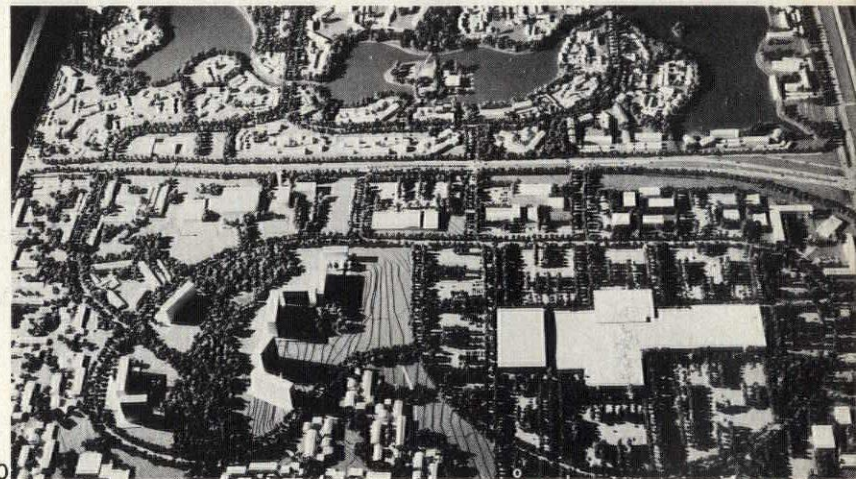
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'basic compensation,' then the answer is obviously 'yes.' However, the traditional role of the architect within the area of his expertise—regardless of how he is compensated—has always encompassed master planning, site investigation and evaluation, economic determinants of design, project management and other areas of input in the total conceptual design and construction process.

"Therefore, regardless of size and complexity," King explains, "it is in the latter context and within his traditional role that the architect can make his greatest contribution, can give direction and quality to provide for man's environment. As the size and complexity of projects increase, the constructor will also have to expand his knowledge. Similarly, the nature of the client may change. But the final product can still be best achieved within the client-architect-constructor triumvirate.

"Any attempt by the architect (or other design professionals) to take to himself and under his cloak those activities for which he has not the credentials, expertise or capacity will be an excursion which, in the long run, will dilute his creative capability and detract from his maximum potential contribution.

"Even more than that," King continues, "there is the ubiquitous element present to displace the architect in the form of design-and-build, the developer or what have you. Abrogation of the constructor through the architect's assuming the role of the master

builder, an anachronism long outmoded, will be the last straw that broke the camel's back and will force the constructor into the camp of the package builder."

It should be noted here that while those who oppose the architect's role in construction, as is found in the AIA's proposed ethical code (AIA JOURNAL, Sept. '69, p. 73), are extremely vocal in airing their views, a much larger number endorse the concept—or at least regard it as an upcoming architectural fact of life.

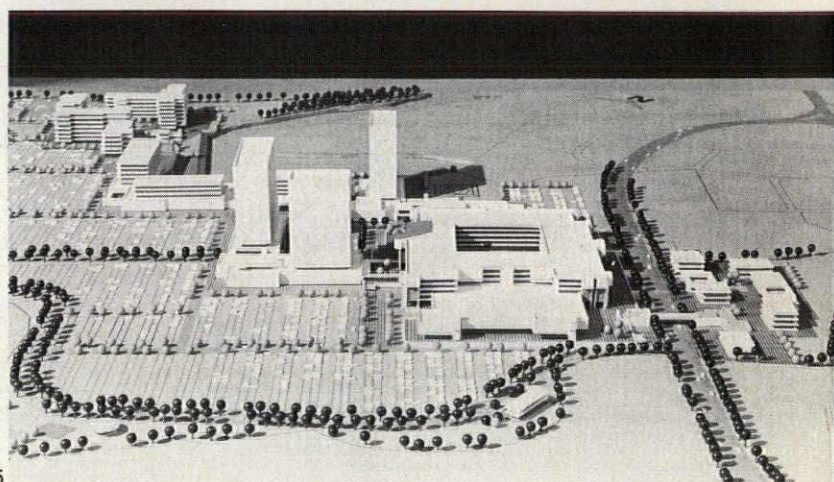
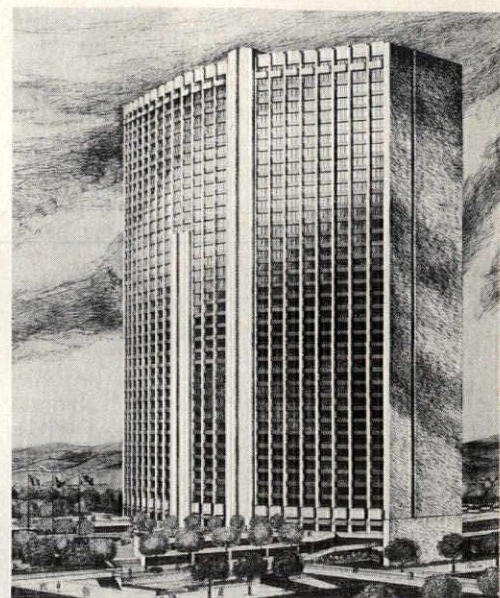
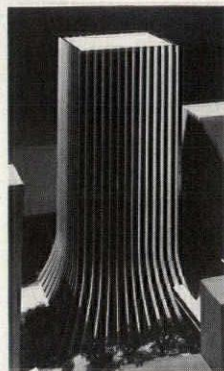
Questions Kenneth W. Brooks, FAIA, Ken Brooks & Partners, Spokane: "If the architects decide they can also be contractors, will the contractors, who have resisted the urge up to now, decide they can be architects? Could this open Pandora's box?"

Harold Spitznagel, FAIA, The Spitznagel Partners Inc., Sioux Falls, South Dakota, makes this observation: "Naturally, the architect will have to put more stress on overall planning, feasibility studies, economic analysis of proposed building projects and probably offer the client a complete package including both design and construction. I do not foresee ourselves getting into the contracting business, but we certainly will not hesitate to align ourselves with a responsible contractor should an owner look with favor on this type of solution to his building program."

Getting back to "new" services, James M. Luckman, AIA, Charles Luckman Associates, Los Angeles, feels that his firm al-



1. 111 East Wacker Drive, Chicago: Mies van der Rohe, FAIA.
 2. Lincoln Rochester Trust Company Headquarters, Rochester: John Graham & Co.
 3. Convention Headquarters Hotel, Los Angeles: Robert Alexander & Associates.
 4. Holiday Park Forum, Detroit: Melvin H. Sachs & Associates.
 5. State Street South Complex, Boston: Welton Becket & Associates.



WHAT'S AHEAD FOR ARCHITECTS?

ready provides those services which architects are thinking of adding today. "Through our relationship with Ogden Development Corporation, we are also able to offer clients detailed and sophisticated economic services as well. We are studying the use of computers and will no doubt shortly add a computer-trained person."

Luckman also comments: "The architect is faced with learning new methods and techniques and bringing the practice of architecture up to standards set by other businesses today so that he can again become the leader of the entire building team. Our affiliation with Ogden is one way of accomplishing the fact that the architect can control the quality of his environment."

Bernard J. Grad, FAIA, Frank Grad & Sons, Newark, does not see the adding of new services per se but rather "intensification of budget and cost control techniques in the face of continued inflation. There is too much to be designed and built with too tight money, with too little skilled labor and too few contractors willing to risk their pocketbooks on unknown costs. If the construction industry is to respond to the needs of the country, our profession has its work cut out in helping to curb inflation so that the industry at large does not price itself out of business."

Perhaps the reaction of most is summed up by George F.

Hellmuth, AIA, Hellmuth, Obata & Kassabaum, Inc., St. Louis: "We need to recognize services at either end of the spectrum, which we are already performing to some extent but which should be identified and contracted for."

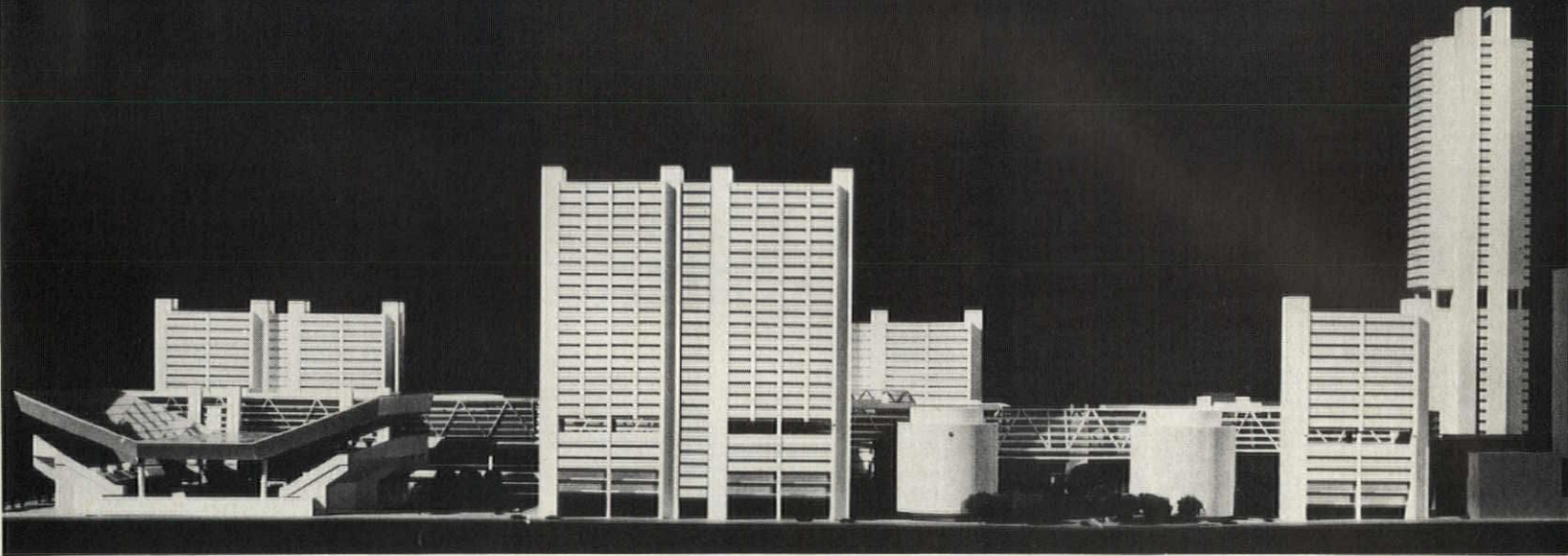
Do you note any trends in the size and complexity of projects?

"Larger and more complex" is about the way almost every architect replies. "In a fairly real sense, we are building 'machines,'" adds the earlier cited Lyles.

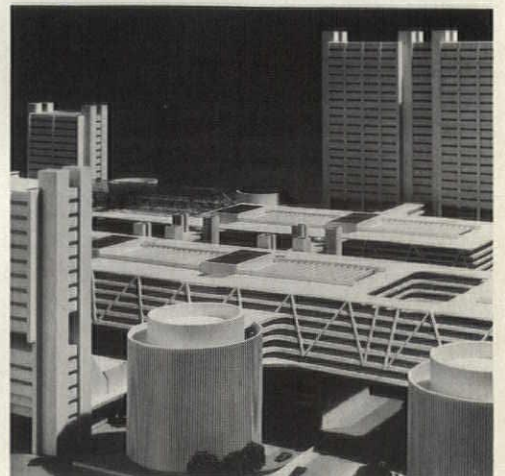
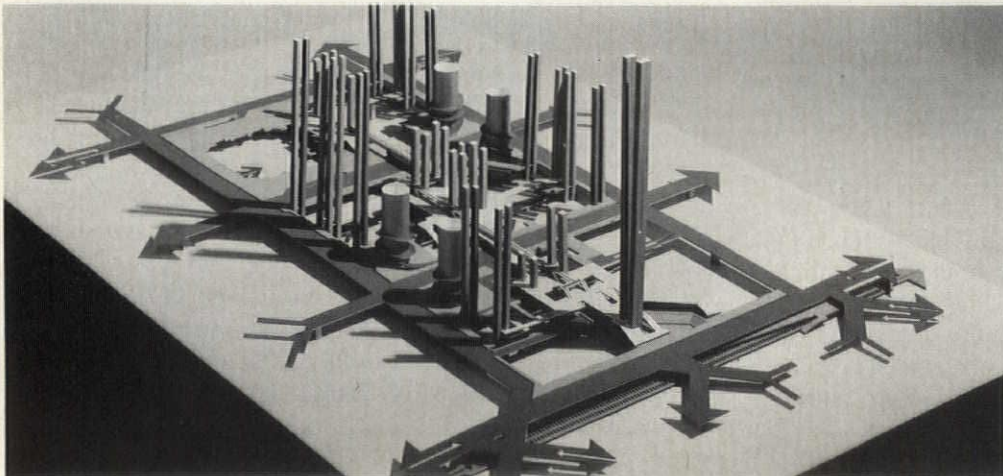
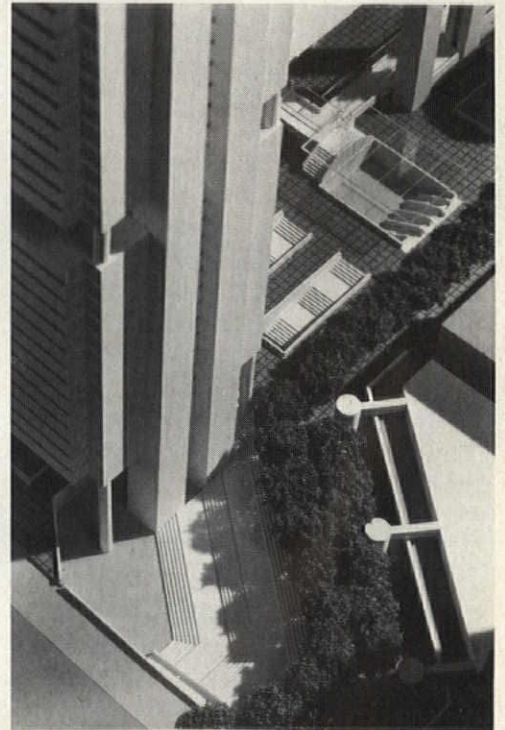
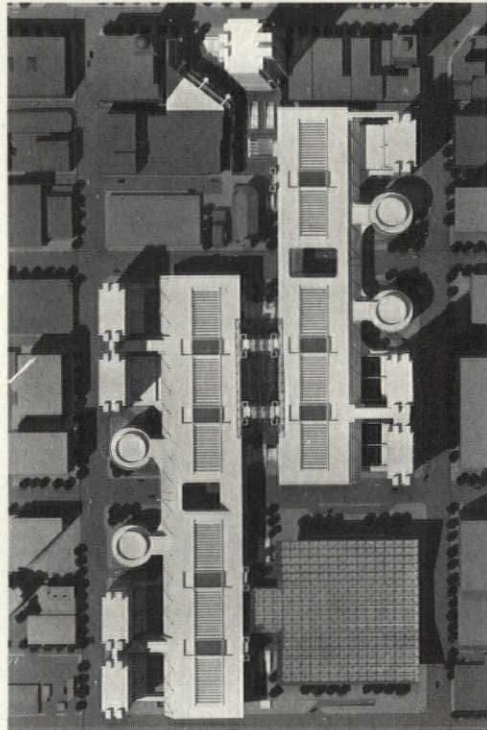
More than one respondent refers to the complications enveloping our housing goals, particularly low cost developments. As Frank L. Hope Jr., AIA, Frank L. Hope & Associates, San Diego, sees it, "So many seem to be involved that the entire program could flop. I think that the profession could design and arrange to build efficiently with more freedom, less dependence on government, industry and systems (magic word for bureaucracy?)."

AIA Treasurer Preston M. Bolton, FAIA, P. M. Bolton Associates, Houston, says "the size and complexity of projects remain about the same, but the architect needs to get more of the action."

If there is one trend to be noted above all others, it is the demand for the design of integrated urban projects combining such facilities as office building, retail stores, hotel and parking into one development and utilizing a design team—an example of which can be seen on the opposite page. **ROBERT E. KOEHLER**



"We have a plan to make the most beautiful city in the world more beautiful. Twenty-five downtown acres of commercial, convention and cultural facilities. Now we need a developer with rare capabilities and uncommon assets. Not many can measure up. But then, we only need one." So reads the advertisement placed in the November *Fortune* and other publications by the San Francisco Redevelopment Agency for the Yerba Buena Center, which drew replies from 14 developers, five of whom remain in the running. Bounded by Market, Third, Folsom and Fourth Streets, the three-block project will include a 14,000- to 22,000-seat sports arena, 800-room hotel, 2,200-seat theater, 350,000-square-foot exhibit hall, cultural-trade center, airlines terminal facility, shops, restaurants, offices, 4,000-car-capacity elevated garage, pedestrian malls and landscaped plazas. The concept for Yerba Buena Center, sited adjacent to the Bay Area Rapid Transit system now under construction, is based on pedestrian and vehicular movement (diagram below, looking southwest), with vertical and horizontal relationships. The joint-venture design team is made up of Kenzo Tange & Urtec, Lawrence Halprin & Associates, John S. Bolles Associates, Gerald M. McCue & Associates, Livingston & Blayney.



A sampling of seven architectural and/or design firms in the Boston area provides a commentary on

Who Does What in Interiors

by VILMA BARR

This is the age of emergence for interior design as an art, as a science, as a business. It is also a time when more and more architects want greater control over the environmental totality of their projects.

The question is: How best to reach the goal of an attractive, functioning interior offering optimal accommodation of client and user? The variables surrounding that question are many. Who should do the job (the architect himself? his own interior design department? an outside design consultant?), and how should it be done (stock items? through custom design? with what colors, shapes and materials?). A crucial set of variables, indeed.

A thumbnail survey made in a representative urban area—Boston—tapped the ideas and practices of both architects and interior designers for fact and opinion and gathered the following comments:

SACK: "There are no rules for good interior design. It's not only what you do but how you do it."

FLANSBURGH: "I realized how much I didn't know about interiors, so I handled interiors in conjunction with an interior design consultant for a few years. When we established a separate interior design department within our architectural office, a time limit was set to determine if it could pay its own way."

HODGDON: "Many architects do not get paid for doing the interiors. They treat this work as an extension of the architectural fee. And because there is no contractual agreement, the client waters down the architect's recommendations, sometimes beyond recognition."

BENNETT: "We have given our interiors department a separate name and are in the midst of establishing it as a semi-autonomous group. The name of the firm has been changed from F. A. Stahl & Associates, Architects, to Stahl/Bennett, Inc., with two divisions. The interiors work has the potential of being more profitable than our architecture, depending on the contract."

MYER: "Interiors do take a hefty amount of time, but we still want to be involved with this phase of design; by 'we' I mean the architects themselves."

As a separate design specialty, interiors is a relatively recent phenomenon. This recency is especially true in the cases of corporate and institutional work, now being done under the umbrella term of "contract design." Supplying desks and files and typewriter tables to offices, schools and businesses used to be a fairly simple, far-from-pulsating procedure engaged in primarily by office supply firms and business furnishings sections of department stores. These suppliers bid on the furniture alone; he who was lowest bidder got the contract to deliver the goods. There was no space planning or scientific allocation of working area; no coordination of future needs; no integration of floor and window coverings—just a contract to deliver the goods.

In the early '50s, a few pioneers began putting down in words and drawings their concepts of how a business or institutional interior ought to work and look. Spawned was a new breed of

The Seven Sampled

EARL R. FLANSBURGH, AIA, Earl R. Flansburgh & Associates, Cambridge: an architectural office with its own interior design department. • **JOHN BENNETT, AIA**, Stahl/Bennett, Inc., Boston: a firm with two divisions, Stahl Associates and IDG (for Interior Design Group, also in New York). • **BRADLEY SACK, AIA**, Corporate Design Consultants, Boston: multidiscipline design firm with separate departments for architecture and interiors, graphics, product design. • **ANN ELWELL**, senior interior designer, The Architects Collaborative, Cambridge: architects with separate interior research and design departments. • **BILL BAGNALL**, Bill Bagnall & Associates, Cambridge and New York: interior designers and design consultants to architects. • **DEWEY HODGDON**, Hodgdon Design Group, Boston: interior designers and design consultants to architects. • **JOHN MYER, AIA**, Ashley/Myer/Smith, Inc., Cambridge: an architectural firm which handles its own interiors.



Entrance to the Crosby Corporation offices, State Street Bank Building, Boston, seen from elevator lobby area. By Stahl/Bennett, Inc.

space planners, interior designers and interior architects capable of shaping spaces and innovating furnishings in their efforts to solve interiors problems.

They held little in common with the decorators who (by definition) had been embellishing the walls and floors of society residences since the turn of the century. "Doing" a room no longer meant developing a compatible color scheme and matching drapery with upholstery fabrics and putting a 100 percent markup on an imported commode.

The nonresidential or contract designer has big budgets, whole buildings to furnish, volumes of specifications to write, myriad salesmen to interview. He quickly discarded the cumbersome task of making a profit out of marking up each individual furniture and accessory item and, whenever possible, turned this buying activity over to the client's purchasing department. (If there is no qualified purchasing arm to handle details, some design firms charge a flat percentage fee for handling the paper work.)

Today's interiors people see themselves as trained, talented, professional designers who offer a service—they shudder when lumped with merchants who might favor one line over another for the wider profit margin it affords, regardless of the customer's needs. (Some residential designers have joined this service-for-fee trend, but the movement is much wider in the contract field.)

It is a latter-day discipline that is growing at orbital speed. (Current annual sales of contract carpet alone is put at \$1 billion.) To get the views of some of the professionals involved in this growth area and who represent a variety of interiors projects, we posed the questions that follow to the seven already identified.

Question: Why did you decide to get involved with interiors?

Answers:

FLANSBURGH: We believe in designing buildings from the inside out. Interior space planning is done at the same time the shell is designed. An inside interior design department works well within the framework of our architectural office. Our interiors people do private residences as well as institutional and other commercial work and work as interiors consultants with other architects.

BENNETT: We considered it a natural extension of our architectural commissions. Interiors need a specialty approach; within that department many specialized talents are needed.

SACK: Architecture and interiors are absolutely inseparable. I have always thought of architecture from the inside out. The voice of the interior designer must be heard, whoever designs a building.

Question: Who do you feel should detail an interior installation?

Answers:

HODGDON: An architect is qualified to conceive space, but not necessarily the appointments. He may not be interested, really, in getting involved with complexities of detailing interior space—and it is complex if it is to be done right—and the architect will lose interest. He has, indeed, bigger fish to fry. You know them as well as I do—urban renewal, saving our cities, adequate housing, etc. Should he leave interiors to those of us who have a real sympathy toward confined spaces, while he tackles the more monumentally scaled problems of our society? Quite probably he should.

MYER: We may occasionally work with a consultant, but usually our people want to be involved with the interior design of a project. I suppose you can say that we wish to have life at the full range of the scale. It's difficult to say if this or that project would have come out better if we had engaged a professional interior designer



to handle it, rather than do it ourselves. Someone attuned to interiors would have to study and criticize our work.

ELWELL: More of our architects are thinking of interiors. Some job captains do their own interiors; some use our interiors group like consultants for research, color, specs; at other times the interior designers do the whole job—it's a rather flexible setup, you see. The TAC interiors department is both an internal service to the architects and a client service.

Question: What is the most important function an interior designer can perform, for an architect or for an interior situation?

Answers:

HODGDON: Interior design is not a casual business. An architect is likely to get burned if he visualizes it as just selecting some furniture and thinking that his responsibility ends there. An interior designer is far more familiar with the nomenclature and procedures of an installation—just how every item is brought together and put on a job; the mechanics of receiving; who is responsible for damages (the key point in the life of a piece of furniture is when it is being moved and put in place); preparing a coded placement portfolio; acting as liaison with the installers; and inspecting on the site to check out that all items have arrived as specified.

BAGNALL: Contract interiors is not a merchandising problem; it is a design problem. There is more to it than shoveling furniture into a space; any damn fool can do that. What has to be understood are the economies of design, and that doesn't mean just in dollars, but in the understatement of the furnishings to relate to the architecture. Furthermore, an interior designer has the skills and training to create solutions to special problems, like furniture for the aged, for example.



Library for the Lower School students, Park School, Buffalo, with Alto chairs and tables in blue and white scheme, carpeting in rust. By Earl R. Flansburgh & Associates, Inc.

SACK: An interior designer with a thorough working knowledge of what is available in an increasingly complex market can create an outstanding interior on even a very limited budget. It is not enough to rely on a few favorites any more and claim that you have created an interior; you may be able to come up with a competent enough job this way, which will be safe and boring. Planning an interior environment is a painstaking process; today, an interior designer is concerned with the microenvironments—down to the ashtrays—as well.

Question: At what stage is interiors included in the planning?

Answers:

FLANSBURGH: Our interior designer is brought in as early as possible and works right along with the job captain and the partner. Our clients are always told about the availability of the interiors department, and if there is any client education that has to be done, it helps to have the interior designer in there at the outset.

BENNETT: Our work in interior design so far has been for office buildings, although we certainly do not wish to become specialists in this one phase of interior design. On most of our projects involving interiors, we have been brought in at the planning stage, before the basic building plans have been finalized. We work with other architects as well as complete interiors for our own architectural commissions. For example, on the State Street Bank Building that we did a few years ago, there were two separate commissions with the building's owner: one for the architecture of the shell and the design of the building standards for ceilings and lighting and a second contract to handle general planning and office configuration for prospective tenants. We would interview the persons considering occupancy in the building, find out their needs and

draw up a schematic of our interpretation of their space requirements. From this, the potential leasee rents or not. The building's developers have paid us to perform this service. If the prospects do become tenants, and ask us for additional services in selecting color, fabrics, wall coverings, down to the accessories, we then contract with the tenant directly. On another building where we are interiors consultant to the owner, but not the building's architects, we review plans as related to interior core configuration.

