A·I·A Journal

SEPTEMBER 1964

Cover: Symbolizing US-Mexican friendship (p 33), our design is adapted from a brochure issued by the gateway city of El Paso

OCTOBER
SPECIAL ISSUE

OFFICE PRACTICE
Guidelines and Goals

Edited to aid the practitioner, young or old, in large office or small, this will be a real nuts-and-bolts issue, including five of the popular workshop sessions held at the St Louis convention. Guest editorship is being shared by Daniel Schwartzman FAIA, Chairman of the Commission on Professional Practice, and Robert J. Piper AIA, Director of the Institute's Professional Practice Programs.

The articles will encompass all nine of the Commission's committees: Documents Review, Office Procedures, Insurance and Sureties, Specifications, Building Codes and Disasters, Architectural Building Information Services, Architects-Engineers Conference, AIA-PC Liaison, AIA-AGC Liaison. A sampling:

A Look at Personnel Policies

BY RONALD A. SPAHN AIA

A survey of forty-eight offices of widespread size and location indicates a divergence of practice in such matters as tenure, hours, overtime, etc

Owner-Architect Agreements for Comprehensive Services

BY ROBERT J. PIPER AIA

This is a study paper, an examination into the consideration surrounding the construction of a new form when the architect is to be retained for something more than basic architectural services

What AIA Chapters Can Do in the Field of Office Practice

BY W. E. FREEMAN JR, AIA

The amount of activity which goes on at the chapter level in this area may surprise some readers, but as the author points out, "The study, refinement and establishment of office practice procedures would have little value if they could not be applied by the individual member at the local level." A selected listing of chapter projects makes the point

THE EDITOR'S PAGE

Permanent Past vs Predatory Present

If Brussels needed a new Hôtel de Ville would they tear down the old one? Can you imagine the citizens of Brussels—or Bruges, or any other old city—agreeing to the demolition of the buildings on even one side of their public square, to make way for a new municipal office building? No indeed, if a new building is needed they build it someplace else. The old square, the old buildings, are too much a part of the very fabric of the city to be wiped out to make way for the twentieth century.

Most of the cities of the old world are an intimate blend of the past and the present, and they have always been so. David Douglas says in "Golden Ages," "Certainly no visitor to Paris in the time of St Louis could fail to be conscious of an intimate blend therein between past and present." Even in the thirteenth century the face of Paris presented the city's history in stone and timber, as it does today.

As cities grow in this country they tend to lose their identities; they lose their distinction and interest, that which reflects concern for human, rather than mechanical, values. To avoid acquiring this characterless facelessness, cities must retain the great variety of forms which have meaning for people. Some such forms—buildings, or groups of buildings; squares, streets or other open places—may be just old or historic, others may be evocative of local personalities or events, some may be of architectural value, others, though unimportant in themselves, may enhance the over-all visual value of the environment.

The attrition rate of these buildings is phenomenal. Foreign observers see this predatory progress more clearly than we do. There is the story of the traveling British architect who asked, "Why is it you Americans tear down your permanent buildings and put up temporary ones?" And another British architect, Patrick Horsbrugh, now at the University of Nebraska, has many times pointed out the extraordinary rate of loss in the US of buildings which should be cherished as monuments. (In New York City, a survey was begun in 1951 of buildings worthy of preservation; the list finally totaled over 250. By the time the survey was completed in 1955 over twenty per cent of them had been torn down.)

Groups and individuals all over the country have awakened to what is happening to their heritage, to the realization that the significant forms of their cities are disappearing