MYER: We try to make interior design as late as possible. We use the project itself as a full-scale model, so there is developed a dialogue with the things you are bringing along. This way, we can see the colors and materials as they will actually be used, and can decide on built-in or brought-in furnishings.

ELWELL: TAC likes to control as much of the inside as it can. If we can possibly do it, our responsibility for the selection of the architectural colors—for floors and floor coverings and draperies—is written into the architectural contract. After that, the situations vary (again, it is a give-and-take setup here; the interiors department is not all powerful as is the case in a few big architectural offices elsewhere). Sometimes, the interiors group takes over when the shell is done. Other times, we are called in earlier, especially to work out problems that need custom solutions.

Question: How do you handle presentations to the client?

Answers:

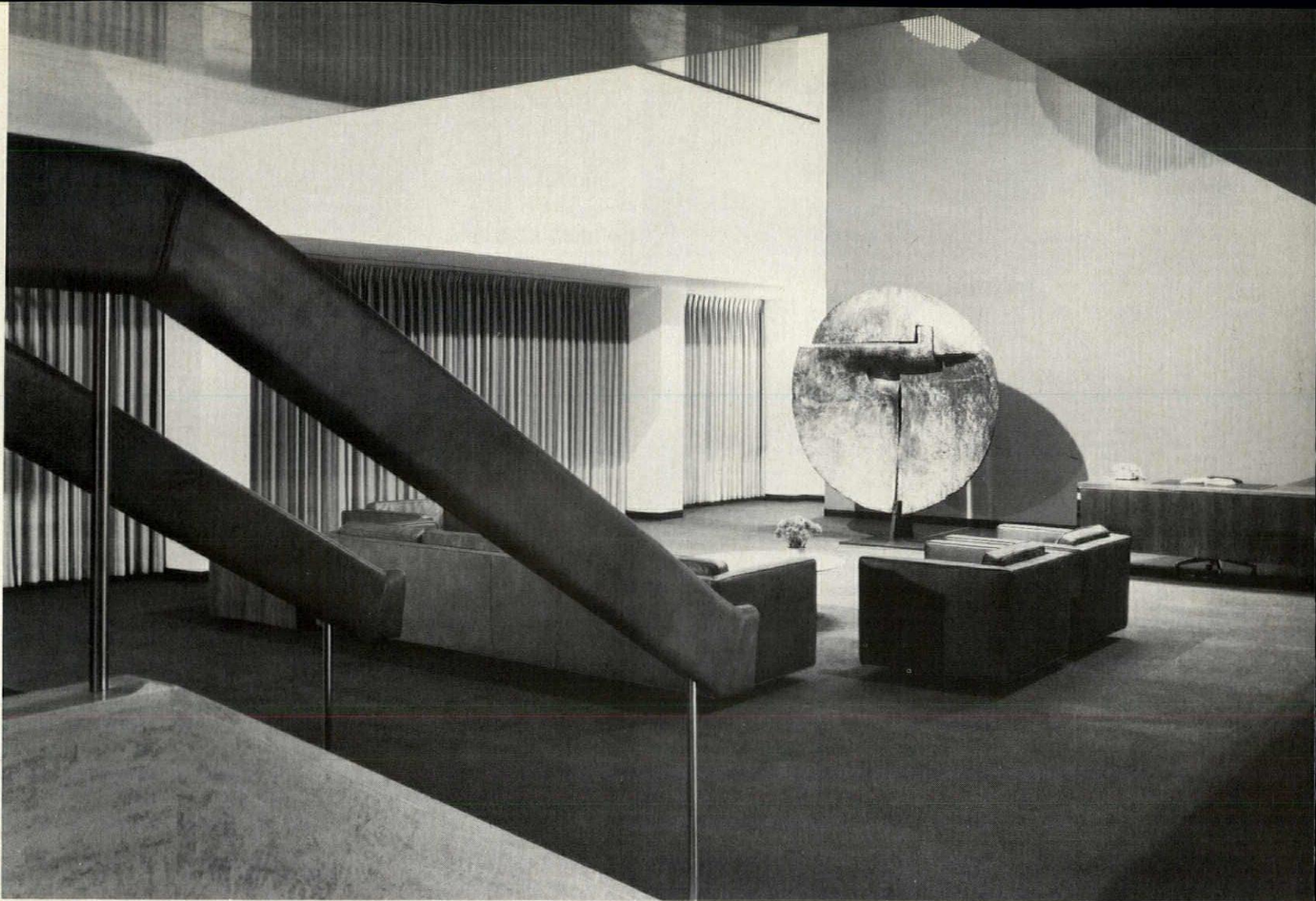
BAGNALL: The person in charge of the design goes along with the formal presentation. (The costs of the presentation are part of the total design package; we never work on spec.) The designers themselves work on the actual presentation; we try to balance the effort we expend on the fabrication of the presentation against the percent of the total job. We can usually get the message across with drawings and boards, but we had to construct a three-dimensional representation of the seating mound we wanted to do for a lounge at the University School in Shaker Heights, Ohio.

HODGDON: We make it a policy to put together as complete and sophisticated and professional a package as possible at the beginning. First, your detailed projection makes the layman feel closer to the project; and second, the impression that you imply to the client that his entire project has been thought through is both affirmative and coercive. We recently made a very successful presentation at the Framingham (Mass.) State College; Desmond & Lord are the architects. Our object was to create a manageable environment to discuss over a conference table, so we photostated the large 24x24-inch presentation boards down to 15x20.

FLANSBURGH: Our designer works from presentation boards that show photographs of the furniture to be used, upholstery and drapery samples, and swatches of carpeting, flooring or wall material; this is related to a diagram that details traffic patterns, color groupings, design and pattern themes, and furniture placement.

ELWELL: On sizable jobs, there may be several preliminary meetings and then one large presentation. Either the architect or the interiors person can explain. I like to have large pieces of the drapery and carpeting fabric on hand and if possible the actual furniture, like a chair, to show the client how it relates to the overall scheme.

SACK: When we make a presentation, we also provide the client with a check list that details what work he can expect to see when.



Our estimate will include how long the various phases will take, and we then schedule our time against this published schedule.

Question: How many people do you have working on interior design, and how do you charge for their time?

Answers:

FLANSBURGH: We started out 18 months ago with one interior person; now, there are five in the department. We charge 2½ times payroll with a 15 percent upset limit. We gave it a year to pay its own way—now it accounts for 5 to 8 percent of total profits; I see a 10 percent plateau.

BENNETT: When we started seven years ago, there were about four people here on the interior staff; the number is now 25. Charges are made only for time—there is no markup on the items purchased. Clients are billed monthly, and if it should be requested, we could supply a digest of the level of person working on the project, and his salary, which is a varying scale.

BAGNALL: We have two designers here, plus myself, and three in New York—and importantly, a business manager who joined us at the beginning of the year. A good design profit is in the 15 to 20 percent level. If we bill by hours, six billable hours per day per designer is acceptable; then it will be \$30 per hour for the chief designer, \$15 per hour for job captain, and 2½ times salary for labor. We have also billed on a flat fee basis, on a percent of overall estimated cost basis and a percent of cost not to exceed a flat fee. Now, with governmental agencies, we have billed on a cost plus basis—salaries plus itemized overhead, plus 10 percent.

MYER: When we devote time to interior planning and execution, it is charged out at the hourly rate of the persons involved.

ELWELL: When I started with TAC six years ago, I was a department of one: Now it averages four or five, and I can call on extra help when I need it for functions like drawing. We've charged on the percent of total job, but the 2½ times payroll is safer.

SACK: There are four people in my department, two of them architects. There is a rate for principals, for senior designers and for staff designers. It can go up to \$35 an hour for a senior or principal on some phases of the job or \$15 for drafting; consultation is \$50 an hour.

Question: How do you see the future of interior design, in general or as it applies specifically to you?

Answers:

BAGNALL: I started out in architecture, but I moved over to interiors because I felt it offered more challenge, more change, more excitement, and I started this firm in 1963. We've done nearly every type of installation working for private clients to government agencies. The agencies are a nightmare to deal with, but that is where the work in interiors will be in the future—with the government; that is, for schools, hospitals, mental institutions, day care centers. Work for the recreation and leisure facilities—hotels and motels—will go ahead, too.

MYER: We are not closing our minds to the idea of our own interiors department, but I can think of only a few people who can handle the near environment to our satisfaction. I think the computer will be a definite factor in future planning of interiors and exterior spaces, quickly providing space configurational alternatives.

BENNETT: Interiors with us has reached the point where it is out of the adjunct category; there are 25 in interior design, and 25 in



Lobby of the Avco Delta company, Shaker Heights, Ohio, has leather-covered hand rails, brown leather furniture, James Wines metal stabile. By The Architects Collaborative.

architecture. We felt that this was the time for interiors to head out on its own, and that is why we revised our corporate structure to accommodate it. At this same time, we have a New York branch of the interiors division and we are hoping for growth there, too.

FLANSBURGH: I would suggest that any architect considering the establishment of an interiors department work with a consultant on a trial period—to become aware of the different furnishings and interior detailing techniques, for one thing. The early establishment of a dialogue is very important to an architect's success with a consultant or his own department: The architect must listen to the other person from the beginning and seek to negotiate any differences in direction should they arise. The designer, on the other hand, must be a good administrator as well as a creative designer and should gain the architect's respect at the outset.

SACK: Designs for interiors will be loosened up—more adventure, more humor, less rationality. (I think that most architects take themselves too seriously, especially when they get down to the end of a project.) Interiors will become more flexible; there will be more built-in movement. A powerful triumvirate—new products, new concepts, new internal conduct of the profession itself—is catapulting interior design into maturity. Product technology has released materials to go where they had not dared to tread even a half dozen years ago. New synthetic polymers have made for improved foams for the furniture industry; this has been translated into seating that is less angular, freer of form, and has prompted groupings of molded or cut foam pieces. Stretch fabrics—the knitted mainstay of the apparel industry for the past decade—have become excellent covers for the curving, bending outlines of chairs, stools, sofas, ottomans. Clear, smoked or colored plastic is being interpreted in abundance as a component or as the primary mate-

rial for furniture, decorative accessories and lighting. Portable lighting and lighting fixtures fashioned of contemporary materials (plastic, polished or brushed metals) into contemporary forms has just begun to be accepted in this country as a near-art form, although the Italians showed striking lighting pieces at the first Milan Triennial years ago. Good looking and/or camp objects of the past look best when casually mixed in with the modern.

The process of eradication from within is working to rid the profession of the tarnished image of the interior designer whose ethics are somewhat less than unimpeachable. Both the American Institute of Interior Designers (AID) and the National Society of Interior Designers (NSID) have been working at various levels to improve the public image through publicity and to standardize courses of study with design schools. Licensing proposals have received much verbalizing and some state-level legislative activity. Louis Malamud, NSID executive vice president, has been an active figure in a nationwide campaign to interest both designers and lawmakers in establishing licensing laws.

"When I started in business 45 years ago," Malamud told a Boston audience not long ago, "there were no more than 75 interior designers in all of New York. They were all European trained, and they knew exactly what they were doing.

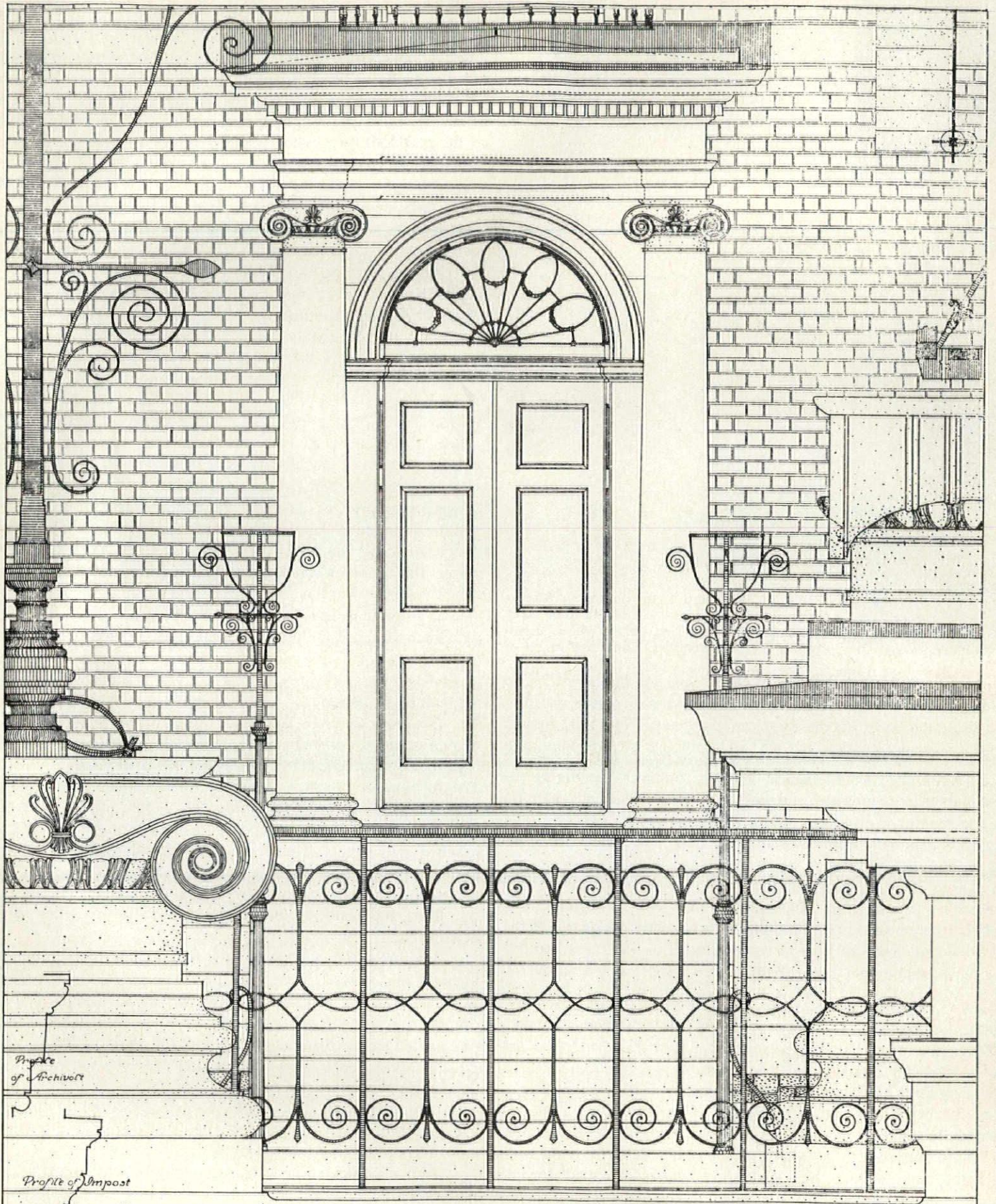
"Last year, there were more than 7,000 persons calling themselves interior designers in the five boroughs of New York, and the situation is chaotic. There are many competent, intelligent designers doing beautiful work today in New York and other places; I've also seen some perfectly horrifying examples of rooms done by people who have neither the artistic ability nor the fundamental groundings in the principles of the profession. Our efforts are directed against the unpleasant and unscrupulous fringe of untrained, untalented men and women who have caused homeowners and businessmen unhappy experiences and loss of dollars by posing as interior designers."

But both the AID and the NSID are top-heavy with residential-oriented designers, and contract designers want their own organization patterned after The American Institute of Architects. The Institute of Business Designers (IBD) began organizational activities within the past few years, but to date has not been able to attract widespread prestige support. Last spring, *Contract* published a rallying cry from a Southern female contract designer urging the establishment of a business-oriented, top-caliber professional organization that would serve the nation's contract design firms, independent contract designers, and architects' design departments.

Interior design has passed the longitudinal marker that defines a lobby as well dressed due to the presence of a few Barcelona chairs; or as pleasant because it is airconditioned and has draperies covering its windows; or a school as homelike as a result of carpeted floors. Just keeping up with the plethora of new products announced with mind-bending regularity is a staggering task. Specialty publications are widening their frontiers of involvement with their designer-readers; *Office Design* sponsored an outstanding symposium in Boston in May 1969 that emphasized the enormous responsibilities of the interior designer.

Active participation with total interiors offers several alternatives for the architect; each variation offers its own practitioners, its own philosophies. The extent of an architect's participation is dependent on his own practice, his understanding of the current theories of interior design and his own personal credo of delegation of design responsibility. □

Mrs. Barr is a Boston-based freelance writer specializing in interior design.



The Entrance

Scale of the Details
 Inches Inches

Scale of Elevation
 In Ft

The Octagon

by J. EVERETTE FAUBER JR., AIA

Next month the cherished old landmark will open its doors to the public once more, after undergoing a complete restoration undertaken by The American Institute of Architects Foundation.

The restoration of the Octagon House has not changed the appearance of the old landmark to any large degree. Outside, the new roof of cypress shingles is the only readily noticeable alteration; inside, various original fireplaces have been restored, and the nursery and the second floor bedchamber on the New York Avenue side have been reconstructed. The entire third floor construction has been replaced.

Besides the new roof, the most important work has been to make the building structurally sound, and to install year-round climate control, certain security systems and special lighting.

All work conforms with the legal restrictions on the building's primary use as a museum and an educational tool to justify its ownership and operation by the nonprofit AIA Foundation, Inc. Also, the directives of the AIA Board of Directors have been carried out to insure that the Octagon will continue, in some measure, as a useful segment of ever expanding programs and activities, particularly those concerned with preservation and restoration. Hence, there was a practical need for galleries, toilets and serving pantries.

Before the restoration got underway, a fairly exhaustive search was made in libraries and archives for documentary evidence. Family records, diaries, old newsprint, insurance records, manuscripts and AIA minutes were all combed. The Glenn Brown portfolio of measured drawings made for the AIA was of inestimable value. (The drawings of the Octagon [Dr.

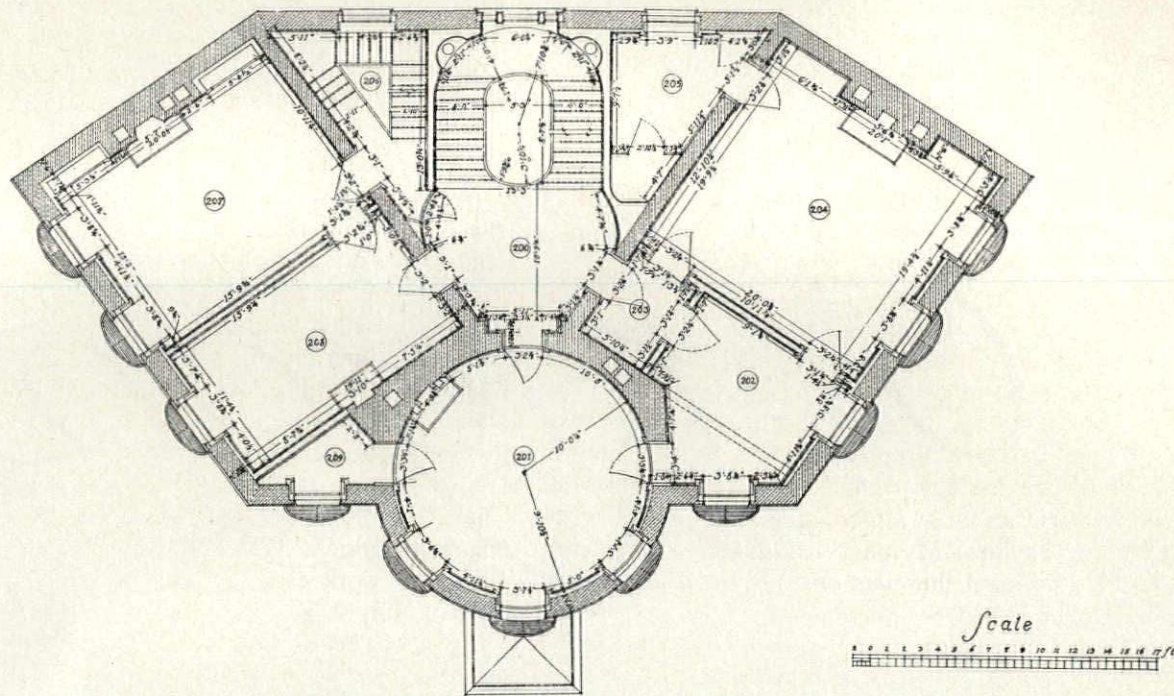
William Thornton, architect] accompanying this article were made under the direction of Brown and presented in his portfolio.) The documentary research program tied down the completion date of the building to the period between November 27, 1800, to November 15, 1801. It also revealed that the Tayloes retained ownership until it was sold to the AIA. In spite of the fact that the building went through a dark period prior to 1898, when it was rented to as many as 10 families simultaneously, it had survived relatively unscathed.

On Monday, March 18, 1968, architects, with the help of skilled labor, began deep probes into the superstructure of the building at salient points. This resulted in identifying original floor and wall finishes for the old kitchen in the basement. Sections of original brick floor paving were uncovered in the wine vault and the small closet off the kitchen. Later, during demolition and removal of modern additions, this same typical flat herringbone brick paving was revealed under the concrete slab floor in the storeroom, as well as in other locations.

Other changes and additions were removed, after being identified and photographed, and frequently revealed original conditions throughout the house. Much reinforcing and many additions of structural nature were found, many of them recorded in the documents. Extant, barrel-vaulted storage cells for wine kegs were easily repaired from remaining physical evidence in the wine cellar. Fireplaces in other parts of the basement were reopened, revealing multiple progressive alterations and additions.

The so-called tunnel, located off the rear areaway on the 18th Street side, appears in this writer's opinion to have been either a cistern or a root cellar. A cylindrical well opening in the top of the vault could have been an opening over which a hand pump was installed at ground level with its sucker-rod extending into the vault below. This gave every indication of

Mr. Fauber, who practices in Lynchburg, Virginia, is restoration architect for the Octagon and has participated actively in the research of its history.



Second Floor Plan

being coeval with the tunnel's vaulted brick roof. Subsequent probing revealed about 48 to 50 inches of masonry separating this vault from the basement kitchen at its thinnest point. On the other hand, additional documentary evidence which has just been discovered mentions a well "of fine water" in the kitchen. The shaft in the vault could also have been a vent shaft for a root cellar.

Explorations on the first floor consisted mainly of opening fireplaces, which had all been converted at various times to accommodate coal grates. Colonel John Tayloe's ledgers recorded coal being purchased in some volume as early as 1812. It appears that the iron, Adam-styled stoves in the two niches in the entrance foyer were original furnishings or very early additions, possibly imported from England. The late Henry Saylor tried to establish, but without success, that they were designed by Latrobe. However, it is evident that each of the adjacent chimneys was originally built with a flue to accommodate such stoves.

Fortunately, the remains of the original fanlight over the main entrance door had been saved and stored on the third floor and has been re-created with all its exquisite detail and shapeliness.

Careful probing exposed a large, arched recess in the small triangular room just off the drawing room. It would appear that such an arched recess was originally planned for the inside wall of the drawing room—similar to that in the dining room—but that a change of plan occurred before the plastering was applied and it was rearranged to open on the smaller anteroom.

One of the most unique and attractive features of the Octagon is the triangular service stair extending from basement floor to the third floor ceiling. It was largely intact and has now been

cleared of sprinkler piping and other appurtenances and reinforced structurally so as to become—at least on the lower levels—part of the exhibit area. It is also useful since it is the only inside access to the basement.

Other features on the first floor are two concealed doors, one in the dining room, with an unbroken chair rail and base, the other set in a curved wall of the main stair hall. Still another one is at the second floor stairwell.

The greatest and most organic changes in the original room arrangements at the Octagon had occurred on the second floor, where bedchambers in both wings were opened up and converted into two large exhibition galleries. This was done by the AIA to better adapt the Octagon to its use as an active adjunct to the Headquarters Building. The Octagon House Committee* has elected to leave the one large gallery on the 18th Street side, but to restore the two original fireplaces with their mantelpieces and the original, arched recesses which had previously been removed.

The wing on the New York Avenue side will be restored with three original spaces, i.e., the Dolley Madison bedroom, the nursery (or dressing room) and the small hall leading to both. For the present, these rooms will be used as small galleries but could, if desired, be furnished and presented as bedrooms to complement the restored house exhibit. This would, of course, leave only the one large gallery for transitory and temporary exhibits.

*Members of the Octagon House Committee of the AIA Foundation, Inc., are: Victorine du Pont Homsey, FAIA, chairman; A. Edwin Kendrew, FAIA; Charles M. Nes Jr., FAIA; Walter F. Petty, FAIA; Charles R. Strickland, FAIA. Contributing members: Kenneth E. Coombs, AIA; John M. Dickey, AIA; Milton L. Grigg, FAIA; Bryden B. Hyde, AIA; Norman J. Schlossman, FAIA. Secretary ex officio: Preston M. Bolton, FAIA.

The Treaty Room was reasonably intact, but the ceiling had deflected to such an extent that replacement was necessary.

Years ago the third floor had been condemned for occupancy by the D. C. Department of Licenses and Inspections. The restoration program included an appropriate use of the third floor rooms. Hence, the greatest structural change that has been made within the building is the replacement of the entire third floor construction, using a combination of steel I beams and a 3-inch T&G mill-type subflooring. This has been done without disturbing the delightful, original ornamental plaster cornice in the Treaty Room below. This, in itself, is a tribute to the care and competence of the building contractor and his capable and cooperative foreman.

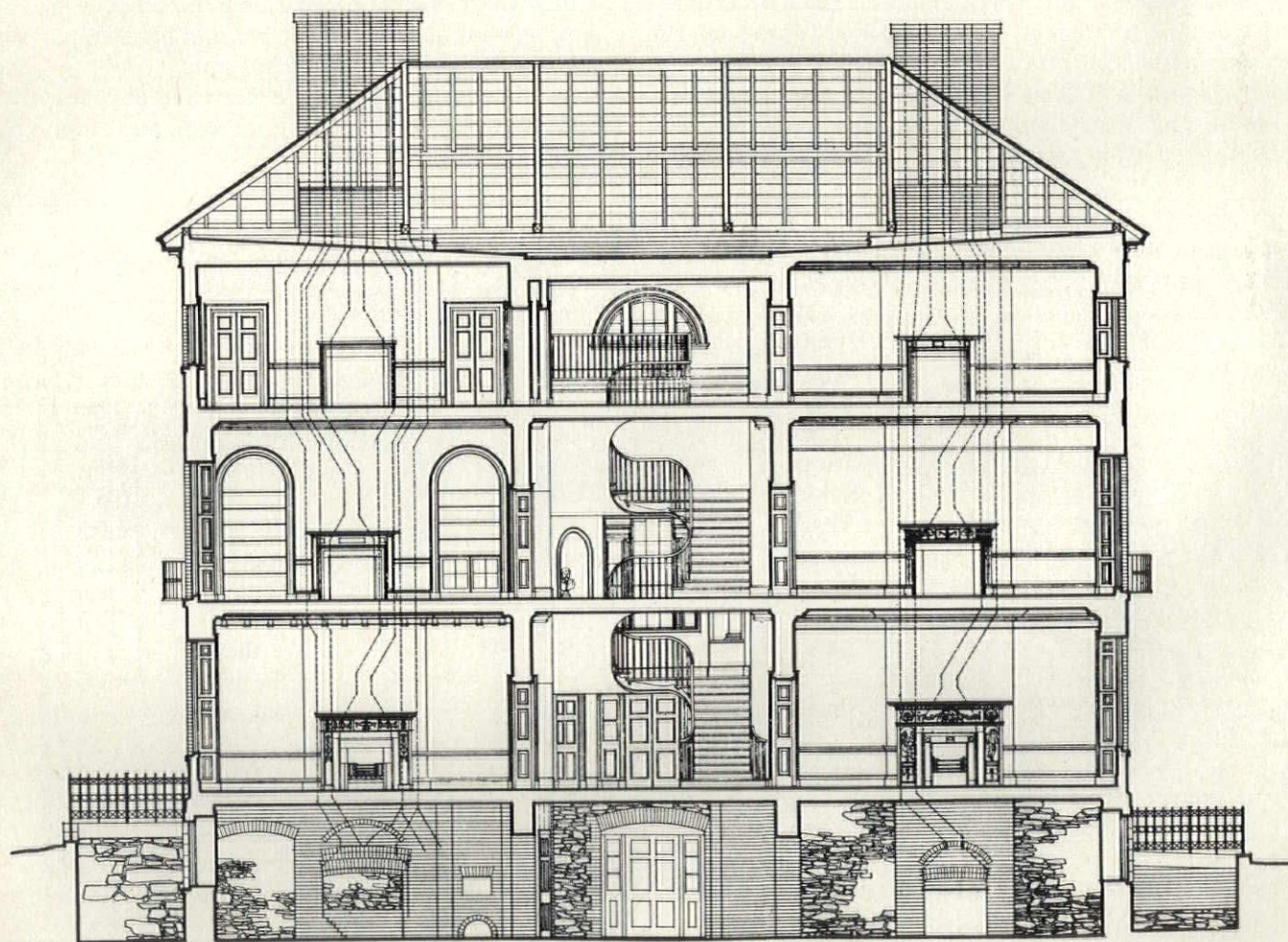
It was assumed, and has later been confirmed, that the small window in the closet off the high landing on the third floor was a later alteration. It has now been closed. It was readily determined that the fireplace in the small bedroom on the New York Avenue side and its flue were added after the original construction was almost finished, yet, prior to occupancy by the Tayloes. Masonry rested on wooden construction and an additional flue was obviously added after the brick chimney above had been constructed.

The attic was a fascinating place with its old flat roof of

canvas and pitch—still extant and protected by interesting old trusses and heavy framing of the hipped roof. Old wood shingles were still intact under the tin surface which was added in the latter half of the 19th century when the sloping wood shingle roof became a serious fire hazard. A great part of the original stair to the flat roof with its sloping penthouse remains intact. After the hipped roof was superimposed above the undisturbed flat roof, the stair still provided access to the attic and the original flat roof thus became the attic floor. Confirming evidence of a pole gutter, which was added after the turn of this century and documented in AIA minutes, still remains.

One of the most pertinent decisions was that concerning the roof: whether to restore the flat one or the hipped one which had been superimposed during Colonel Tayloe's lifetime. The hipped and shingled roof is shown in a watercolor sketch made about 1830; another aquarelle from circa 1813 shows the flat roof with parapets.

It is most probable that the roof was changed in 1818. That year, Mess'rs. Early & Homan, Building Contractors, charged Tayloe a total of \$4,750 for work on his house in the city. This work extended over a period from April 1, 1818, through July 7, and final payment was recorded on December 23, 1818. This almost has to be the involved changes to the



Section CD

roof of the Octagon which resulted in the oddly shaped, sloping roof which, to this day, covers this illustrious building.

There is a letter to Colonel Tayloe from Latrobe, dated March 10, 1811, from which I quote, "My promise to call to see your roof I have performed, altho I was not admitted, and you probably have not heard that I was at your door." (Latrobe Papers, Maryland Historical Society.) Documentary evidence, just uncovered, names George Hadfield as architect for this impressive roof addition.

The Octagon House Committee decided not to attempt a restoration of the impractical flat roof. After acceptance by the D. C. Department of Licenses and Inspections, the decision was made to install a fire-rated, treated cypress shingle to match as closely as possible the size, exposure and type shingle found under the terne roof. Certain areas of the old shingle roof had actually dry-rotted. Skylights and an extra scuttle opening in the roof were removed, since they were obviously later additions.

Location and placement of extensive mechanical equipment presented a most difficult problem. It was finally decided to divide this between a utility room in the basement and the attic. Electric energy was selected as a fuel source, mainly because of its cleanliness and safety. Low installation cost and current preferences were also factors. Toilets and serving pantries have been fitted in without violation of exhibit areas.

Some hoped that the attic space could be made accessible on a restricted basis to students and archeologists who might like to see the unusual flat roof and the eccentric roof trusses. Unfortunately, much has been covered under two large fan and coil units, roof insulation and a copious collection of covered sheet metal ducts, serving both the second and third

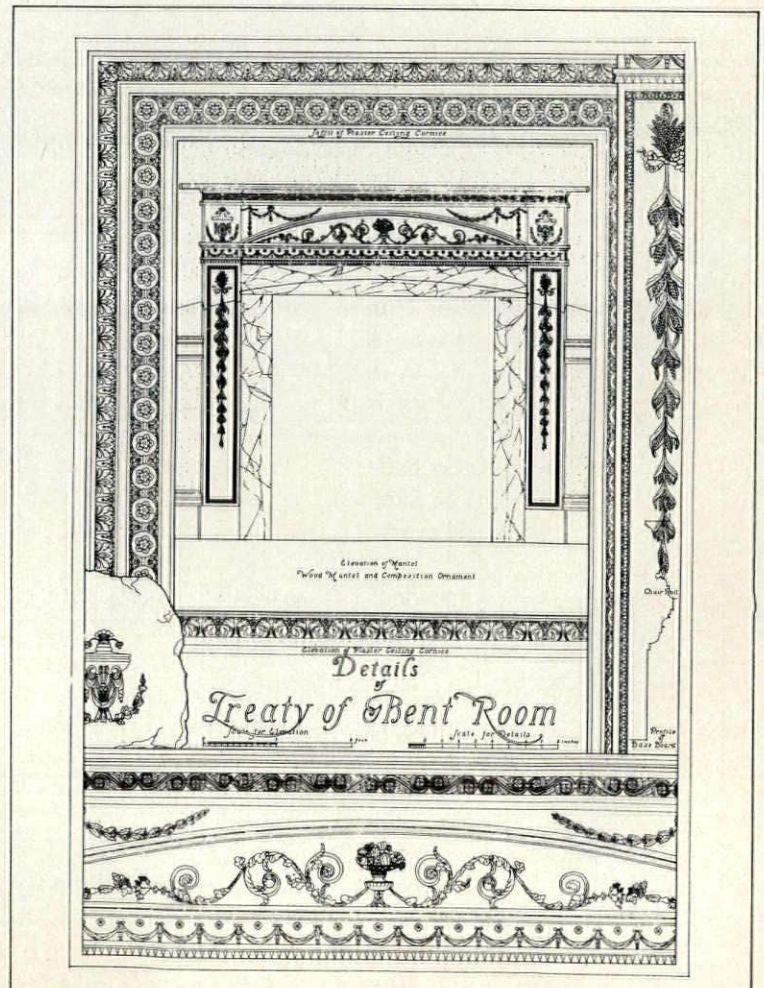
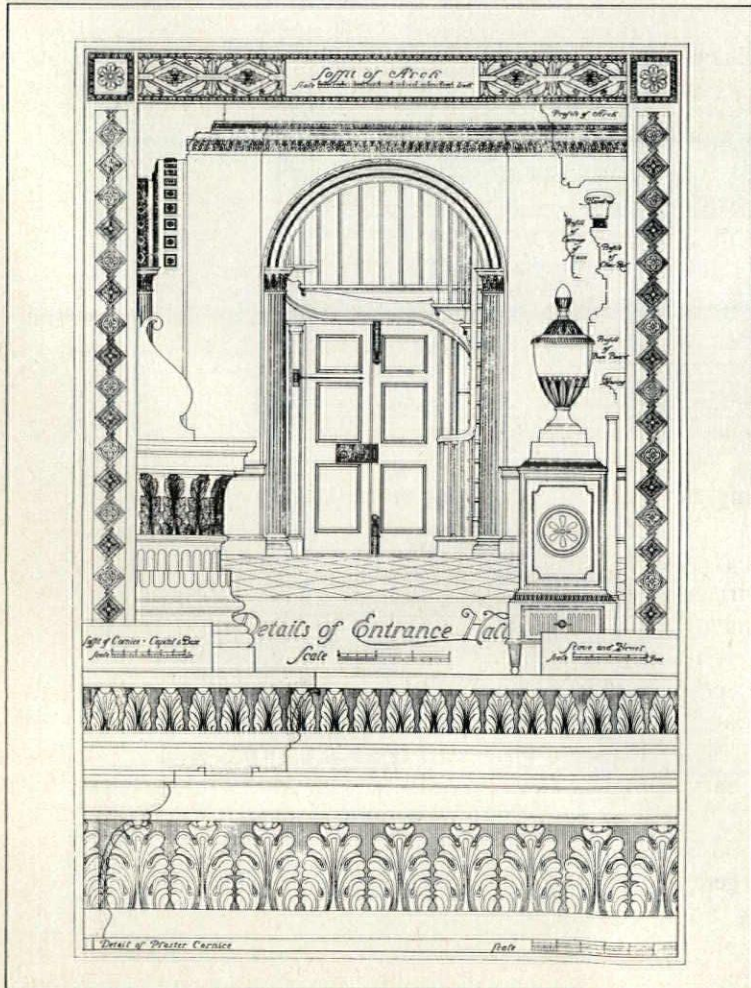
floors. For those deeply interested, classified and restricted access may still be arranged.

Two additional fan and coil units are located in the basement and will serve the first floor and the basement rooms. All such equipment is housed within the building and concealed from both visitor and passerby. Selection of supply and return air grills and their location within the spaces was motivated by an attempt to conceal and obscure these outlets while still placing them, as far as possible, in operationally effective positions. For the most part, they will be finished with colors and textures matching the adjacent background.

While considerable cutting and patching has been required to replace the third floor construction and install and conceal electrical wiring, pipes and ducts of mechanical systems, the restoration of plaster and woodwork has been so carefully and sympathetically done as not to lose the patina of time and age, so important to such an aristocratic old building.

The AIA first rented the building in 1898 and subsequently bought it, under the presidency of Charles F. McKim, in 1902, primarily to preserve it from desecration by those many and diverse tenants whose appreciation and sensitivity for its historic value and architectural excellence seemed so conspicuously absent. The architects not only preserved it but put it to work on a useful purpose. Now, in a final beautiful gesture, the AIA Foundation has restored it as a house museum, with the hope that this will insure its preservation for all time and secure it as an important national monument and an example of the very best in the Federal style of architecture.

The Octagon is a fine work of art and deserves all the love, respect and shield of protection we can, and surely must continue, to provide. □



The Spitznagel Partners Inc. in Sioux Falls, South Dakota, adds to its architecture an element to enhance: art; and to its everyday work one to thrive on: fun.

Practice Profile

Ingredients for a Practice with Pleasure

Spitznagel. Mention the name and it brings out a smile. It makes those who know him remember a joke or a jest or a quick witticism.

No wonder. Fun is a byproduct of The Spitznagel Partners Inc., Sioux Falls, South Dakota. Take the time when Harold T. Spitznagel, FAIA, founder of the firm, came home from one of his grand gourmet tours of Europe to find his office building turned filling station. Outside, his partners by bright red gas pumps busy checking a car, huge banners announcing free prizes, multicolored streamers flapping in the wind, tires and oil cans in neat stacks.

Turned out his partners had ganged up with a new tenant, an oil company by the name of Skelly, to gather the necessary paraphernalia. It took Spitz (as everyone knows him) a day or two to recover from that one.

But behind this fun facade is a hardworking, serious firm indeed—serious in its conviction that architecture must be based on logic and honesty when it comes to both design and economy.

"Too often," says Spitz, "the architect's design is selfish. You have to put yourself in the place of the client, know what his needs are. Good architecture isn't necessarily only photogenic. Logic isn't. And you have to realize your client's financial situation. Budgeting is a matter of discipline."

In a region not known for extravagance, the Spitznagel firm has had to live up to this type of discipline, sometimes, in fact, straining along with the client's shoestring budget.

But no matter how tight the budget, it is—and it has been since Spitz founded the firm 40 years ago—a matter of policy to

suggest that, where desirable from a design standpoint, 1 percent be set aside for interior or exterior art.

Spitznagel structures, sparse and strong as the Midwest landscape they now dot from South Dakota to Illinois, are witnesses to the success of this custom. Art, so the partners are convinced, is essential, especially in a climate where there's little freedom of design (the temperatures range from -30 to $+100$ degrees; add to that snowstorms and duststorms), where landscaping takes years and where the cost of a building is all-important. Sometimes, even at the client's directive, expense is kept down at the cost of later expensive maintenance.

"It has in a sense," comments Spitz, "been a way of educating people. But it has been a rough row to hoe at times."

Another rough area is interior design, regarded by the partners equally as important as art to the complete design. But the firm isn't always able to sell the client on the idea that it should have control of the interior furnishing and artwork and sometimes, even when a building is turned over as a complete package, the client may add his own unwelcome doodads. Spitz is quick to point out those *not* from the Spitznagel interior designer.

A full-time interior designer was added to the firm's staff 20 years ago, in line with its goal of supplying the client with complete services. For, as Spitz sees it, it had become impossible then, and is even more so now, for one man to master technology, management and design.

Spitz himself was very much wearing the three hats of technologist, manager and designer when he first set out in business for himself. After attending the Chicago Art Institute and the



University of Pennsylvania he decided to return to his home town, Sioux Falls. There he invested his \$20 capital and opened his own office (rented for \$15 a month).

But that was back in 1930 when life was simpler and an architect's practice was less complex. The bookkeeping, for example, for Spitz' first project, to design a new front on a bakery, was quite simple: He received his fee in bakery goods.

The year, of course, was the beginning of the Depression and even to obtain a commission meant hard work. After a few residences, one of which found its way into the pages of *House and Garden*, along came the \$400,000 commission for Sioux Falls City Hall.

Spitz and the late John A. Schoening (who had joined the firm in 1932 and was to remain with it for 31 years) managed to clear the way into City Hall for three frescos in the Commission Room, as well as granite carvings over the entrances and limestone plaques over the windows. It marked the first major artwork provided with a Spitznagel design.

With World War II came a distinct lull, with Spitz as director of housing for a nearby 40,000-man army base and Schoening working for the Army Corps of Engineers. While the office door was unlatched, it was seldom entered by clients.

However, after the war the firm picked up the pieces and began a steady period of growth. "This," reflects Spitz, "is entirely due to my partners."

His five partners might possibly agree to this, at least if any significance should be read into another of their pranks while Spitz was away on one of his many trips abroad: They sealed and taped the doors to his office with gypsum board and repainted the wall, then sat back and enjoyed the sight of their completely bewildered general manager trying to get to his desk.

But the real significant data, the record showing how long each of the partners has been with the firm, is evidence that such camaraderie must be good. It also speaks of the firm's solid base.

"We have always operated on more or less a *dolce vita* principle, not as far as the client is concerned, but as far as the principals and our employees are concerned," explains Spitz. "I am sure that we could improve our efficiency immeasurably and it would result in greater profit. But I believe that there are other things in

life that are equally rewarding, for instance such a simple thing as taking time to enjoy life."

This does not mean that the firm has stagnated, on the contrary. It has used the services of a management consultant, and it has, as far as new equipment and methods are concerned, tried to keep up with every type of improvement and mechanical device to speed up production and has made every effort to systematize and reduce the time required to produce working drawings.

To cut the time for structural engineering and estimating, the firm has a teletype connection with a computer in Minneapolis. (Its use for mechanical and electrical engineering have so far not appeared economically feasible.)

When it comes to reproduction of specifications, the firm has moved from fluid duplicator (which Spitz refers to as the "spirit process") to mimeograph to offset to Xerox. This latter switch eliminated stencils and speeded up the process.

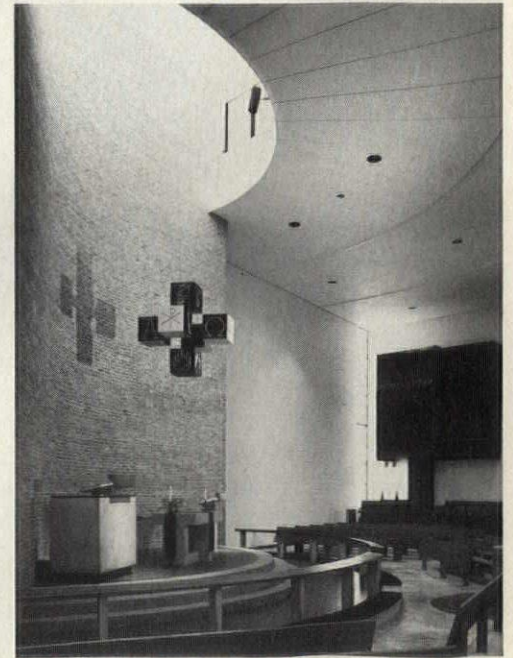
Another time- and cost-cutting device—for specification writing especially—is the MTST (Magnetic Tape Selectic Typewriter) which uses filed electronic tapes. This machine has been of invaluable assistance, according to Spitz, particularly when a job nears completion. Not infrequently it used to be that the specs would hold up delivery of the drawings, but not so anymore.

The MTST, Spitz insists, does the job of 1½ secretaries and he'll give the figure 33½ when asked how many persons the firm employs. The actual nose-count is 32. Recently, a branch office was opened in Rochester, Minnesota, which offers structural, mechanical and electrical design services exclusively.

Spitz himself has been with the firm, as he puts it, from the year 1; William E. Bentzinger, AIA, project coordinator, joined it in 1945; Wallace S. Steele, AIA, design coordinator, in 1952; David L. Rosenstein, chief mechanical engineer, in 1952; John P. Loveland, chief electrical engineer, in 1954; and Duane P. Paulsen, production coordinator, also an engineer, in 1954. Marvin Peterson, AIA, and Gene Montgomery, AIA, are the firm's two associates. It is his partners, Spitz insists, who do the bulk of the work these days, stressing that the last five years or so at least he has only played the role of a wheel horse.

The firm was incorporated in 1958. This, explains Spitz, was not necessarily done for the limitation of liability. And while it is

Main stairway in Augustana College Science Building, Sioux Falls, South Dakota, left, with Foucault pendulum over mosaic floor compass by Marjorie Kreilick; Trinity Lutheran Church, Spencer, Iowa, below, with suspended construction by Palmer Eide above the altar.



The Spitznagel partners: Bill Bentzinger, project coordinator, busy at his adding machine; Dave Rosenstein, mechanical engineer, explaining some of his problems to Jack Loveland, the electrical engineer; Duane Paulson, structural engineer, clasp- ing a set of specifications; Harold Spitznagel, FAIA, general manager (and AIA vice president, 1966-68) looking to Wally Steele, design coordinator, for advice.



A welcome home surprise to the general manager from his partners: the Spitznagel firm's office building disguised as filling station.

true that a corporation has numerous fringe benefits in the way of insurance, pensions etc., this was not a decisive factor either.

"I always had the feeling," says Spitz, "that the client dealing with a corporation felt that he was dealing with a somewhat more substantial and reliable organization than would be the case if it were just Smith & Smith Partners. This may or may not be true. But of one thing I am certain, and that is that if there is a transfer of ownership, it would be a much less complicated affair with a corporation than it would be with any other form of agreement among principals. In addition, few of my friends have ever spoken favorably about partnership. By incorporating, we avoided the pitfalls of such an arrangement."

The incorporation then, it could be said, is an insurance for the future of the firm and its staff: a future which will become increasingly complex and involved. It will, Spitz is certain, include

overall, long-range planning, feasibility studies, buildings constructed primarily for profit and, unquestionably, an increase in work wherein a venture will include not only the design but the construction of the building.

During the last decade the Spitznagel firm has designed 223 projects, with educational facilities rating first both in earnings and in number.

Recently, housing projects have taken a sharp upswing in the firm. Six months ago it earned two commissions for a total project cost of \$2.5 million for turnkey housing for the elderly. The project cost includes land, site improvement, landscaping, construction, architectural/engineering services, interim financing as well as developer's fee and overhead.

The designs that won the two turnkey projects for the firm were based on pure logic. The partners set out to study similar



The Spitznagel office interiors are changed on an almost regular basis. The most recent has wall background of white with super graphics in yellow, blue and orange, tangerine carpeting and dark stained oak doors. Graphics leave no doubt for visitors where to find what.



projects in the area and found two quite divergent approaches in design concepts. Explains project coordinator Bentzinger:

"One was to group the apartments as tightly as possible around a minimum central core with emphasis on overall height, and we found that the elderly loved the experience of living up in the air. The other was to group the apartments around an enclosed atrium or forum with emphasis on year-round communal type living. After an unusually severe winter the latter approach had particular appeal to us, and we went after our first venture with this concept.

"Although we lost to a highrise building proposal, we found that our design did have a lot of appeal to the authority; so on the next opportunity we decided to stick with it. Of course, benefiting by constructive criticism and also becoming more knowledgeable, we polished up both the design and the proposal. This time we got our first commission of this sort, in Luverne, Minnesota.

"Shortly after that, Pipestone, Minnesota, invited proposals and since they are only 30 miles from Luverne we guessed—and rightly—that they would be looking for a solution that might contrast considerably from their neighbors."

Two area builders were the Spitznagel firm's partners in these ventures, the Christensen Corporation of Luverne, Minnesota, and the Welf Construction Company of Yankton, South Dakota.

"They have done excellent work for us in the past," says Bentzinger, "they both participated in design critique sessions on these two new projects, and we feel they contributed greatly in the creative control of the building cost."

Spitz at first voiced apprehension about investing the time and expense it takes to bid on the turnkey projects, being used to see the work come in as the result of personal friendship, from references by satisfied clients, or from the firm's own efforts to

follow up prospects once one of the partners learns about it. Honor awards, incidentally, of which the firm has won a number locally as well as nationally, have been found of little help. And, says Spitz, "we have never relied on political or fraternal connections. It simply isn't our bag."

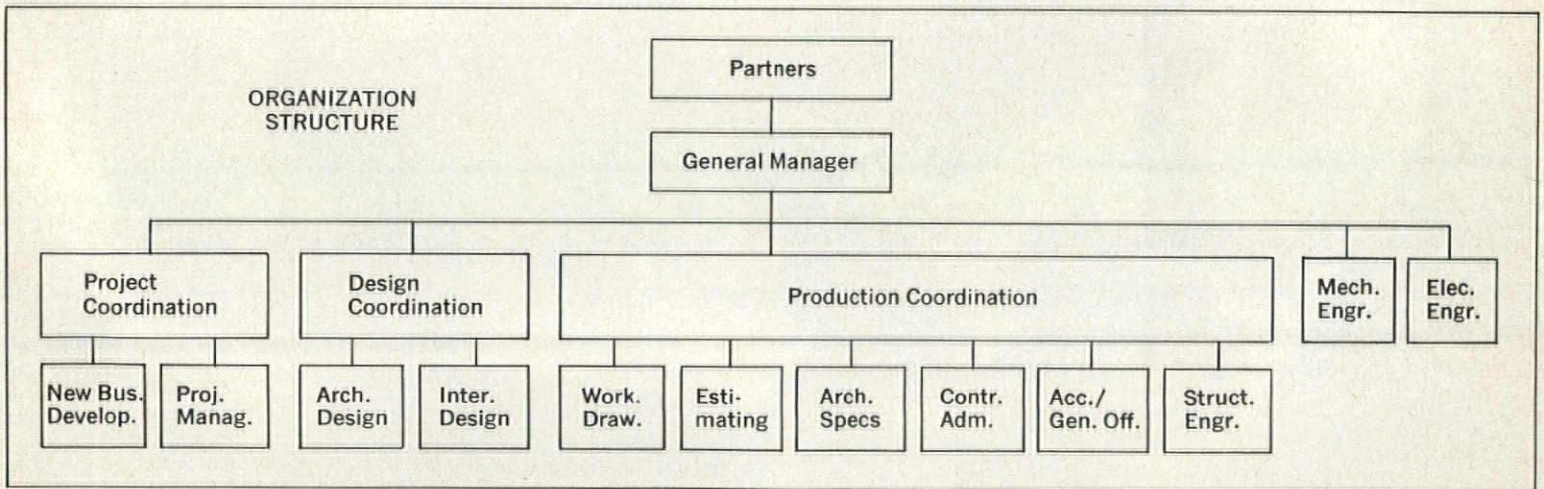
Another reservation in Spitz' mind as far as the turnkey projects were concerned was the implication of a second-rate structure that the term suggests. But, in the long run there is only one drawback as far as Spitz and his partners are concerned: Neither building budget has a penny allocated for art.

Even on the tightest of projects has the firm managed to include art in some form. Take, for instance, the Trinity Lutheran Church in Spencer, Iowa, finished in 1968 and built for \$267,545, or \$16.75 per square foot. The major requirement was to enable the congregation to gather around the altar, and around the altar is where the modest, but effective art is concentrated.

"However," says Spitz, "when it comes to churches, the artwork is very often a labor of love. We have in some instances been able to obtain it for as little as \$500, while in other instances it has cost as much as \$35,000."

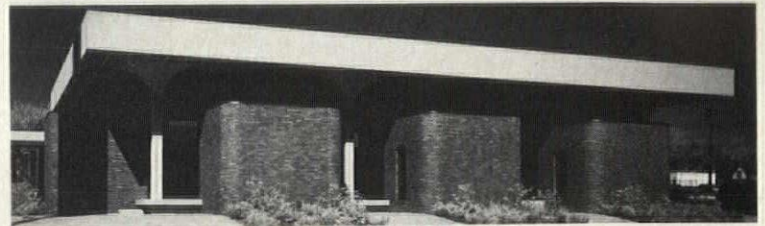
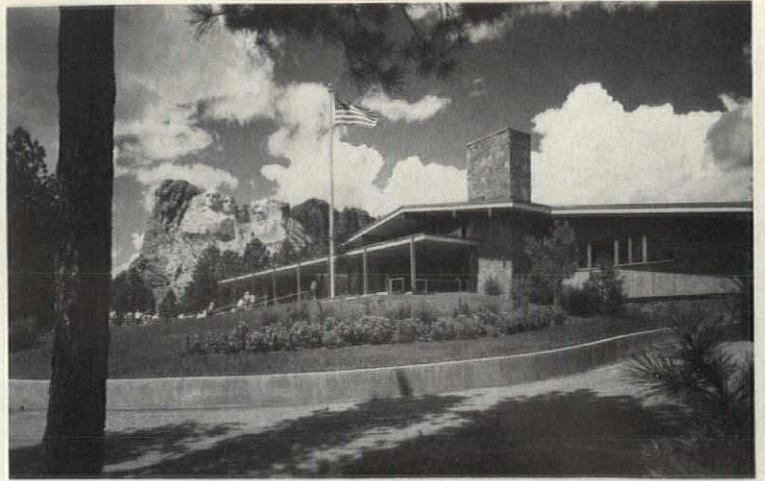
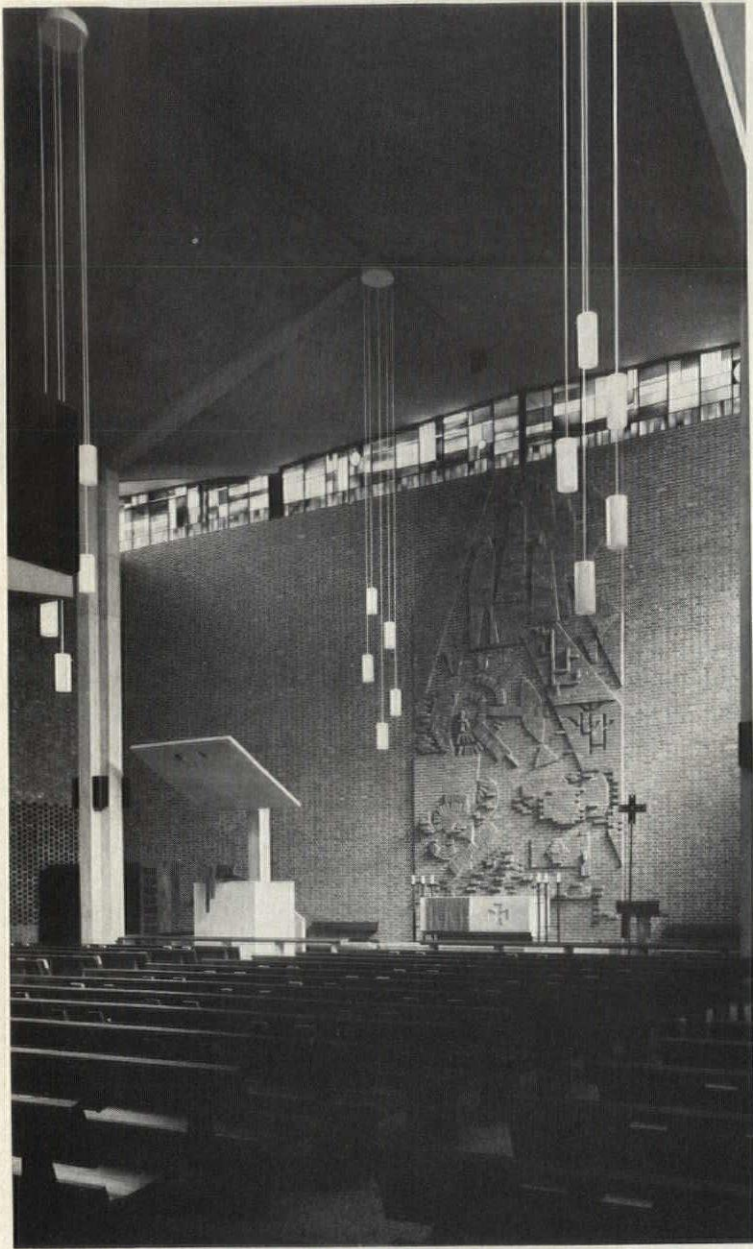
Silk screens, etchings, lithographs, ceramic tile, even just handsome posters, have been used in Spitznagel buildings. In a small drive-in branch of the Northwestern Auto Bank in Sioux Falls a George Tsutakawa fountain adorns the center hall. The First Lutheran Church in St. Peter, Minnesota, has a huge brick bas-relief—part of the wall—behind the altar. The Science Building of the Augustana College in Sioux Falls has a Foucault pendulum swinging over a mosaic compass in the well of the main stairway.

And—what else could be expected—artwork is very much a part of the Spitznagel offices. When the firm's two-story building was new 21 years ago, the ground office was rented out. Today,

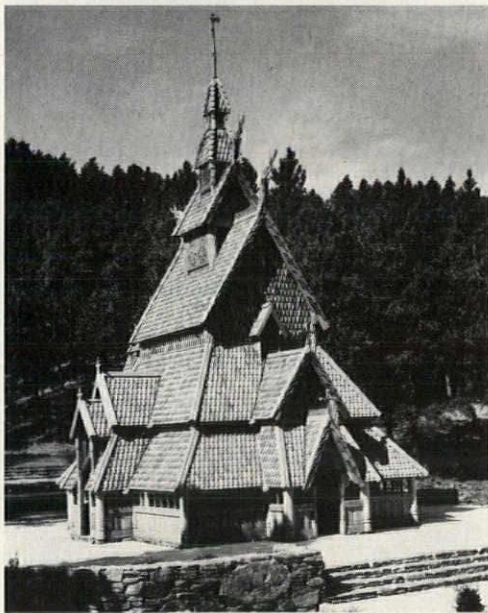


STAFF BREAKDOWN	
Principals	6
Structural Engineers	3
Mechanical Engineers	3
Electrical Engineers	2
Engineering Draftsmen	1
Architectural Designers	3
Architectural Draftsmen	5
Specification Writers and Cost Estimators	1
Construction Inspectors	3
Accountants-Secretaries	5
	32

PERCENTAGE ANALYSIS OF YEARLY BILLINGS BY CLASSIFICATION										
	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Housing	40.6	6.6	38.1	16.8	7.5	11.5	29.4	3.9	37.1	39.9
Educational	16.8	44.1	19.8	30.1	35.0	46.0	39.2	31.7	47.5	7.7
Religious	15.4	.....	.....	15.0	7.5	6.1	11.9	31.1	13.1	30.8
Medical	19.0	6.1	18.3	21.7	.....	5.3	.4	.4	.7	1.7
Commercial	8.2	6.1	23.8	8.9	37.7	11.8	7.8	28.7	.8	7.8
Industrial	.....	3.6	.....	4.1	4.7	.....	4.1	.....	.3	2.4
Public or Government	.....	33.5	.....	3.6	7.6	19.3	7.2	4.2	.5	9.7



Northwestern Auto Bank, Sioux Falls, South Dakota, below left, with fountain by George Tsutakawa; and, clockwise, First Lutheran Church, St. Peter, Iowa, with brick bas-relief by Robert Aldern; Visitor Center, Mount Rushmore, South Dakota; First Federal Savings & Loan, Sioux Falls, South Dakota; turn-key housing projects for the elderly in Luverne, Minnesota, and in Pipestone, Minnesota, with the emphasis on overall height.



Borgund Stavkirke, Norway, built in 1150, and replica, Rapid City, South Dakota, built in 1968. The latter is without doubt the Spitznagel firm's most unique commission.

the firm requires full use of both floors as well as the basement. On an almost regular basis the quarters are overhauled, and the interiors and the art changed.

But, while the partners don't have to live with the art in their offices for very long, they certainly are stuck with their architecture. For although the bulk of their work has been in outlying areas, locally there are a half hundred buildings that they could bump into any day. These include a post office, banks, a zoo, the YWCA and the municipal swimming pools, a sports arena (which Spitz says is well suited to his present interest—spectator sports), colleges and schools and a number of private residences. All of these structures, since Sioux Falls has only a population of 70,000, are naturally within a short radius.

But Spitz, for one, seems to enjoy living with these buildings so close. Apart from the fact that he can see the evidence of his share of shaping the city where he grew up and where his father, a baker, once used to walk around carrying a basket of bread on his head, he comes back to the buildings with an analytical mind, re-evaluating each.

Of one thing he is convinced: That the architect must assume his rightful share of responsibility for the final product. This made it clear to him early in his career that the moment an architect recognizes an error, he should take immediate steps to correct it or it will multiply. It's just no good trying to patch it up. "That," says Spitz, "is like hoping for the best while putting on a Bandaid to cure cancer."

Only one of the firm's local projects draws somewhat wistful glances from Spitz. Driving by one residence, he is apt to shake his head a bit ruefully since it reminds him that the firm took a \$2,500 loss on it in 1960. The contract agreement was that the work should be on an hourly basis or for a maximum of 10 percent of the total cost, whichever was lower. But as it turned out, the hours spent could only have been covered by a fee of 12½ percent. This case most certainly adds to Spitz' belief that architects should get away from percentage fees, a belief he has long advocated. A far better method, he holds, would be to bill the client precisely for the services rendered. (To this end, he would use AIA form B211.)

The money involved is not Spitz' main concern, but rather the archaic method of compensation. For there are other cases where hard work and long hours have been put in for a relatively small cash return. Take all the Spitznagel-designed churches.

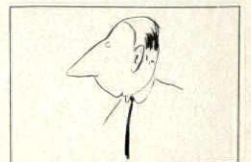
"Maybe we have designed too many churches," Spitz says pensively (24 during the last decade). Most of them have been on very strict budgets. But that again, he admits, is part of the fun and the challenge.

The most unique church commission—and no doubt the least remunerative—came two years ago from the Lutheran Vespers, a radio evangelism arm of the American Lutheran Church near Rapid City, South Dakota: to make a replica of one of the oldest timber buildings left in the world, an all-wood, handcarved Norwegian *stavkirke* or stave church, dating from 1150.

To copy the old structure required extensive research and a frustrating but still interesting trip to Norway for Bentzinger, who after much work finally obtained usable, freehand drawings of the church from a Norwegian architect.

The Rapid City church which was constructed on location with West Coast Douglas fir but has interior and exterior carvings from Norway, was built for \$150,000. All of which goes to prove that the pleasure of work and enjoyment of life is part of the Spitznagel package.

BESS BALCHEN





by MAURICE PAYNE, AIA

'A Common Determination, a Positive Influence'

From the moment the seven US delegates to the assembly meeting of the International Union of Architects arrived at the Buenos Aires International Airport, they experienced spirited Argentine hospitality.

To begin with, their hosts brought off a minor miracle by persuading the government to waive all custom and immigration formalities. This was accomplished for all delegates—115 in all—including those from several countries not diplomatically recognized such as North Korea and Cuba.

After an *asado criollo* (native barbecue) at a nearby restaurant, the delegates were put aboard chartered jets and transported 1,000 miles across Argentina to San Carlos de Bariloche. High in the Andes and right at the Chilean border, Bariloche is a world transplant from the Alps, complete with Swiss chalets.

There, during the week of October 13, the assembly met to review and adopt, with minor revisions, a new set of statutes and bylaws and to elect a slate of officers and council members to serve until 1972.

Ramon Corona Martin, Hon. FAIA, of Mexico City was named president. Daniel Schwartzman, FAIA, of New York City, representing the Americas, was picked as one of four vice presidents. The other three: Luis Arizmendi of Spain, representing western Europe; Gueorgui Orlov of the Soviet Union, representing eastern Europe and the Middle East; and Jai Rattan Bhalla of India, representing Africa and Asia-Australia. Gontran Goulden of the United Kingdom was re-elected treasurer. Henri Edde of Lebanon was named secretary-general, succeeding Pierre Vago, Hon. FAIA, who had served tirelessly in this post since the founding of the UIA in 1948.

In other actions the assembly admitted Ecuador, Pakistan, Paraguay and Bolivia to full membership; approved a three-year

budget and preliminary program for the 1972 sessions in Bulgaria; and accepted an invitation to meet in 1975 in Venice and Madrid.

Returning to Buenos Aires, the assembly delegates joined over 30 others from the United States for the opening of the 10th World Congress itself. A total of 3,500 architects—2,000 Argentines and 1,500 from 75 other countries—gathered to consider the theme "Housing of Social Interest."

It should be noted here that while the Bariloche meeting was taking place, the architectural students were holding their own world meeting in Buenos Aires (report follows). The "confrontation" Latin temper of the latter carried over to the congress, resulting in an on-the-spot revision to the meeting format.

Originally, the program called for only plenary sessions (single sessions with all attending) where housing projects were to be presented, followed by written questions to be answered as time allowed. The pleas for the format change were based on the desire for more informal interchange of views, "for architects traveling around the world, why have such a format that could be accomplished through the mails?"

A compromise was reached which allowed the delegates to attend a formal presentation or to participate in one of four informal discussions. When the logistics were worked out, the congress settled down to business.

At the closing session, the delegates adopted the following resolution, incorporating the numerous views but showing singular concern for the world's housing situation:

Proper housing is as important to all mankind as is their right to have proper food, health and education.

The architects of the world are fully aware of the need for proper housing in their respective countries and the inequities

continued on page 46

THE UIA COMES OF AGE

In 1948, representatives of the architectural societies of 23 nations met in Lausanne, Switzerland, to found L'Union Internationale des Architectes or the International Union of Architects (UIA). Today, 21 years later, the number of countries represented is 77.

Ten World Congresses of Architects have been held with the participation rising from 600 to more than 3,000 who assembled in Buenos Aires in October 1969.

Over 110 meetings have been held in all parts of the world by the UIA Working Commissions on Housing, Town Planning, School Buildings, Sports and Recreation Facilities, and Professional Practice.

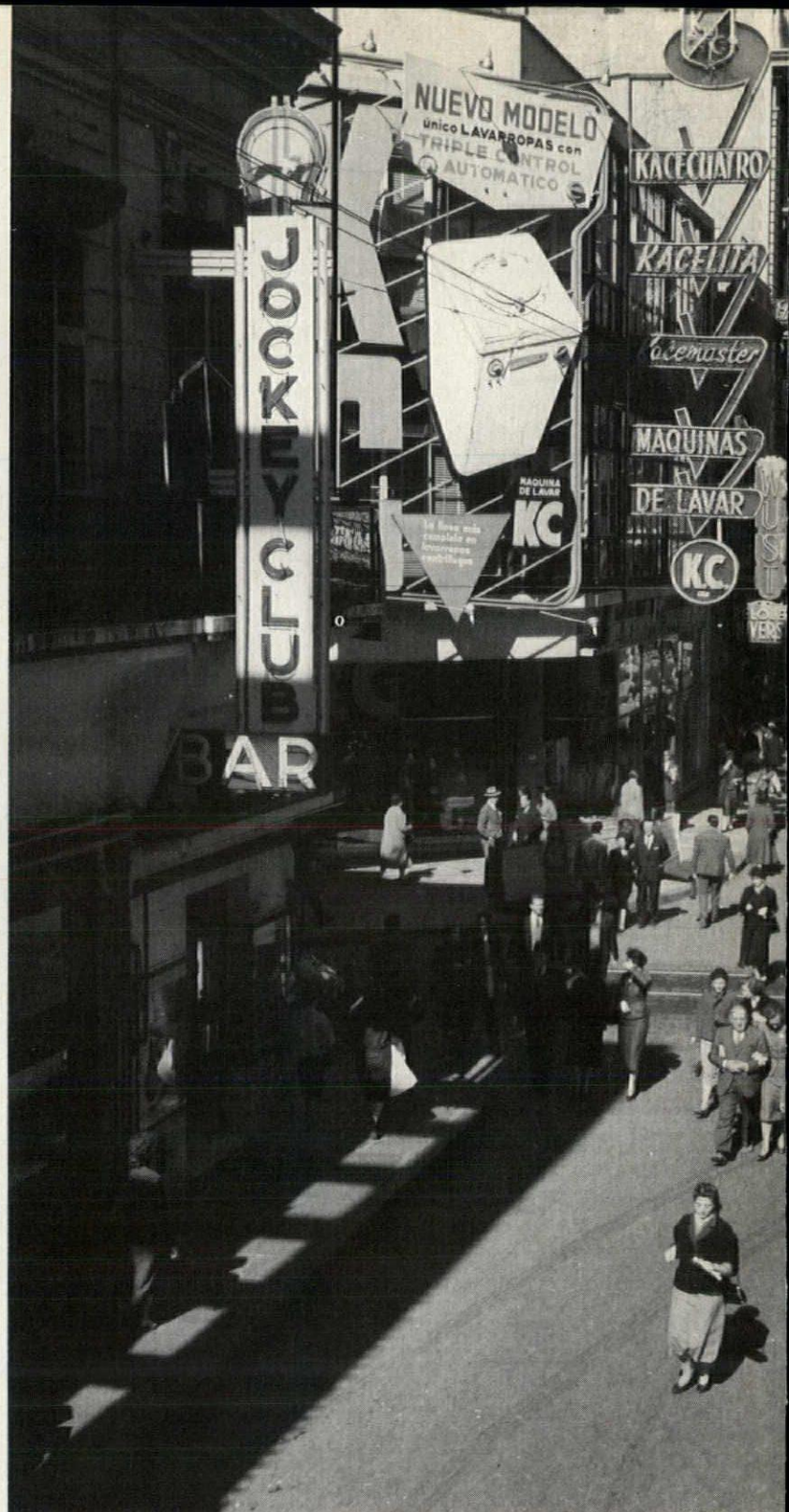
The UIA in the last 21 years has been the sole official representative of the architectural profession to the United Nations, UNESCO, World Health Organization and other intergovernmental organizations.

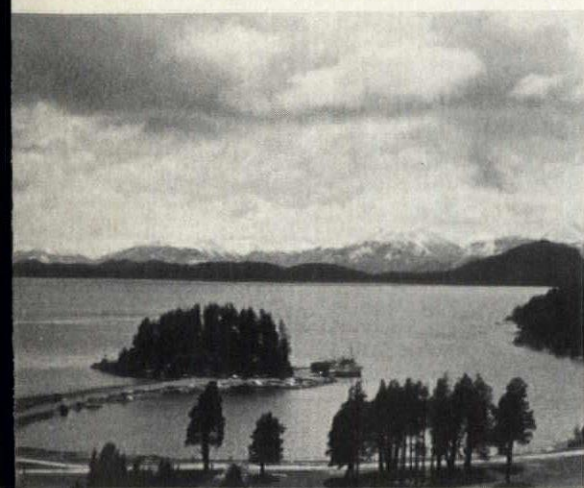
Administration and regulations for international competitions have been established within UIA that are accepted by all member nations as well as UNESCO.

Two UIA meetings have been held in the US in recent years: the School Buildings Commission in San Francisco in 1966 and an industrial architecture seminar in Detroit in 1968. This coming fall the Town Planning Commission has been invited by the AIA to meet in Washington, D.C.



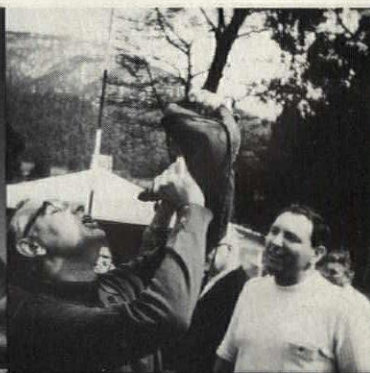
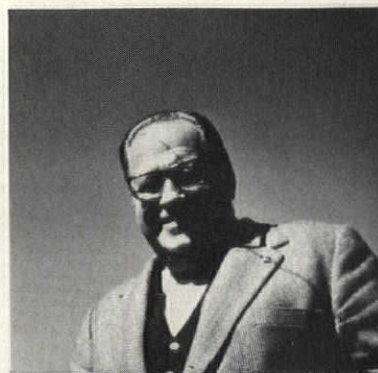
The Places: Bustling Buenos Aires, with more than 8 million population, plays host to the World Congress as the architects delight in the old quarter. Bariloche, site of the earlier UIA Assembly, provides a picture postcard setting with its many chalets and Lago Nahuel Huapi.





U.I.A.

The People: The official US delegates include three AIA Fellows: Daniel F. Schwartzman, newly elected UIA vice president for the Western Hemisphere; Institute President Rex Whitaker Allen; and George Vernon Russell. Scenes below show incoming UIA President Ramon Corona Martin of Mexico City relaxing between assembly sessions; Secretary-General Henri Edde of Lebanon tasting wine from a flask; Allen enjoying a view of the Andes from the ski lift; and visitors relishing a native barbecue. Other delegates: Mario C. Celli, FAIA; Dean F. Hilfinger, FAIA; Roger C. Mellem, AIA; Maurice Payne, AIA.



which exist in their varying degrees of advanced planning, as well as the need to establish a legal definition of minimum standards of habitability. There is also deep concern about the gap between incomes on the one hand and the cost of housing on the other, as well as the need to remove the impediments to the availability of land for housing.

There is a vital interest of the United Nations in the field of housing, building and planning as expressed in the opening of this congress by Adolph Cibrowski, the personal representative of U Thant, Secretary General of the UN, inviting all national sections of the UIA to cooperate in providing essential information on low cost housing projects designed in their respective countries.

The need for the fullest technical collaboration and exchange of information on scientific research and the education of architects is recognized.

Therefore be it resolved, That the UIA urges the architects who are members of its national sections to do everything in their power to join with other professional disciplines to assist their respective national and regional governments to adopt the strongest possible housing policy of the highest priority which can produce the greatest number of housing units, in the shortest possible time, in accordance with the best principles of planning of the total environment, including their social and financial aspects.



CONFRONTATION IN BUENOS AIRES

Nicholas Fusco, enrolled in the Department of Architecture at Carnegie-Mellon University, Pittsburgh, reports on the student sessions which preceded the UIA Congress.

The controversy brought to the UIA Student Congress in Buenos Aires by Argentine students provided a stimulating injection to an otherwise dry affair. The congress was, in fact, more Latin American than anything else; specifically it was a grandstand for the Argentine students (most of them from the University of Buenos Aires, which has about 7,000 in architecture).

The congress went beyond a conventional congress, not because of all the usual talk but because of the activity, the almost physical efforts by the Argentines to restructure and reorganize the congress. By venting their internal problems they brought something real to the attention of the congress. That something was student problems, which was of almost universal interest, for most of the people there were students.

Of the three official congress themes—social environment, housing and student problems—the theme we understood best was obviously the latter. As far as social en-

vironment is concerned we could talk all day and say what we know in five minutes. And housing is just too big! Students do not know enough about housing to talk at length, but they do know about places like the slums (*visas miserias*) around Buenos Aires. And that makes the problem of housing too immediate and complex to talk about—we felt uncomfortable knowing that the congress would be just a lot of talk without action. In addition, the panelists invited by the secretariat were not the people who might answer concrete questions about housing. That is not to criticize them—they were just the wrong men for that theme. The recourse was clear: The students discussed student problems.

Briefly, what happened was that the Argentines broke into two groups: pro-secretariat and anti-secretariat. By its actions, the secretariat seemed to appear as a tool of the government, and therefore a display against it was regarded as a display against the government. So the “anti” students wanted to change the whole program and relocate the congress from the government facility to the school of architecture.

The possibility of change and the confrontation with the government excited everyone.

Perhaps Sir Robert Matthew of London, a past president of the UIA and an Honorary Fellow of the AIA, pointed out the highest objectives of the world organization when he made this comment:

“It has always been the wish of the national sections who make up the UIA to come together in a common meeting place; to bring together architects face to face in a friendly way, who otherwise would never meet. We have done this continuously over the years in spite of world situations that throw people apart and divide the countries of the world.

“Let us never forget that we as architects have a common determination that is much stronger than all these stresses and strains that continue to tear the world apart.

“We are a union, I believe, a positive influence for peace in a divisive world situation.

“I would ask you all, when you go home, in your national sections, to consider, in relation to your own resources (and some of these we know are very small) not only what you can get out of the union but, even more important, what you can put in, for the good of humanity.” □

Mr. Payne is director of Building Design Programs for the AIA and staff executive to the Committee on International Relations.

When the congress opened it was with a very real problem at hand, involving everyone and forcing activity. Everyone was talking, soliciting opinions and discussing the merits of the issues. The excitement over a tangible student problem (made more tangible by the ever-present police and helmeted tactical police) brought people together to exchange thoughts. Otherwise they would just have listened to a week of lectures.

Although no conclusions were reached or no ultimate solutions arrived at, because of the problem and the encounter, considerable exchange was propagated among the students, exchange that proved more enlightening in each case than the whole congress.

The resolution of the problem came in the form of two separate congresses: one secretariat-sponsored, one student-sponsored. The split terminated the activity along with the problem. The level of excitement nose dived, and both congresses settled into the rut of lectures which said nothing. Fortunately, exchange did not stop, but it also nose dived proportionately to the activity.

The school of architecture at Buenos Aires was closed by police on October 19 and was still closed a week later. □

Office Machines That Do More Than Type

by JAMES SWACKHAMER, AIA

Not the least of the problems facing architects today is our lack of efficiency in the work we presumably do best: the production of design and contract drawings and documents.

Much of the blame for a production record that is generally weak whether measured by gross income per man-hour, net profit to the firm or by some other method, can be laid to poor business practices. But much of it is also attributable to an underutilization of modern business equipment and systems.

As both the general and architectural press have forcefully brought home to us, the computer is by far the most modern and flexible of office machines. We know, or at least sense, the computer's great usefulness and even greater potential in architecture. Against this impressive technology, a discussion of the application in architecture of mere "business equipment" or "office machines" seems mundane. Yet these "lesser" machines and systems happen to be more immediately applicable—and profitably useful—to today's practice.

Office machines and systems have been developed with users other than architects in mind, this for the reason that architects constitute too small a market to justify deliberate manufacturer accommodation. To some architects, this is a circumstance of no importance; to others, the adaptation of the equipment for architectural use is seen as requiring a degree of ingenuity and, in certain cases, further stimulus from the profession. This is particularly true with automated equipment and systems.

Let's consider some ordinary office equipment that has a direct bearing on production—we'll leave aside administration so that we can concentrate on production—and which seems to have a potential for increasing our efficiency. The machines and systems will be grouped in terms of their application to standard architectural functions.

General Office Work, Specifications

1. AUTOMATIC TYPEWRITERS: For specification writing and production this equipment is both a machine and a system. The machine combines a typewriter which types in response to instructions fed into it from a memory source (magnetic tape or punched paper tape, usually). The system is outlined as follows:

A master specification is prepared (usually from cutups of the firm's existing specifications) and after organization and indexing is transferred to the memory source together with instructions to the typewriter.

When a specification is to be prepared, the operator is given an annotated index and has the machine type a draft containing the desired paragraphs.

The draft is altered, if necessary, to suit the particular project; new paragraphs are inserted and the modified draft is returned to the operator.

The operator then has the machine type the selected master paragraphs, stopping as required so that special paragraphs for that project can be typed in manually. The machine will type on any standard stencil or paper, furnishing the finished master.

For a firm that has a significant volume in similar projects, the increased productivity potential for both specification writers

and typist is readily apparent. The same increased productivity is gained in typing form letters.

The drawbacks or limitations include the need to train an operator who is intelligent and capable and who likes to use the equipment; the need to have a reasonable volume in similar building types (houses, schools, apartments, etc.) so that the master specification or specifications are fully utilized (since they are expensive to prepare and update); and finally the need for a sufficient volume of work for the machine to offset its cost by the increased efficiency of the spec writer and typist.

2. REPRODUCTION CENTER: A major breakthrough has been made with the introduction in recent years of single machines which function as copier, duplicator and collator. Like the automatic typewriter, these machines have hidden values for specification preparation: The masters can be original material typed on ordinary bond paper, previously typed or duplicated pages of material or paste-ups. Corrections or changes are easily made with tape or pasteover.

In its speed of duplication the machine rates no more than average (40 to 60 copies per minute), but the equipment has the great advantage of collating the material at the same speed. Real automation has been achieved with an automatic feed system so that an operator can dial the number of copies needed, load up to 125 masters, turn on the machine and walk away.

To determine its value to a particular office, do not overlook the tremendous saving of labor in both typing and production and the increase in production that is possible without a corresponding increase in staff. The same capabilities exist for preparing reports, job meeting minutes, etc.

The limitations or drawbacks of these machines include a ceiling on the number of copies that can be collated automatically (50) and the need for sufficient volume to make the machine economically feasible. Their cost is most economical when there is a high volume of units with 20 copies or more.

3. STENCIL OR MASTER PREPARATION: A number of machines produce stencils or spirit duplication masters from drawn, typed or printed copy. Basically such machines can be broken into two distinct types according to the nature of their process and product:

Electrostatic stencil machines produce a mimeograph stencil by reproducing the copy desired on the stencil with electrostatic holes. The stencil produced is clear and fairly sharp in detail and has a longer life than ordinary stencils. It also has the advantage of producing stencils of line drawings, sketches, maps or graphs in addition to ordinary typed copy. Machines are available that permit a variety in the intensity of the electrostatic holes, thus permitting greater or lesser density in the final product. This is particularly useful with sketches or line drawings.

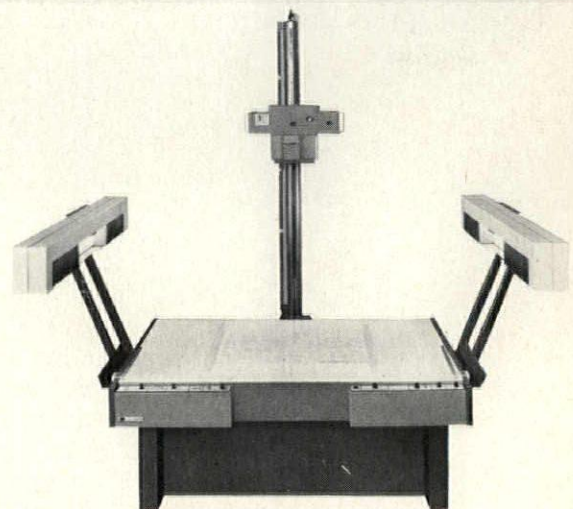
Heat-produced duplicator masters can be had from several makes of copiers or from special units designed for this purpose. They produce a master from any typed or drawn copy for spirit duplication. The quality of the product varies with the quality of the master used. In addition, these machines may be used to produce transparencies for overhead projector use. Business supply firms can usually supply electronic stencil cutters when only occasional use is required. If the machine is used frequently the cost of purchase (from a few hundred up to \$2,000) is justified.

4. DUPLICATION MACHINES: There are three general types of duplication machines in addition to the ones mentioned earlier, each having distinctive characteristics, advantages and disadvantages. The three types are:

Mr. Swackhamer, a member of the AIA Production Office Procedures Committee, is a partner in the Somerville firm of Scrimenti, Swackhamer & Perantoni and a past president of the New Jersey Society of Architects.

Spirit duplicators: The process here is one in which a dye from a backing sheet is transferred to the back of the master by the pressure of a typewriter key or a stylus. The master operates on a drum which applies pressure through rollers to the duplicating paper after passing over a wick full of dye-solvent alcohol. There are several colors available but the most common (and longest lived) is the familiar, distinctive purple. Black stencils are now available as well. Machines come with varying drives, from manual through electrical. The ultimate has an automatic feed operation, a counter and a preset control for the number of copies desired. The principal advantages of spirit duplicators are an inexpensive master and papers, easy typing and corrections and relatively good speed. For low volume work it is the most inexpensive duplication process, both in terms of machine cost and upkeep, stencil cost and paper cost. Disadvantages are a short-lived master (75-150 copies), short master storage life and purple fingers.

Mimeograph: A duplicating process using liquid or paste printer's ink. The stencil (which prevents the pass-through of the ink) is cut by typewriter or stylus. The master fits over a drum with an ink feed, and the ink, available in many colors, is pressed through the stencil onto the paper. The machines come with fully automatic feed, drive and counter, and have good speed. Advan-



tages are a good, dark duplication, permanent copy and a long-lived master (good for several thousand copies). Disadvantages are an expensive master, more difficult typing, correction and proofreading and wear on the typewriter—the typewriter's platen or roller is cut by the pressure required to cut the stencil.

Offset Printing: Here the equipment is sophisticated and ranges from the office-size to commercial machines of high capacity. An actual offset printing process is involved even with the office-size machines. With its metallic or paper masters and use of printer's ink, offset is much like the mimeograph process. Its advantages are clear, sharp, professional reproduction, high speed, almost unlimited master life, a high degree of automatic operations and the capability of enlarging or reducing original copy. Disadvantages are high machine cost, high master cost and the need for a well-trained, semiprofessional operator. Many firms, lacking an extremely large volume, find that offset work is less expensive if done by an outside printing service.

5. COLLATORS: Collators come in several categories, beginning with manual machines and progressing into high-speed automatic equipment. For office use the most feasible and practical are either manual collators that are very efficient or simple, electrically powered machines. Most have a series of slanted boxes for 8½ x 11-inch sheets arranged in two vertical rows. Generally, they

collate up to 24 sheets at one time. While these machines do not compare with the high-speed automatic equipment, they are infinitely more efficient than any form of manual collation. They are also relatively inexpensive and of great value to any office.

6. MISCELLANEOUS: Though less directly related to production or automation, there are several other machines worthy of note:

Binding machines that both punch the holes and insert a plastic ring binder. They are valuable for professional working reports, programs, etc.

Electric joggers and staplers that speed up the production of any multipage report, conference minutes or other material that must be aligned before stapling. Electric staplers do a fast job.

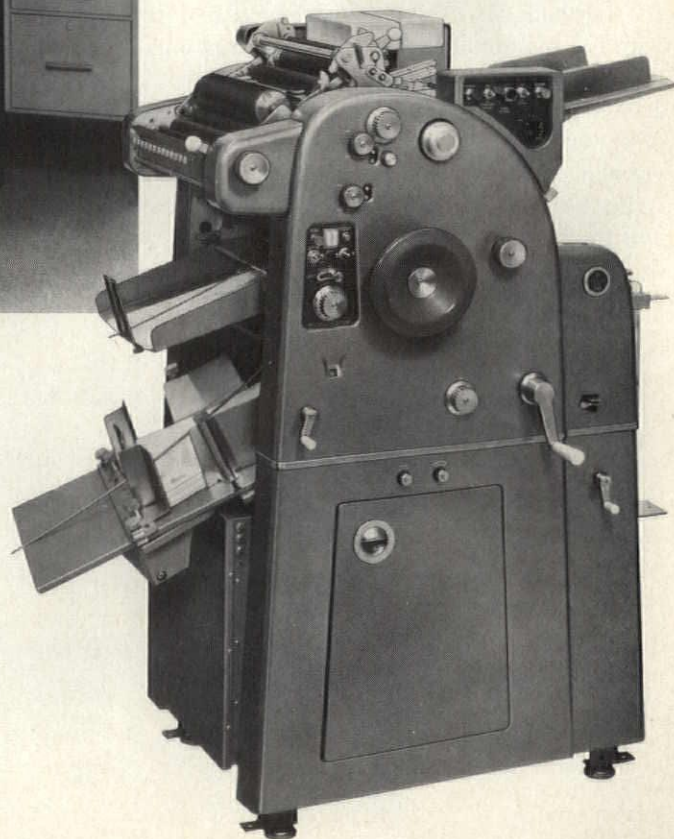
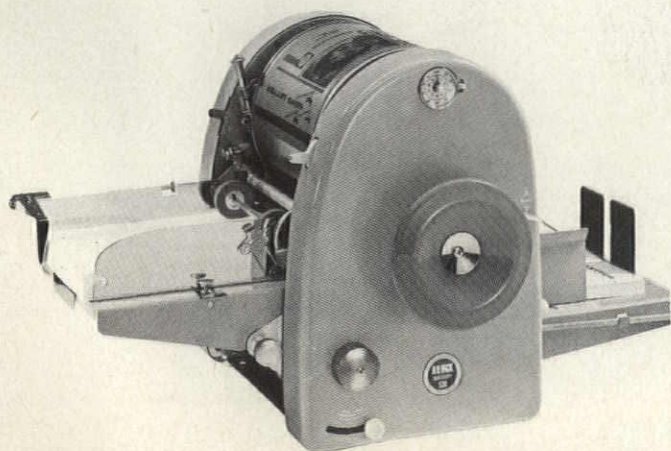
Manual or electric postage machines can be efficient time savers provided you have a significant volume of mail. These machines are available in a range of sizes starting with a simple letter postage machine and advancing to machines that fold and stuff letters, seal envelopes and imprint the postage.

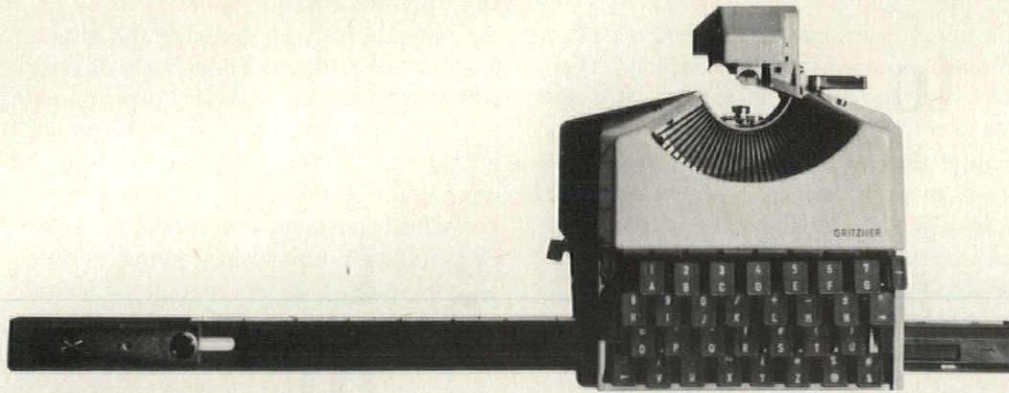
Working Drawings

1. FILMS AND FILM PROCESSORS: In discussing office machines and their products we are talking, essentially, about systems. The advent of high-speed processing machines has given importance



Collator-Jogger, far left above, Friden Division, Singer Company; Itek microfilm camera, far left below, Itek Business Products; Gestefax duplicator, left, Gestetner Corporation; stencil printer, below left, and offset machine, below, A. B. Dick & Company.





to the basic technique of "scissors drafting." Used in many ways, the essential structure of this system remains the same and is this:

Details or other graphic matter to be reused are cut out and assembled in the manner desired.

A negative is made in the processor and all extraneous elements or imperfections are painted or masked out.

The negative is used to produce a finished positive on polyester film or other material.

Additions or changes are then drawn on the reproducible positive.

Machines making this in-house system possible are produced by several companies. They are self-contained processors that produce negatives and/or positives on sensitized film at a rather fast speed. But they are quite expensive and their cost can be justified only by the largest offices; they are, however, generally available at most sizable blueprint houses. Compared with tracing or redrawing the equivalent matter, the cost saving of this system is substantial, whether done in-house or by an outside firm. The films available are too numerous to cover here, but they offer a wide choice in speed, drafting surface, etc.

The system is readily adaptable to the use of standard detail sheets which can be chosen, arranged as desired, and printed out with the remainder of the contract drawings. This offers several advantages over binding the same standards in book form.

2. TYPING MACHINES FOR DRAFTING USE: There are two kinds of machines available for use on large drawings. One, for which variable typefaces are available, is a standard composing typewriter fitted with an oversize carriage that can handle almost any size tracing. The other, a European-made machine, is mounted on a parallel rule, T square or drafting machine and types directly on the tracing.

When work is properly organized for their use, both machines can effect significant economies. Your technical personnel can increase their productive output and a lower-salaried employee (typist) can put on notes, titles, schedules, etc., at a much faster rate than by hand lettering.

The composing typewriter is relatively expensive (in the \$3,000-\$4,000 bracket), and while the imported desk type instrument is less expensive, it is not nearly as flexible. The size of your office, your ingenuity in the use of the machine and the degree of need for this capability in preparing presentation drawings, mounts or other work, are the determinants in selecting one.

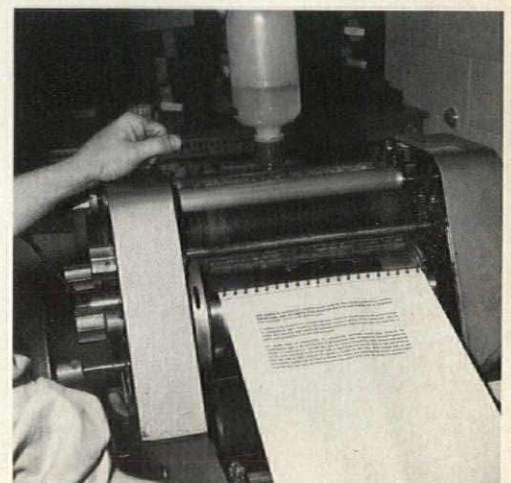
3. SURFACE COPIER: This machine is essentially a standard office copy machine designed to be used on large flat surfaces. It will copy an area of roughly a legal-size sheet, making copies on opaque or translucent paper or other material.

4. PRINTING MACHINES: There has been great improvement over the past 15 years in the manufacture of ammonia-developed white print machines for office use. While printing of multiple bidding sets of prints is almost universally cheaper when handled by commercial printers, the ability to produce your own check prints, prints for consultants, etc., is a must in any efficient office, whatever its size. A variety of machines, from desk-top models to high-speed printers, is available at prices any office can afford. The most efficient machines are those which print and develop in one continuous operation.

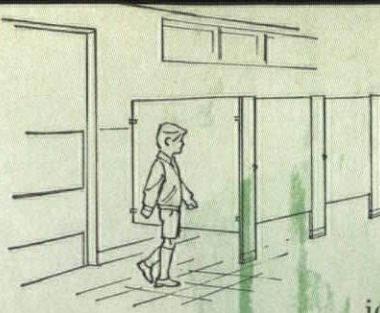
Bear in mind when selecting a machine that the greater the speed, the greater the saving in labor. This is of top importance to small offices which cannot support an office boy or print boy and in which printing is handled by the draftsmen. The price, therefore, must be carefully weighed against the degree of use and potential time saved. □



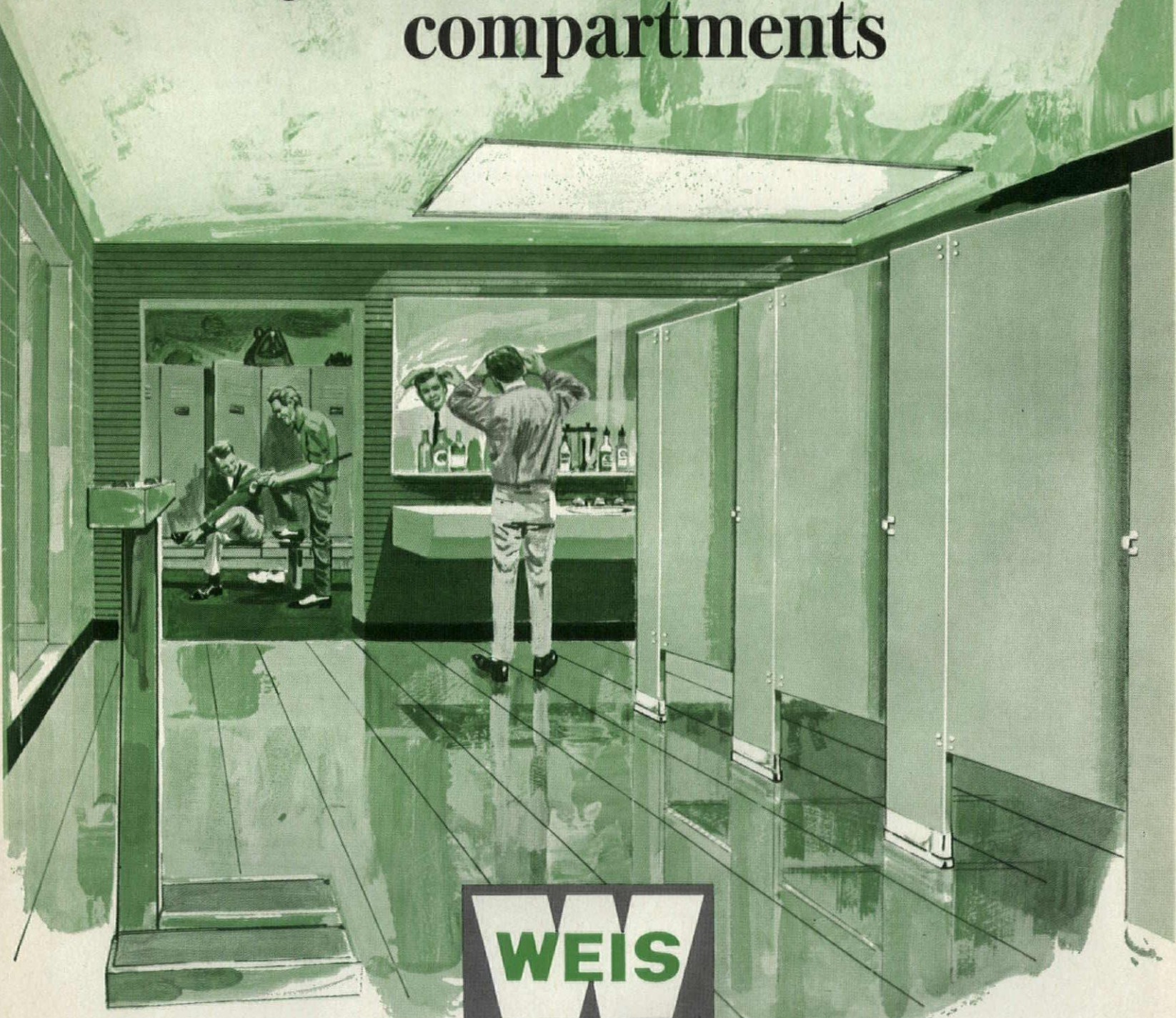
The Gritzner lettering typewriter, Gritzner Graphics, above; IBM Magnetic Tape "Selective" Composer and offset duplicator, International Business Machines.



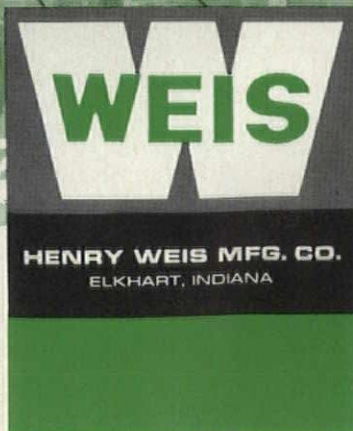
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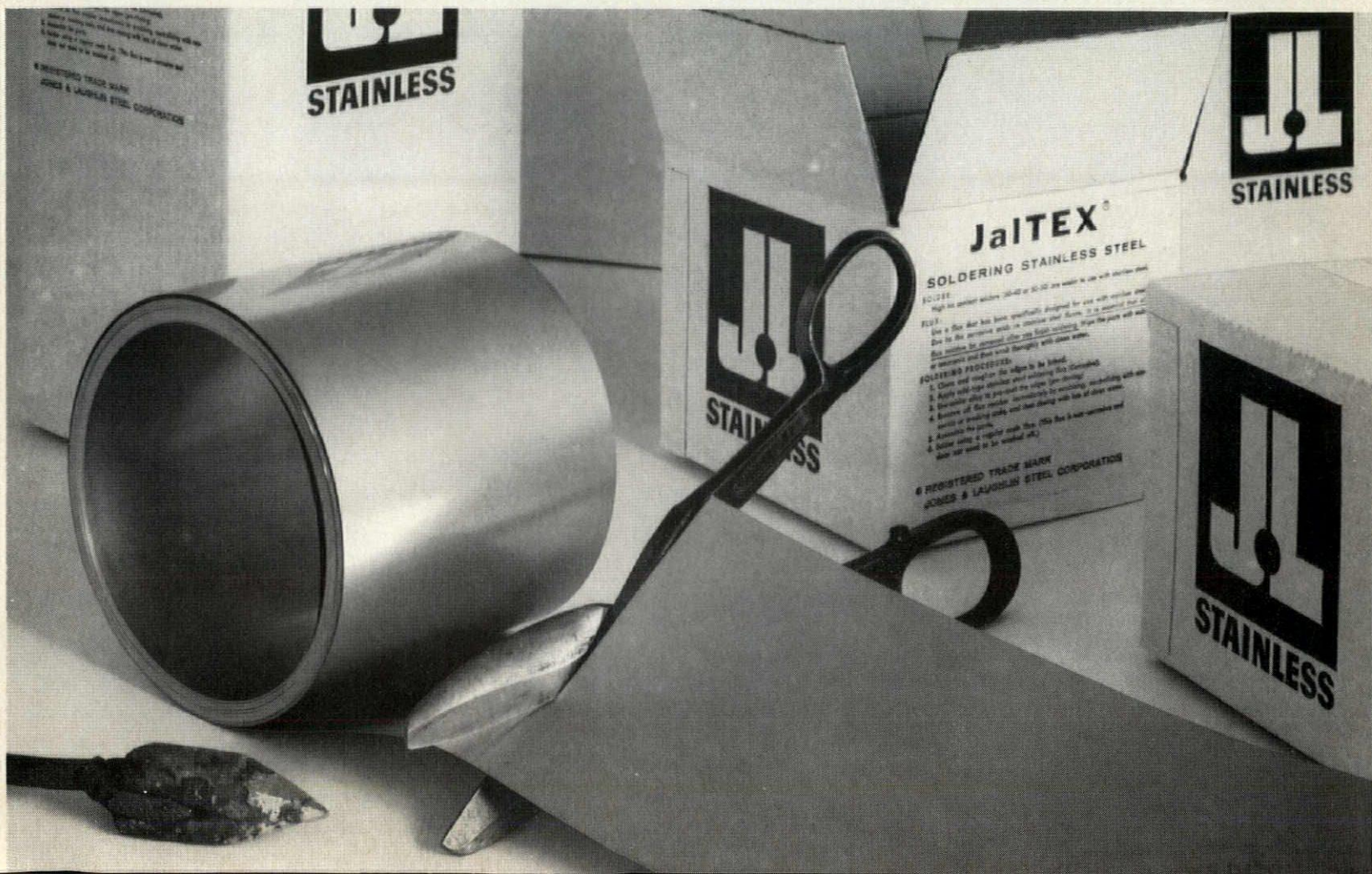
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Circle 136 on information card

Down the Hatch— Swedish Style

Pneumatic tubes to collect trash and soiled linen are just being introduced in the United States. Tom Mallone* here describes such a collector invented and tested in Sweden and now being marketed here.

The Swedes began to use automated vacuum waste collection nine years ago and have operated it with a high degree of success since and, due to its simplicity, with very little maintenance.

In this country, the system is now being installed, in dual design for both linen and solid waste handling, in the Martin Luther King Memorial Hospital which is nearing completion in the Watts area of Los Angeles. Preliminary designs are underway for installation of an underground trash system in the 2,500-acre Walt Disney World planned near Orlando, Florida.

Aerojet-General Corporation produces the Automated Vacuum Collection System (AVAC) in the US as exclusive licensee for AB Centralsug of Sweden. Besides hospitals

* Manager of Waste Handling Systems for Aerojet-General Corporation's Environmental Systems Division.

and recreational developments, it is particularly well suited for hotels, large office buildings, shopping centers and high rise apartments. This is how it works:

Vertical gravity chutes in various points of the building are connected to horizontal transport pipes. The latter may be in the basement, in tunnels, between floors, or buried underground. Each connecting point has an air inlet.

When refuse is dropped down the hatch from any floor, it falls to the connecting point, where it is retained. It is then moved periodically to a central hopper by an air stream that approaches 60 miles per hour.

In Sweden, such unwelcome items as car batteries, large rocks and Christmas trees have been moved through the system.

In hospitals, hotels and the like, a dual system can be employed: one set for trash, one for linen. The trash may go to an incinerator, or a shredder, baler or compactor, for removal by truck. The linen may be sent off to an outside laundry or picked up for inhouse washing. The used air goes through a series of bag or other type filters for cleaning before it is released.

A small exhaust blower, coupled with valve bypasses, maintains an inward flow of air, or negative air pressure, in the vertical chutes throughout the building. This keeps dust or other matters from blowing out when disposal hatches are opened. The moving air keeps chutes and pipes dry and odorless.

Disposal stations can be installed in the garden for cuttings, in the kitchen for cans, boxes, bags, etc., or in any area where the accumulation of waste is rapid. In addition to the principal job of moving waste and soiled linen, AVAC can incorporate vacuum cleaning hoses and can be used to pick up and remove dust, dirt and scrubbing water.

Actuation of the system is automatically controlled from a central panel. Automatic, nonscheduled operation of the discharge valve may be added for demand situations.

After each operation, all air valves are closed and the exhauster shuts down. Between cycles of operation, the collection hopper is automatically emptied into the required equipment for final disposal or processing.

A graphic display of the pneumatic transport system, with lights to indicate the relative position of its operating components, may be added to the central control panel. The lights show what part of the system is operating at any given time.

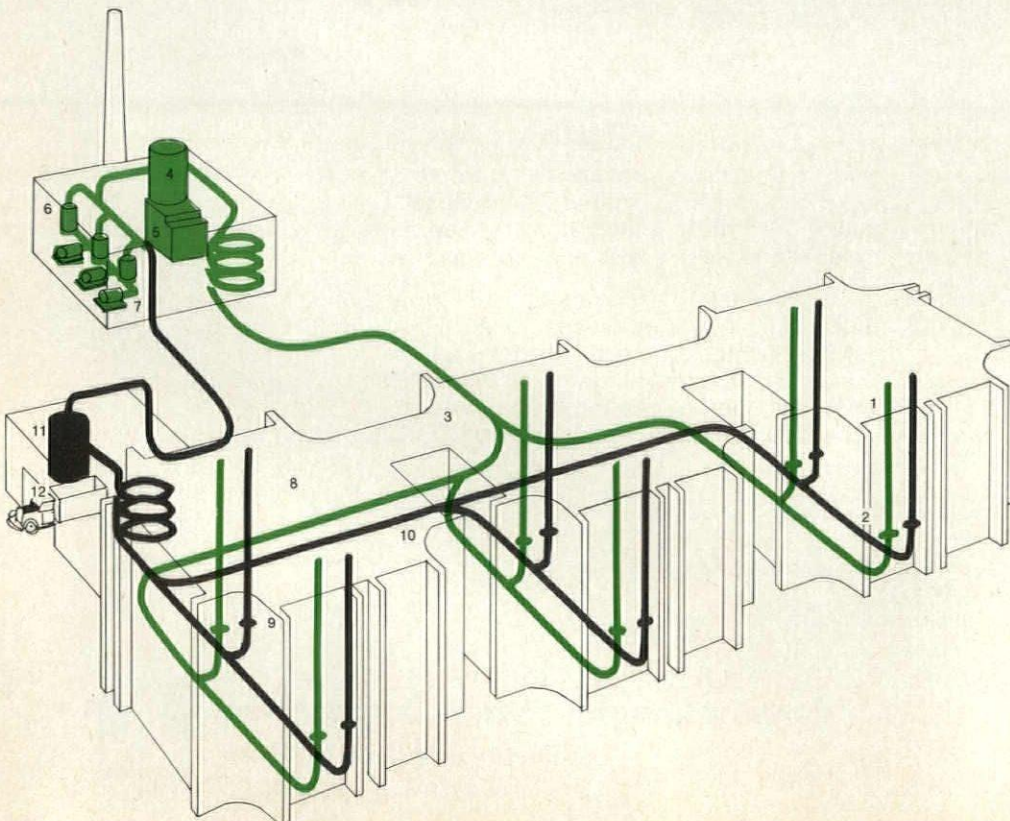
In a typical system, the exhauster, air filter, central collection hopper and sound attenuation equipment are housed in an equipment room located in the basement of the facility or in a remote service building. Requirements for noise reduction devices vary, depending on the distance of the exhaust from occupied buildings and the nature of their occupancy. Noise from the exhaust air, exhausters and piping can be attenuated to any desired level.

AVAC is not limited to new structures. It can be added to any building, either through existing trash or linen chutes or by adding chutes to the exterior.

In Sweden, the system is in operation in a number of apartment buildings and hospitals. In the 350-bed Lowenstrom Hospital, a 10-story structure near Stockholm, it includes 3,300 feet of 20-inch pipe.

In the Sundbyberg Varmeverk complex, also near Stockholm, the system carries solid waste from 1,000 apartments through some 3,500 feet of pipe. Expansion is underway to accommodate 5,000 apartments.

The AVAC pneumatic transport system eliminates the costly and unsanitary features of conventional methods of waste and linen handling. For instance, manual labor requirements are reduced, intermediate storage areas eliminated and, important to hospitals, the dangers of spreading infectious pathogens decreased. Analysis indicates that the reduction in manual labor alone gained through the use of AVAC will pay for the system within three to six years. □

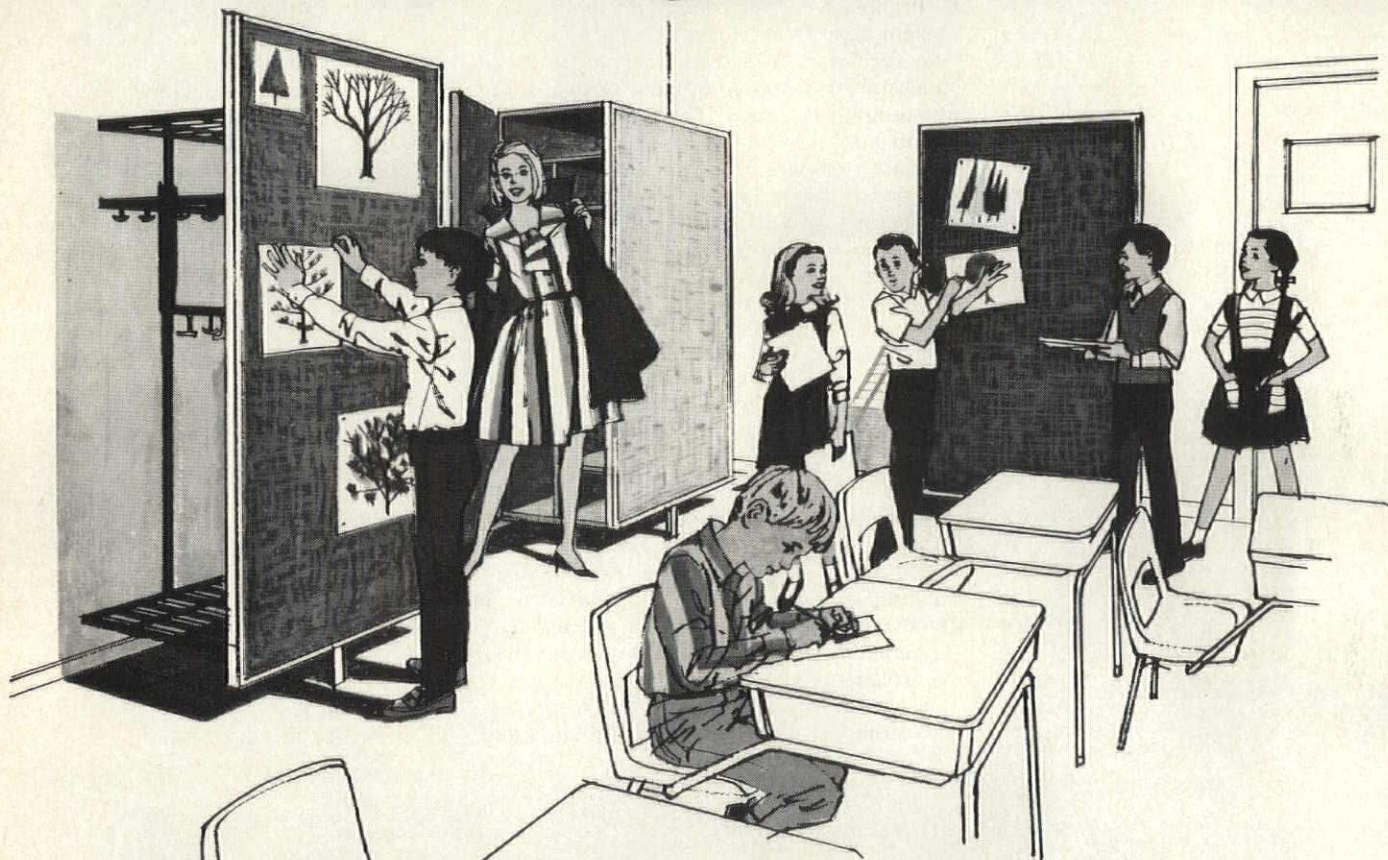


AVAC Solid Waste and Soiled Linen Pneumatic Transfer System

1. Refuse disposal chutes
2. Storage chute and discharge valve into horizontal tube
3. Horizontal refuse transport tube
4. Silo for refuse storage
5. Refuse processing system
6. Filterbag air cleaners
7. Turbo extractors
8. Soiled linen chute
9. Storage chute for linen and discharge valve into horizontal tube
10. Horizontal linen transport tube
11. Soiled linen hopper
12. Truck loading facility

In the system shown, refuse is carried to an incinerator and consumed. Other disposal systems can be employed, i.e., a compactor can prepare the refuse for removal by truck, or a grinder system can process the refuse for flushing into the sewage system, etc. Alternatively, the linen storage hopper might hold linen for processing by an inside laundry plant.

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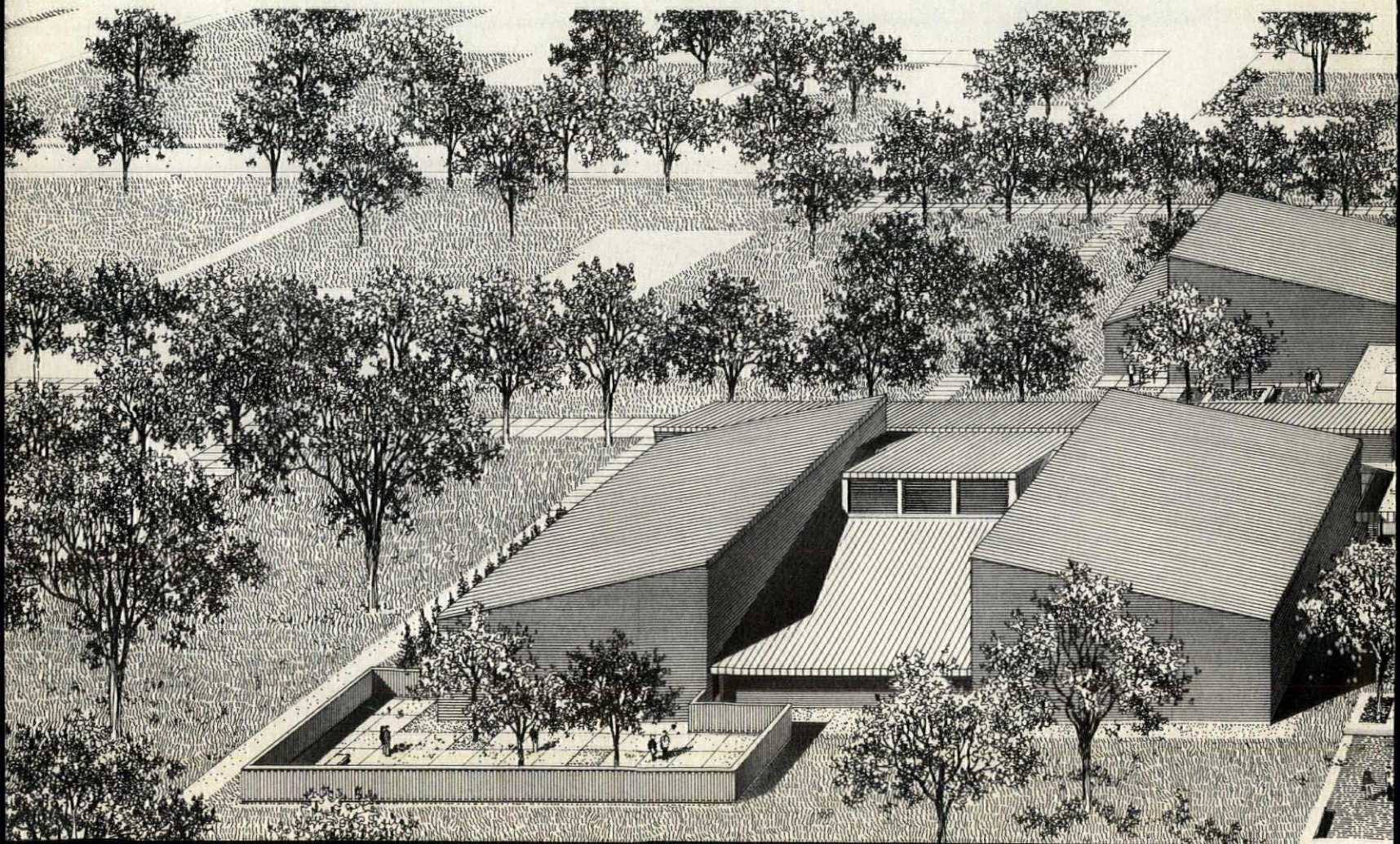
TCS:

Rehabilitation Center
Buffalo State Hospital
Buffalo, New York

Rendering by Brian Burr

Architects: Milstein, Wittek, Davis & Hamilton
Buffalo, New York

A project of the New York State Health and Mental Hygiene
Facilities Improvement Corporation for the New York State
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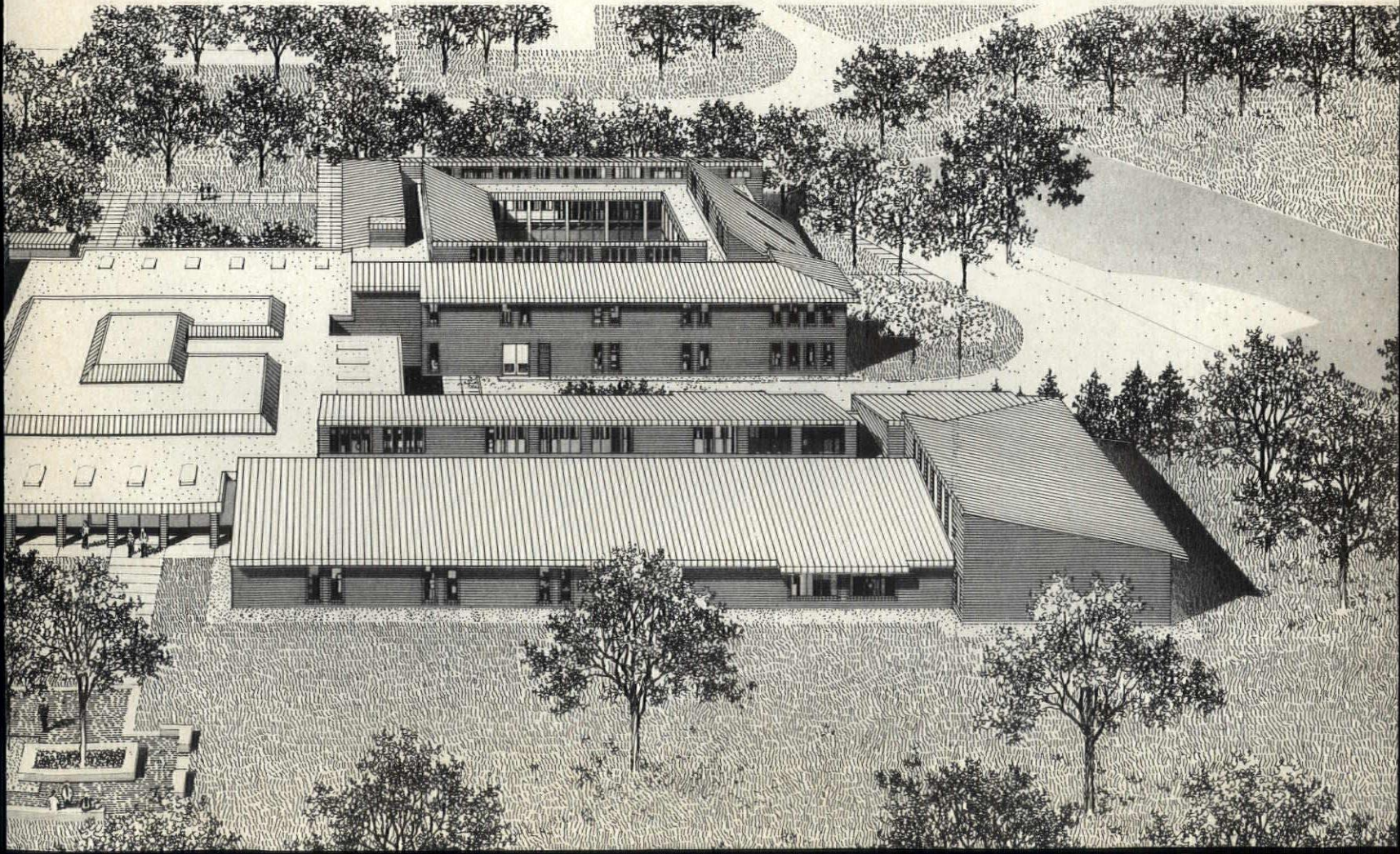
In the case of the Buffalo State Hospital Rehabilitation Center, the architects were primarily motivated by the fact that TCS weathers naturally to a uniform dark gray, and that it is resistant to corrosive attack under even the most severe atmospheric exposure.

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The Housing Agency Game

A standing-room-only crowd gathered recently at New York City Chapter AIA headquarters to listen to an evening's discussion on "The Housing Agency Game" and why architects are losing that game. Seymour Jar-mul, AIA, reports.

The program was subtitled "Three Case Histories Illustrating the Impact of Housing Agencies on Architectural Design." Three architects reported on their experiences in designing housing developments requiring agency processing; and three representatives from the agencies involved commented on the architects' reports. City, state and federal housing agencies were represented.

Also in attendance was Ada Louise Huxtable, the *New York Times'* prestigious architectural critic, who wrote a few weeks later, "If the building industry can't do the job, then government must do it. But all that has been demonstrated with any certainty thus far is that what private business won't, or can't, do and therefore the government must do, it has not been able to do. . . . In a form of government McLuhanism, the processing has become the product, housing a byproduct."

At the heart of the architect's problems with the agencies would appear to be a basic lack of trust between parties. "You don't know what you're doing" is an attitude which the architect seemed to face from most housing agencies. In turn, many architects felt that the agencies were so wrapped up in dollar considerations that human values were disregarded and the final result shortchanged the people who ultimately live in the new buildings.

The housing architect's problems are further complicated by the fact that he has to deal not only with the housing agency, but he must also secure the approval of a whole group of other government agencies. Each of these other agencies has its own set of rules and insists on doing its own thing.

The evening's first speaker was Jerrald L. Karlan, AIA. His office, acting together with Paul Rudolph, AIA, as design consultant, has been engaged on Tracey Towers for over three years and has finally progressed to the point of substantial working drawings. Construction is expected to start this spring.

Tracey Towers is being financed under New York City's Mitchell Lama middle income housing program. Under this program the city's Housing and Development Administration issues a 50-year low interest mortgage and combines it with substantial tax exemption.

Tracey Towers consist of two curved towers linked to a series of townhouses set on a platform built over a New York City subway storage yard.

As described by Karlan, the processing gauntlet run by Tracey Towers has included:

1. New York City's Housing and Development Administration.
2. The City Planning Commission.
3. The State Division of Housing and Community Renewal.
4. New York City's Board of Estimate.
5. The Department of Buildings.
6. The Transit Authority.

7. The Department of Water Resources.
8. The Parks Department.
9. The Borough President's office.

Since each of these agencies lives in its own little world, it falls upon the architect to attempt to reconcile what are often conflicting directives.

In the case of Tracey Towers, having been approved by the Housing and Development Administration's design group, it became necessary to redo the design in order to secure the approval of the City Planning Commission's Urban Design Group, when the project came before that commission. Since esthetic design criteria are rarely put down in written form and usually reflect the individual reviewer's judgment, the greater the number of approvals that must be received the less the chances of moving the project along. Delays become particularly more frequent when the design of a project does not follow the usual housing stereotypes which are familiar to the reviewing agencies.

In describing Co-op City the evening's second speaker, architect Herman J. Jessor, illustrated many of the conclusions he has reached in dealing with housing agencies for many years.

Co-op City is the largest single apartment development ever built in the United States and will be the world's largest cooperative housing community. Constructed on a site of 300 acres formerly occupied by an amusement park, its 15,382 families will be housed at a total development cost of \$293,803,200. The mortgage provided by the New York State Housing Finance Agency is the largest single mortgage ever granted in the State of New York.

Co-op City will include 34 highrise apartment buildings ranging from 24 to 33 stories plus three-story townhouses. New York City's first educational park will be erected here on a 26-acre campus setting, with a 4,000-pupil high school for grades 9 through 12, two 1,800-pupil junior high schools for grades 5 through 8, and two elementary schools, all complete with athletic and recreational facilities.

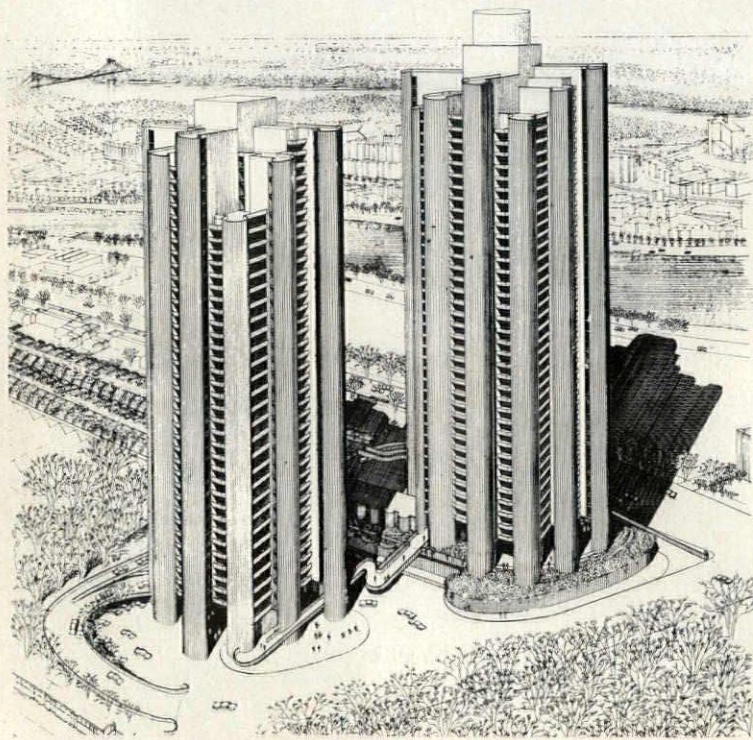
Indoor parking for 10,850 cars will be provided in eight multilevel garages. Promenades, parks and recreational facilities will be provided in addition to three neighborhood shopping centers.

Listening to Jessor describe the creation of Co-op City, one sensed that if we are to live in the best of all possible worlds, the emphasis must often be on the "possible."


Asked why prefabricated or industrialized construction was not used on Co-op City, Jessor explained that he "investigated the European approach thoroughly and was all for it, but was advised that it would not work in New York City because of union and other problems."

Joseph Stein, representing New York State's Housing Finance Agency that supervised Co-op City, said that "even if prefabrication had been proposed it would have been rejected by the state, as they are not in the business of experimental housing and feel that we are still a good many years away from any workable systems building approach."

continued on page 62



Tracey Towers, a New York City project, by the Office of Jerrald L. Karlan; Paul Rudolph, AIA design consultant.



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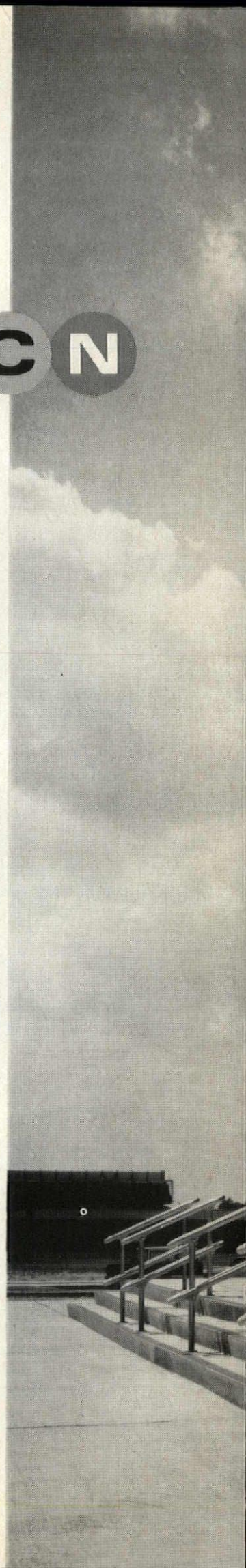
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The moral of the story told by Jessor seems to be that change can only come slowly, and that it behooves the architect to learn the rules of the housing game as they exist.

In describing housing agencies at the federal level, Samuel Paul, AIA, remarked, "As we shift from the state and municipal scene to the federal, we find very similar circumstances in agency processing. We find that agency work for any branch of government is time consuming, exhaustive, and at times frustrating as well as annoying. There is one common denominator: red tape."

It seemed to Paul that the longer an agency is in existence the more complex it becomes. There seem to be cycles: times when processing becomes overly complex and lethargic and other times when an effort is made at reform and speedup.

Currently, FHA is operating under its new AMP system (Accelerated Multifamily Processing).

AMP is an attempt to stir up action. It actually does not change the basic concept of processing but tries to organize the system more efficiently. It tries to adhere to processing schedules and gives some flexibility to the sponsor and the architect. AMP may best be described as expressing an attitude—a sincere desire to speed up processing. But the implementation of this attitude is woefully lacking in its knowledge of architecture and its problems.

Paul continued by observing that the indication is that the AMP method is doomed to failure unless it is radically changed, since enough time has elapsed to determine whether the system will accomplish what it is supposed to. He made the following proposals:

- That FHA recognize the value and necessity for bringing in the architect at the inception of a development, starting with site selection, so that he can make recommendations to the sponsor.
- That after site approval, there be two main stages of processing: first, feasibility and firm commitment in one stage. The architectural exhibits for this stage would be preliminary sketches equivalent to schematics developed about one-third into design development. Second, initial closing documents consisting of complete construction drawings and specifications.
- That FHA establish an approved list of architects and sponsors. Those on the list would secure only a cursory review in the processing of their cases. Those not on the list would be required to go through a more detailed review.
- That in metropolitan areas, the Minimum Property Standards be scratched with the exception of room sizes, and that local codes and zoning regulations govern.
- That in the larger FHA offices, the regional office review be eliminated.

Paul concluded by observing that these proposals placed more responsibility on the architect as well as the sponsor. This is not to indicate that the agencies are irrelevant—on the contrary. Because they are becoming more relevant in direct proportion to the acuteness of the housing shortage, it is imperative that positive action be taken now.

During the floor discussion following the speakers, there was general agreement that time is the great destroyer of housing. A project's greatest chances of success exist on the day it is conceived, and its prospects of survival diminish with each month that goes by.

Many variables must mesh for housing to come to fruition; but as times goes by, the pieces fall out of joint and the project never gets off the ground.

This may be due to a change in the administration of the community (the election of a party opposed to the project) or a change in zoning laws, or in the mortgage market, or a rise in construction costs.

Since agency review—however efficient—is time consuming, the basic question is how to eliminate it.

In housing privately financed (conventional) housing, architects deal with private clients without any outside supervision. The client chooses the architect on the basis of professional competence and relies on that ability to design a successful building.

By contrast, in publicly assisted housing the agencies feel that they are the defenders of a public trust and must review each drawing and each page of specifications.

A completely new approach is needed. The time has come to apply a new set of ground rules to the "housing agency game."

We appear to be moving toward a change in which the traditional system of agency reviews will become a system of licensing.

Consider, for example, the turnkey approach to public housing, in increasing use

for the past few years. Under turnkey, local housing authorities have delegated the entire planning process to private building organizations who undertake by themselves to plan and construct a housing project from start to finish. In effect, the housing authorities say to the builder, "We trust you. Do the job for us."

The same premise underlies the Department of Housing and Urban Development's new Operation Breakthrough. By calling for the preparation of proposals from housing firms with a capacity to develop high volume, rapid delivery systems of housing at low cost, HUD limits itself to saying what it wants but leaves the mechanics of the delivery systems to the firms setting up the production lines.

Is it asking too much that the architect be afforded the same trust?

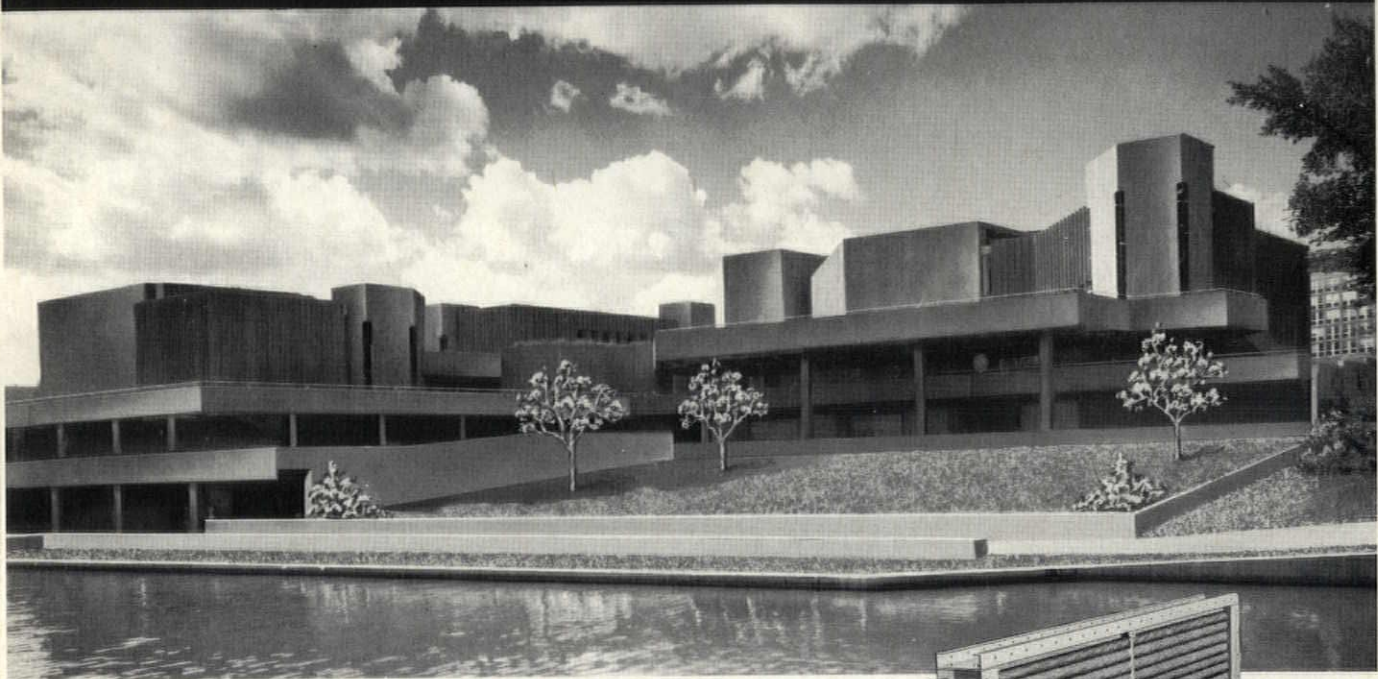
Perhaps what we need is a form of licensing of housing architects similar to classifications of specialization in the medical profession. If the architect were prequalified by virtue of his specialty license, the housing agencies could be justified in eliminating their reviews by deferring to the competence demonstrated by the license. The unlicensed architects would continue to be subject to the present system of processing reviews.

The alternative is to continue the present agency game in which we are all reduced to the lowest common denominator, to the detriment of our projects, our clients and ourselves. Why not demonstrate our competence and receive the trust and freedom competence demands? □

A section of the 300-acre Co-op City complex in Bronx, New York, by Herman J. Jessor.



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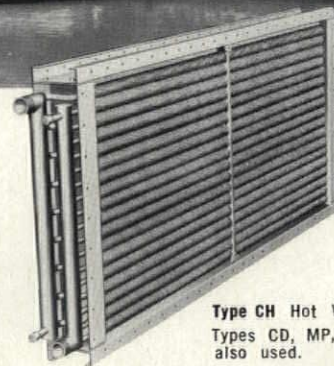
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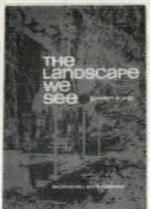
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events

AIA State and Region

Feb. 5-6: Virginia Chapter, Hotel John Marshall, Richmond

Feb. 12-14: North Carolina Chapter, Carolina Hotel, Pinehurst

March 4-6: Michigan Society of Architects, Pantlind Hotel, Grand Rapids

April 23-25: Gulf States Region, Biloxi, Miss.

May 4-6: North Central States Region, Lake Lawn Lodge, Delavan, Wis.

National

Jan. 29-Feb. 1: Society of Architectural Historians Annual Meeting, Sheraton-Park Hotel, Washington, D.C.

Feb. 14-18: American Association of School Administrators, Convention Center, Atlantic City, N.J.

International

May 17-22: World Congress of the International Federation for Housing and Planning, Barcelona

May 24-31: UIA Seminar on the Emerging Social Role of Schools, Vienna

Scholarships and Fellowships

Feb. 1: Portfolios due, fellowships ranging from \$4,000 to \$7,500. Contact: Institute for Architecture and Urban Studies, 5 E. 47th St., New York, N.Y. 10017.

Feb. 27: Applications due, two one-year research fellowships carrying stipends of \$7,000 each. Contact: Glenn E. Thompson, Director of Education and Training Services, National Trust for Historic Preservation, 748 Jackson Place, N.W., Washington, D.C. 20006.

Call for Papers

Jan. 31: Abstracts due, First Symposium on Computer Analysis for Environmental Engineering Related to Buildings. Contact: P. R. Achenbach, Symposium Chairman, National Bureau of Standards, Washington, D.C. 20234.

Awards Programs

Feb. 2: Nominations due, R. S. Reynolds Memorial Award. Contact: Reynolds Award, AIA Headquarters, 1735 New York Ave. N.W., Washington, D.C. 20006.

April 1: Entry information due, religious facilities completed after 1965. Contact: W. A. Gortner II, AIA, Chairman, Architectural Exhibit Committee, 8750 Georgia Ave., Suite E-125, Silver Spring, Md. 20910.

Tours

April 3: Architecture and Garden Tour of Japan, departing from Vancouver, B.C., for 23 days with optional extension to Hong Kong and Bangkok. Contact: Kenneth M. Nishimoto, AIA, 263 S. Los Robles Ave., Pasadena, Calif. 91106.



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BOOKS

The American Aesthetic. Nathaniel Alexander Owings. Photographs by William Garnett. New York: Harper & Row, 1969. 198 pp. \$20.

The author, a Fellow of the Institute, has developed *The American Aesthetic*, and a thing of beauty it is. This book will look good in any architect's office or reception area, and it is quite possible that the message it conveys may seep through from the magnificent photographs and material into the minds of the enlightened clients. All architects should hope so. It is a tour de force.

Our profession badly needs new statements relevant to the real needs of the time. This essay leads the way. We do not need new leadership giants as such: Corbusier, Mies, Wright, Gropius are all departed from the architectural stage. What must come forth from those on the scene now are new formulations attracting our political leaders into espousing the cause of great plans and esthetic vitalities of the community.

Owings reminds us that it was the Pharaohs, the Caesars, the great Popes who were the ones, not the professionals, who directed the grand schemes—Haussmann and Napoleon III rebuilt Paris, and Washington and Jefferson provided the imagination and courage to design our capital. Seldom have the professionals projected themselves into the arena of advance planning. In his introduction, S. Dillon Ripley of the Smithsonian Institution points to the problem of architects not having direction over planning of the environment and suggests that youth be enrolled as a great force to outvote the spoilers. Where will this youth seek its examples from, we may ask.

The prologue to *The American Aesthetic* opens with a poetical view, indeed a mystical seeking for the esthetic in Monument Valley of Arizona and Utah. Garnett's photography, mostly aerial, is the work of an artist. This book is composed of approximately half of its pages in first-rate photographic reproductions, and even, with all due respect, if there were no text at all, it should be soul satisfying to most architects. Page 152 has a scene of Monument Valley at sunset in red tones indicating the grandeur of the desert, somewhat reminiscent of the verbal sense of S. T. Coleridge's poem, "Kubla Khan." This photograph has to be seen to be believed.

Owings hypothesizes that man, civilization and nature have joined together to form a new system which is self-destructive and parasitic. The American people, in their restlessness, have chopped, burned and gouged their way across a continent leaving a stagnant backwash. He suggests that part of our restlessness may be due to our dissatisfaction with the present environment, and that our attributes of ingenuity, energy



and optimism can be redirected to a new esthetically based national ethic. Owings' hypothesis essentially is an exhortation, an appeal to those senses which separate us from the purely functional ways of lower animals. He suggests putting the profit motive of our economy into the service of our esthetic need.

The idea of communal development through the cluster concept is a key to Owings' thinking, illustrated graphically in the photographs of the Chaco Canyon in New Mexico. Extending history into the present American culture, he relates the inception of the Virginia plantation, the New England town, development of toll roads and land speculation. In our early American history, strong economic incentives and rewards have been given to those who would exploit the natural resources. The federal government has strongly aided and abetted such development, witness the land grants to the westward railroads which in amount were in excess of those given to homesteaders.

But as development of population saturated in one habitation, the urge to move out and on to the West was irresistible. Besides the *émigrés* were visitors in the form of hunters who callously wiped out the buffalo, this was part of the move to the West. As the movement extended, personal characteristics of the Westerners became markedly different from those remaining on the Eastern Seaboard; there were strong command tendencies to look to the federal government for help with the solution of water distribution problems and also personal concerns for expediency. Streets and highways were thrust into directions serving immediate convenience.

Owings states that concern of his book is to search out the American esthetic and not to arbitrate the morals of man. He states that mobility and place are our prime considerations. He cites the redevelopment planning of Baltimore in its concept of its mul-

ti-ple-use benefit formula, for example, using freeway development as a device to obtain other beneficial effects. As part of this thinking, the reader should certainly keep in mind the city image and its elements. In particular the contributions of Kevin Lynch are a necessary concomitant of this image. Indeed, Owings points out that our democracy seems to provide no workable system of checks and balances regarding specifically what to do about our environment. He points a direction when he recommends the British system of leasehold rather than the present ownership in fee simple system as a way of counterbalancing our present one single landowner at a time method.

Our country's planners certainly have had guidelines given to them, witness the basic principles espoused by Eliel Saarinen in his organic decentralization and the seminal thinking of Ebenezer Howard for his garden cities. These methods are all within the purview of American capitalism. Owings characterizes, for example, our environmental planning as amateurish improvisation. He recommends teaching young people what the problems of our physical development are and also teaching them that the pursuit of the esthetic is where the action is.

Owings recommends new densities to the core areas of cities as a way of redirecting the city center environment. He relates this to his own firm's development of the John Hancock Center in Chicago. He reiterates the fact that there is not a strong commitment to the environment and that Americans do have a fear of change or innovation. It would certainly seem that this is so, and that the times of crises are the only times when such problems as the way of handling the environment can be changed. We have only to think back to the early Franklin Roosevelt days to be reminded of the tentative efforts in this direction.

In his search, he cites the truism that San Francisco is a frame of mind, the fact that it has the cultural and intellectual upper hand over Los Angeles, and that its urban renewal project is one of the few successful such projects. Although even here, Owings may in time be forced to re-evaluate this cultural upper hand due to the recent rapidly changing skyline of the Bunker Hill area of Los Angeles which, at night time, now presents a totally different picture of the traditional flat Los Angeles cityscape. Owings further relates the development of Chicago's Loop, Philadelphia's Center City, Washington's Mall and Pennsylvania Avenue. He will be recognized in this regard by his chairmanship of the President's Temporary Commission on Pennsylvania Avenue. He hopefully asks, if the examples discussed are not genuine urban renaissance, is the city development not a search for an American esthetic in the service of man reaching to fulfill the highest capabilities he poses?

In one of his last chapters, he brings out man's need for open spaces. It is a matter of life and death for all of us. He states the anomaly of our economic system by saying that "everyone who is out destroying our resources gets paid for doing it, while those who are trying to conserve our natural assets

continued on page 66

must do it on their own time, for free." The photographs of this section, "Unmarked by Man," are among the best in the book. The last chapter, "Structures in Place," is a photographic essay of 30 pictures, some of which show the finished products of his firm's designs as well as those of other architects who have made substantial contributions. In the conclusion, "the Epilogue," Owings lays stress on the youthful spirit of great design and suggests the possibility of putting our young people to work at rebuilding the cities. He questions the validity of our land tenure system and whether people have a right to misuse their own property, and suggests a natural resources bank.

In recommending this book the reviewer feels that the theme running throughout can best be summarized by the words of Chief Justice Taney in his comment on the Harvard Bridge Case in 1837: "The rights of property should be sacredly guarded, but we must not forget that the community also have rights and that the happiness and well being of every citizen depends upon their faithful preservation."

JOHN STUART MILL, AIA

Apollo in the Democracy: The Cultural Obligations of the Architect. Walter Gropius. New York: McGraw-Hill, 1968. 182 pp. \$12.50.

The articles and addresses by Gropius collected here have been selected, edited and

translated by his capable wife. Written over the years, they portray with zest and liveliness the sensitive and almost unbelievable scope of Gropius' vision.

In a short vignette about Peter Behrens, whom Gropius credits as being his master, Gropius writes, "I owe him much, particularly the habit of thinking principles." In another essay Gropius says that San Marco is an ideal illustration of his credo: "unity in diversity." These two remarkables are characteristic of Gropius' thought and of the essays in this book.

Hotels: An International Survey. Herbert Weisskamp. New York: Praeger, 1968. 209 pp. \$20.

This is a descriptive survey with 44 examples of recently built international hotels given. The reviewer has stayed in a number of the hotels, and some of them surely look more luxurious and comfortable and architecturally pleasing from the pictures in this book than they are remembered.

Perhaps this is one more evidence that architecture must be experienced to be truly evaluated. At any rate, the book serves to present to the architect some of the fairly recent trends in hotel architecture. The text, in German and English, is not very probing.

Creative Playgrounds and Recreation Centers. Alfred Ledermann and Alfred Trachsel. New York: Praeger, 1968. 175 pp. \$15.

"If a childhood is a journey, let us see to it that the child does not travel by night,"

writes Aldo van Eyck, the Dutch architect, in an introductory essay on the child and the city in this revised edition of a work first published in 1959. This book provides many examples of ways to bring light and imagination and beauty into play areas. It brings together some most interesting solutions for problems encountered in designing playgrounds and recreation areas.

Parking Economics and Design. Richard C. Rich. Detroit: Richard C. Rich & Associates, 1968. 47 pp. \$7.50.

This is the reviewed text of a lecture given by Rich at a seminar held in 1968. An expert on parking problems, he presents three downtown parking feasibility studies as well as a section on design. The latter includes information about entrances and exits, ramps, lighting, security, elevators, fire protection and other items to be considered in the design of parking garages.

Expositions, Exhibits, Industrial and Trade Fairs. Wolfgang Clasen. New York: Praeger, 1968. 208 pp. \$17.50.

A number of books on expositions, exhibits and fairs have been published previously that are somewhat similar to this one in that the comments are brief and the photographs beautiful. This one is of special interest because it is concerned with the years from 1961 to date, a time when the standard of exhibition architecture has been high.

As Clasen remarks, design features and technical considerations that were considered

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All entries must be received at AIA Headquarters by midnight Friday, May 8, 1970.

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revolutionary 10 years ago are now taken for granted. The examples here presented are from all parts of the world. Photographs and diagrams are accompanied by captions which give information about the purpose, design, technical details and construction aspects of the structure under consideration.

Infection Control in the Hospital. Chicago: American Hospital Association, 1968. 140 pp. \$3.75.

A number of architectural considerations bear upon the prevention and control of infection in hospitals. The design must take into account such matters as traffic patterns; systems for handling materials, equipment, and wastes; ventilation systems and air-flow control; ease in cleaning surfaces and materials; and facilities for implementing infection control.

This manual is of importance to the hospital architect because it collects in one publication the information about basic principles for the control of infection. It gives the essential features of every aspect of the problem and points out the all-important interrelationships of persons working in a hospital: physician, nurse, pharmacist, housekeeper, engineer, etc.

The Emergence of Metropolitan America, 1915-1966. Blake McKelvey. New Brunswick: Rutgers University Press, 1968. 311 pp. \$10.

McKelvey is the city historian of Rochester and is uniquely prepared to under-

take the story of the urbanization of America. His four-volume work on Rochester is a historical study without parallel. Consequently, when he turned his attention to the history of urbanization in America, moving from the particular to the general, he had an excellent guide—the city of Rochester itself.

The present work on the urbanization of America covers the period from 1915 to 1966 and follows McKelvey's earlier volume on *The Urbanization of America: 1860-1915*. This is a useful book, and everyone interested in the history of urbanization will wish to read it.

Illinois Architecture from Territorial Times to the Present: A Selective Guide. Frederick Koeper. Chicago: University of Chicago Press, 1968. 304 pp. \$10 hardbound, \$1.95 paperbound.

Illinois is a state immensely rich in its architectural heritage. Therefore, it was quite proper to publish this guide to Illinois architecture under the auspices of the Illinois Sesquicentennial Commission, created for the purpose of "investigating the most effective, suitable and appropriate means for commemorating the 150th anniversary of the admission of the state to the Union."

Koeper's selections include a diversity of buildings geographically and chronologically. He tells the reader that he gave weight to the historical significance of the structure in making choices for inclusion in the book, but always "where the monument itself was architecturally appealing as well." The arrange-

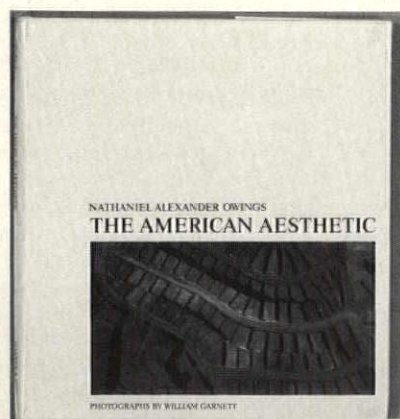
ment of the book is alphabetically by name of the town—from Anna to Woodstock. There is a photograph of each structure, and a brief comment by Koeper regarding its historical and architectural importance.

What a difficult time Koeper must have had in making his decisions about what to include and what to omit! When one considers such masters as Richardson and Sullivan and Wright and Maybeck and all the others who left an imprint upon the architectural heritage of Illinois, it is easy to understand the problems Koeper must have faced. It would be hard enough to make a selection of architecture in such single localities as Chicago or Galena or Quincy or Springfield.

Standard Handbook for Civil Engineers. Frederick S. Merritt, Editor. New York: McGraw-Hill, 1968. 1300 pp., plus index. \$27.50.

There are 23 sections in this comprehensive and practical manual, each one having been prepared by an outstanding authority for use by the nonspecialist. The editor states that much of the material has never been published before and cites in particular the sections on computers in engineering and on design and construction management.

Other parts of the volume deal with such topics as construction materials, airport engineering, structural steel design and construction, municipal and regional planning, surveying, earthwork, etc. In each case basic principles are outlined and methods for application of the principles described. □



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letters

Smorgasbord in November

Congratulations on the November 1969 issue of the JOURNAL. To me it is one of the most significant numbers ever published by the Institute. Like an appetizing smorgasbord, it offers a variety of rich choices—articles on the future of our profession, education, practice, technology, administration, construction and the people who make it all possible.

WALTER B. SANDERS, FAIA
Ann Arbor, Mich

Two Views on October

How do you expect us to get any work done around here since the October JOURNAL arrived? Simply can't put the thing down! Congratulations to the staff for a superb job.

MACE TUNGATE JR., FAIA
Houston

As usual, Mrs. Moholy-Nagy is right on target with her comments. Her article should be read aloud at the beginning of every quarter in every architectural school. Everything else in that issue is bunk and junk.

SAM CARSON
Architect
Los Angeles

Taking a Jury to Task

Pleased as we were to receive an Award of Merit from the 1969 AIA/AAMC Awards program, we at Rochlin & Baran were also baffled. The jury statement (AIA JOURNAL, Oct., p. 61) included several declarations that made us question its—and our—understanding of the terms *clinic* or *group practice facility*. The following assertions troubled us most:

- "Questionable facilities for meeting the requirements of group practice."

Does the jury believe there are set requirements beyond group ownership or a fixed physical organization for group practice facilities?

- "The dichotomy between the requirements for private suites for individual practitioners and a facility for group practice."

Are private suites antithetical to group practice?

- "The jury, in fact, found no project that it believed exemplified the architectural manifestation of group practice generally associated with a clinic."

A special preconception obviously resides in the jury's use of the word "clinic." There is an adjective hovering unspoken. What kind of clinic, we wanted to ask.

We entered the Marysville Medical Clinic in the program with the belief that we were presenting a well-articulated example of one type of medical group practice clinic. While pooling their resources and sharing a building, ancillary services income and, frequently, patients, the Marysville Group prefers to retain the maximum doctor-patient privacy concom-

itant with group ownership. The Rochlin & Baran SCPP Plan (Shared Center-Private Perimeter) crystallizes that working philosophy in a nearly equal division of joint and private-use space.

In 15 years of designing approximately 50 clinics for group practitioners, we have planned for a variety of group operational patterns. Some groups, usually those operated by a rotating staff, have little or no need for private-use space. Other group practitioners prefer space divisions on a team or departmental basis with group ancillary facilities gathered at the center. Many large multispecialty groups, like Marysville, want to continue to offer their patients the one-to-one contact available in a private suite.

As we see it, health facility architects must remain responsive to the evolving needs of group practitioners and their patients, and at all costs avoid pressing this just-emerging American health facility into a set mold.

We agree with the jury that there is a need for joint educational programs for both medical and architectural practitioners interested in the field. We could start by getting our terms to the point of common agreement. Can't we go somewhere and talk? FRED ROCHLIN, AIA
Los Angeles

Wright House for the Right Buyer

Your readers may be interested to know that Frank Lloyd Wright's Walser House, built in 1903 in Chicago, is up for sale. There is a problem in that this house is a *potential* mansion, not an actual one. Right now, it's an old, rundown house in a degenerating neighborhood. Structurally sound and with beautiful lines, yes, but still old and rundown.

So far, I've had two offers that were acceptable as far as money is concerned. One party wanted to chop the 12 rooms up into "apartments" for a half-dozen low-income families. The other wanted to make it into an "old folks home," converting even the basement into cubicles for senior citizens. I was



For sale: Wright's Walser House, Chicago.

eager to sell but not desperate. So I turned them both down.

But I am getting more and more anxious to find somebody who will retain, restore or even be interested in the integrity of the house. Unless I do within the next couple of months, I can no longer afford the luxury of choosing to whom I sell. In effect, the next person who comes along with \$12,000 cash and the ability to pay \$250 monthly gets the property—no matter what he plans to do with it.

If you know of anybody like that, I'll certainly appreciate your putting them in touch with me.

J. ALAN BALDRIDGE,
Chicago

An Open Letter to the AIA

When almost every day's headlines seem to caption a chapter of history, it is hard to compare the significance of contemporary events. Yet some evaluation is helpful in choosing a course of action, private or public.

Many will agree that the most spectacular recent occurrence—certainly the most extravagantly proclaimed—was the landing on the moon. But in retrospect, this achievement, however grand, promises less to enrich our lives than did another, somewhat more modest happening, a scant month earlier. That was The American Institute of Architects convention in Chicago. To many of us, the convention was a more profoundly stirring event. Without mummery or bravado, it evoked the spirit of a Declaration of Independence, with a touch of Emancipation Proclamation. In this convention, it became clear what we must do, and can do, to tame our frightening, runaway world.

At a time of widespread tension, when the remonstrance of youth is typically met with rage and repression, the AIA repudiated not the protestors but the generation gap and racism. It urged and welcomed the participation of all who want creative change. It restored the national tradition that government is the servant, not the master, of the people, by charging the President and the Congress to abandon prevalent costly and dangerous follies. It acknowledged and enumerated pressing social and urban problems, and the profession's role in their solution. And finally, the Institute declared its great responsibility to all the American people and to the profession's working ally, the construction industry.

This recital of achievement may give us some pride, but no complacency. Rather, it reiterates the compelling need to follow through, at once. How can we all best help to implement the Institute's proposals regarding environmental problems?

Let us consider a current local instance, the chapter's stand on the matter of the Central Library parking lot. Of course we oppose the sacrifice of the existing garden. We are acting as though we seriously believe that some villains actually prefer asphalt paving to lawns, trees and pool. Our heated concentration on just these unqualified alternatives ignores the fundamental problem. The object of our vehement attack should be, rather, the docile surrender of our entire region (or country?) to our insatiable tribal Juggernaut, which devours indoor and outdoor space, disturbs the peace, wastes our wealth and poisons the



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atmosphere. Shall we advocate gas masks next? Aren't we, who condone or design the huge new automobile-committed buildings, contributing to the defilement of the city?

Fighting for the preservation of this particular patio is inconsequential unless we expand the scope of the issue and achieve a workable exclusion of private cars from areas of concentrated civic activities. Let us begin with a public transportation system in the foreseeable future. We already have one advocate in Washington! Secretary of Transportation Volpe, in a recent speech in Los Angeles, urged such a system here and offered assistance from federal funds. Let us campaign to help him help us.

As responsible professionals, we are obligated to warn the entire public as well as the paying clients, again and again, that the tacitly projected flood of additional cars guarantees civic disaster. We must convince them that the inevitable eventual restriction of private cars in parts of town will not entail a loss of personal freedom. And we must be realistically prepared for the opposition of the petroleum and auto lobbies. We will have to replace those public officials whose loyalty to the public is exceeded by their loyalty to commercial interests. In such efforts, we will need the support of all elements of the construction industry: labor unions, suppliers, contractors and finance agencies, as well as related professionals. Can we assume that our acknowledged responsibility to the industry is reciprocated by theirs, for the same cause?

Two possible projects come to mind as prime subjects to initiate our campaign: 1) refusal to participate in any proposed building project that will predictably harm the environment, anywhere; 2) for the time being, participation in a national campaign to discourage buying those cars which, by their size or over-power, contribute excessively to air pollution or congestion. Let it be "in" to drive cars designed to meet rational needs rather than neurotic needs! We may be surprised at how readily recalcitrant manufacturers will respond to economic forces.

It becomes increasingly apparent that the drafting room is no longer the main setting of the architects' or planners' activity. Today, it is no less important to contend in the arenas of public information, politics and economics. Let more of us take part. We offer our help.

GREGORY AIN, AIA
RICHARD J. HUNTER, AIA
JAMES H. GARROTT, AIA
Los Angeles

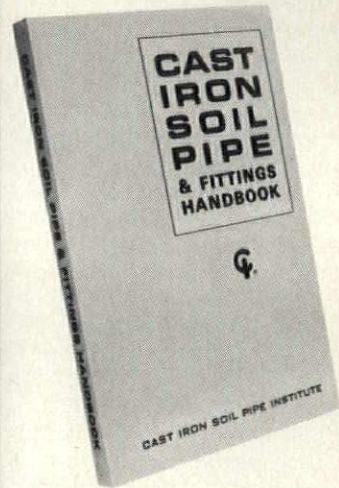
Lo, the Lowly Eagle

Since there is so much social concern in the AIA ranks today, I thought your readers would be interested in the limerick which appeared in the Monterey Bay Chapter's *Bulletin* for November 1969. It is the work of our versatile and lovely editor, Mrs. Joyce Stevens, AIA.

LIMERICK FOR THE AMERICAN EAGLE
There once was a bird, wild and free,
Who represented our liberty.
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Is killing him with DDT.

EDWARD H. DUERR, AIA
Gilroy, Calif.

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Still up in the Air

While on a weekend rest stop away from the office, I had just put down the June issue of *Flying Magazine* (which my wife refers to as my comic book), when I picked up the *JOURNAL* and with delight read the article "A Practice Tool Named Juliet."

I have been an airplane bug since obtaining my private license in high school. All my summer earnings from framing crews went into flying in those days. Although my practice is still a one-man office, I have had jobs scattered over southern and central California where I have been able to utilize a club Cessna 172. Flying is still not only expedient but a great fun way to get to the job. The only problem is weather versus appointment schedules, but you are still ahead in my book if you save 50 percent of the driving trips.

As the practice grows, I hope to obtain my own plane. Until then, I can utilize rental and club planes, as I am in a 12-mile radius of three good airports, one with an ILS.

WILLIAM ABBOTT, AIA
Claremont, Calif.

In rebuttal to Jim Haecker's article on aviation—or "Telling It Like It Really Is."

I bow to no man, including Jim Haecker, about the pleasures of flying an airplane and trying to combine it with the pleasures of architectural practice. I've spent a couple of hours with him in his office talking flying, and everything he says in his article is true. But he tells the truth awfully selectfully. I think it might help to set it straight. There's a lot he hasn't told that has to be critically examined if you're going to rationally consider flying.

Someone once said the only difference between men and boys is "the price of their toys." If your approach toward flying is that it's lots of fun, a delightful, esthetic, three-dimensional experience which an architect can uniquely enjoy, then you've got the right approach! It may also have some minor functional utility in the running of a practice but, believe me, this is secondary.

Let's break the first big balloon about why people fly. The reason is always given to save time. This article gives an unfortunate comparison of driving time versus flying time. That's like saying the general contract price is the price of the building to the client. Actually, the price to the client includes the general contract cost, the architect's fee, all the legal fees, the cost of the land, the furnishings and all the rest. Likewise, travel time has got to be calculated on a door-to-door basis, as follows:

1. 200-mile auto trip (on turnpikes)—average 50 mph.	5 hrs.
2. 200-mile flight—140 mph.	1 hr. 15 min.
Drive to airport	20 min.
Park car & get to plane	5
Check weather	10
Preflight	10
Taxi to take off	15
	Before flight 60 min.
Land & taxi	5 min.
Tie down	10
Wait for cab	10
Trip to job	20

After flight 45 min.

TOTAL door-to-door travel time 3 hrs.

Actually, any distance under 150 miles can best be covered by car. Any distance over 500 can best be covered by commercial air carrier. It's that in-between distance from 150 to 500 miles where light plane flying really comes into its own. But, of course, all of this is assuming good weather.

Jim Haecker assumes that every time you wanted to go from point A to point B, the weather is perfect VFR (visual flight rules). He doesn't tell about the fog, the icing and the winter storms, the late-evening meetings with cloudy moonless nights, and the many hours spent frustratingly waiting for the weather to clear, either to get there or to get back.

Another fallacious argument is the ease and rapidity with which you could learn to fly. It just isn't so. The requirements for 40 hours of flying time was laid down in the late '40s when the whole business of flying was a good bit less complicated. It's a rare person today who is declared eligible for his private pilot's certificate with less than 60 or 70 hours of flight time. It's a rarer person who has personal confidence and experience in anything less than 100 hours to begin active flying.

Counting delays for bad weather and the problems of trying to make a living at architecture, any man who sets out to learn to fly can count on spending at least eight months to a year before he reaches the point where he will be a licensed pilot. And this is only for the private pilot license.

Now, if you're going to get serious about this aviation business and recapture the investment you have in the airplane and its equipment, you have to become qualified to fly IFR (instrument flight rules). This is the next level of proficiency and FAA regulations require a minimum of 200 hours of flight time.

If the private pilot's license was hard, this rating will be harder. If you're going to achieve real confidence and be able to fly through the clouds with the airliners, you've got to really work at it to stay proficient and once you've got the rating, you've got to keep working at flying to stay current.

I find it very enjoyable to be able to plunge myself into a discipline totally different from architecture and work to achieve competence in a new field. No architect or businessman working part-time on his flying proficiency will ever become as sharp as the airline pilot, but he can learn to fly competently with a professional attitude. The greatest personal benefit is the satisfaction of having done something well. After all, if a man can justify the spending of a couple of thousand dollars on his golf swing for the satisfaction of seeing a little white ball go straight and true, then it should be equally satisfying to work at a rigorous discipline like aviation.

If the article has a flaw, it is that it doesn't go deeply enough into the pleasure of flying. But you've got to be convinced of these pleasures and pay the price in time, effort and money.

HERMAN A. HASSINGER, AIA
Moorestown, N. J.

I, too, am a flying architect covering our projects in the Southeast. Its advantages are, as Mr. Haecker points out, time, expansion of services and mobility.

I have also found it to be a good selling tool, particularly with some of our investment

clients. There have been many times when I have stopped at a client's office several hundred miles away from Atlanta, picked him up and visited several sites in Florida under consideration, returning him home the same day.

There are other advantages, like hauling a load of onions for some of our clients' friends. Since Atlanta is a distribution hub, many are the times I have picked up some urgently needed parts for a contractor and delivered them to the project.

Supervision time has been cut in half by the airplane and, after having put thousands of miles on an automobile and dragged back home late at night, I surely enjoy getting home in time for the evening cocktail, dinner and my family.

However, as all pilots do, there is a tendency to gloss over some of the disadvantages. The biggest problem, particularly to a new pilot, is weather and planning for it. It takes a little experience to beat the forecasters. However, I have found with a little more attention to preplanning and consideration of our geographic area weather patterns, that not too many plans have to be changed.

My instrument rating helps here too. I would strongly advise anyone not to stop at VFR flying but continue on and get an instrument ticket before depending solely on VFR conditions to make an appointment. Moreover, I've found the weather surely has improved since I got my ticket!

I have not encountered a transportation problem to and from airports. Contractors are quite cooperative about picking me up and usually the job is no more than 5 to 10 miles away. Also, clients are happy to take me to the airport, particularly after I have invited them for a hop around their city and countryside.

ROY E. FOREHAND, AIA
Atlanta

In this day when the efficiency experts are promoting the use of computers, programmed tapes, typewriters, etc., it is indeed refreshing to have someone else in the profession present a case for a great moneymaker with little comparative investment.

Our practice here in southwest Virginia, where sometimes 1½ hours of mountainous driving time can be turned into 18 minutes of flying time, has proved the value of the airplane. Trained as a navy pilot in World War II, I reactivated my flying about five years ago when it became apparent that there were not enough hours in the day to perform the construction supervision and client conferences necessary for a growing organization.

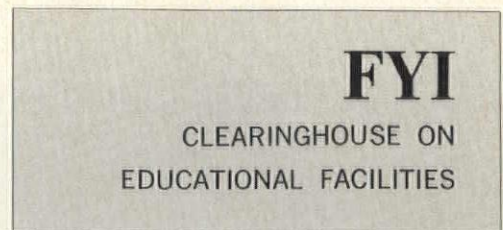
I average about five hours a week of flying time, which would represent about 23 hours of driving time for the same coverage.

I have owned an Arrow for 18 months, but prior to that I rented anything available. The cost figures given in Haecker's piece appear to bear out my experience as an owner, a step taken when it became increasingly difficult to obtain a rental plane at times to meet my own schedules.

GEORGE L. SULLIVAN JR., AIA
Roanoke, Va.

The AIA JOURNAL encourages expressions of opinions from its readers but reserves the right to edit for length and style. Address letters to the Editor at the Octagon.

SYSTEMATIC METHODS IN SCHOOL PLANNING, PROGRAMMING AND DESIGN



The following reference list, selected from 94 items, should be useful to architects involved in the planning, programming and design of educational facilities. Source and cost of the more extensive bibliography, available in either microfiche or facsimile form, can be secured by contacting the Educational Resources Information Center (ERIC) Clearinghouse on Educational Facilities at the University of Wisconsin. Direct all correspondence to ERIC/CEF, 606 State St., Madison, Wis. 53703.

Asterisks indicate major goals, up to a maximum of five, of each reference. Descriptors are geared to the ERIC system.

Systems Management Planning, Vol. 16, Alexandria, Va.: Defense Documentation Center, 1969, 496 pp.

*Bibliographies; *Decision Making; *Management; *Operations Research; *Systems Analysis; Computer Programming; Critical Path Method; Game Theory; Mathematical Models; Scheduling

Systems-Operational Planning, Vol. 12, Alexandria, Va.: Defense Documentation Center, 1967, 197 pp.

*Bibliographies; *Factor Analysis; *Operations Research; *Systems Analysis; Game Theory; Mathematical Models; Planning, Simulation

Systems-Planning Requirement, Vol. 13, Alexandria, Va.: Defense Documentation Center, 1967, 208 pp.

*Bibliographies; *Decision Making; *Operations Research; *Systems Approach; Management; Planning

ACKOFF, RUSSELL L. "The Development of Operations Research as a Science," *Operations Research*, June 1956, 265-295.

*Bibliographies; *Decision Making; *Operations Research; *Theories; Information Seeking; Models; Organization

ALEXANDER, CHRISTOPHER. *Notes on the Synthesis of Form*. Cambridge, Mass.: Harvard Press, 1964, 216 pp.

*Decision Making; *Design Needs; *Methodology; *Problem Solving; Design; Mathematics; Organization; Performance Factors; Physical Environment; Planning; Problem Sets

ALEXANDER, CHRISTOPHER, SARA ISHIKAWA and MURRAY SILVERSTEIN. *A Pattern Language Which Generates Multi-Service Centers*. Berkeley, Calif.: Berkeley Graphic Arts, 1968, 238 pp.

*Architecture; *Building Design; *Language; *Public Facilities; *Specifications; Organization; Physical Design Needs; Problem Solving

ARCHER, BRUCE. *The Structure of the Design Process*. London: Royal College of Art, 1968, 211 pp.

*Design; *Design Needs; *Logic; *Methods; Decision Making; Management Development; Operations Research; Problem Solving; Skills; Vocabulary

BERTALANFFY, LUDWIG VON. *General System Theory-Foundations, Development and Applications*. New York: George Braziller, 1968, 289 pp.

*Information; *Mathematics; *Science; *Systems Concept; *Theories; Bibliographies; Biology; Models; Organization; Psychiatry; Psychology

CAMPION, DAVID. *Computers in Architectural Design*. New York: Elsevier Publishing Co., 1968, 320 pp.

*Architecture; *Computer Programming; *Computers; *Design; *Methods; Bibliographies; Scheduling; Statistical Analysis; Techniques

CHURCHMAN, C. W., and R. L. ACKOFF. "An Approximate Measure of Value," *Operations Research*, May 1954, 172-187.

*Decision Making; *Evaluation; *Objectives; *Operations Research; *Problem Solving; Methods; Problems

CORKILL, PHILIP A. and ROBERT F. GUENTER. "A Systematic Approach to Design," *AIA JOURNAL*, Dec. 1968, pp. 75-77.

*Architecture; *Architectural Education; *Design; *Methods; Systems Approach; Architectural Programming; Problem Solving; Systems Analysis; Teaching Techniques

DYCKMAN, J. W. "Planning and Decision Theory," *Journal of American Institute of Planners*, Nov. 1966, 335-347.

*Decision Making; *Planning; *Prediction; *Problem Solving; *Scientific Methodology

EBERHARD, JOHN P. "A Humanist Case for the Systems Approach," *AIA JOURNAL*, 1968, pp. 34-38.

*Evaluation; *Problem Solving; *Systems Approach; Architecture; Building Design; City Planning; Feedback; Methodology; Organization

EHLER, CHARLES N. *Environmental Impacts of New Technology Annotated Bibliography*. Ann Arbor, Mich.: Architectural Research Laboratory, University of Michigan, 1969, 168 pp.

EVANS, BENJAMIN H., and C. HERBERT WHEELER JR. *Emerging Techniques-2-Architectural Programming*. Washington, D.C.: American Institute of Architects, 1969, 68 pp.

*Architecture; *Design; *Programming; *Techniques; Bibliographies; Communications; Evaluation; Information Seeking; Information Storage; Methods; Planning; Problems; Testing

GOODMAN, A. F., L. GAINEN and C. O. BEUM JR. *Complete System Analysis: Computer Simulation and System Optimization*, El Segundo, Calif.: North American Rockwell Corp., 1968, 63 pp.

*Computers; *Methods; *Systems Analysis; *Systems Approach; Computer Programs; Mathematics; Research

GROSS, BERTRAM M. "The New Systems Budgeting," *Public Administration Review*, March-April 1969, 113-137.

*Budgeting; *Government (Administrative Body); *Planning; *Programming; *Systems Approach; Cost Effectiveness; Decision Making; Problem Solving; Program Planning

HILLER, FREDRICK S., GERALD J. LIEBERMAN. *Introduction to Operations Research*, San Francisco: Holden-Day, 1967, 639 pp.

*Decision Making; *Mathematical Models; *Mathematics; *Operations Research; *Theories; Critical Path Method; Game Theory; Linear Programming; Problems

HUGHES, JAMES, and LAWRENCE MANN. "Systems and Planning Theory," *Journal of the American Institute of Planners*, Sept. 1969, 330-333.

*Planning; *Systems Analysis; *Systems Approach; *Systems Concept; *Theories; Bibliographies; Methods

JONES, J. CHRISTOPHER. "Design Methods Compared 1: Strategies," *Design*, Aug. 1966, 32-35.

*Decision Making; *Design; *Methods; *Networks; Evaluation Methods; Imagination; Logic; Synthesis; Systems Analysis

JONES, J. CHRISTOPHER. "Design Methods Compared 2: Tactics," *Design*, Sept. 1966, 46-52.

*Design; *Methods; *Problem Solving; *Thought Process; Check Lists; Computer Oriented Programs; Scientific Methodology; Systems Analysis

JONES, J. CHRISTOPHER, and D. G. THORNLEY (Eds.) *Conference on Design Methods*, New York: MacMillan, 1963, 222 pp.

*Decision Making; *Design; *Methodology; *Problem Solving; Architectural Education; City Planning; Communication (Thought Transfer); Computers; Concept Formation; Conferences; Creative Thinking; Systems Approach; Systems Concept

KAUFMANN, ARNOLD. *The Science of Decision-Making, An Introduction to Praxeology*, New York: McGraw-Hill, 1968, 256 pp.

*Decision Making; *Methods; *Scientific Attitudes; Bibliographies; Charts; Communications; Cybernetics; Experience; Models; Simulation; Statistics

MANHEIM, MARVIN L. *Hierarchical Structure—A Model of Design and Planning Processes*. MIT Report No. 7. Cambridge, Mass.: MIT Press, 1966, 227 pp.

*Decision Making; *Design; *Methodology; *Planning; *Problem Solving; Bibliographies; Computers; Evaluation; Graphs; Highway Engineering Aids; Mathematics; Models; Search Strategies; Selection

MATTOX, ROBERT F. *Computer Modeling in Campus Design, Case Study at Duke University, Final Paper*, Washington, D.C.: American Institute of Architects, 1967, 12 pp.

*Campus Planning; *Computer Programs; *Computers; *Cybernetics; College Planning; Data Processing; Design; Electronic Data; Processing; Information Processing; Master Plans; Planning; Programming; Spatial Relationship; Space Utilization

RONAYNE, MAURICE F. "An Annotated Bibliography for the Systems Professional," *Systems and Procedures Association*, 1962, 353 pp.

*Bibliographies; *Management; *Planning; *Systems Analysis; Data Processing; Design; Evaluation Methods; Information Processing; Research; Training

WASSERMAN, PAUL. *Decision Making, An Annotated Bibliography*, Ithaca, N.Y.: Graduate School of Business and Public Administration, Cornell University, 1958, 178 pp.

*Bibliographies; *Decision Making; *Mathematics; *Psychological Characteristics; Communications; Information Processing; Information Seeking; Leadership

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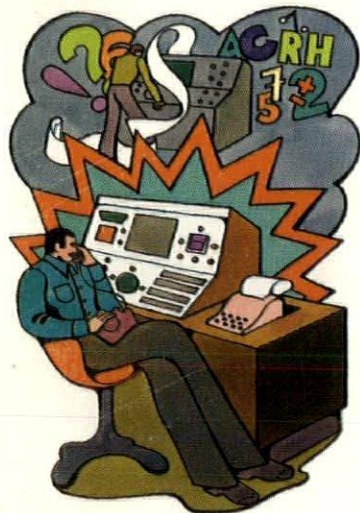


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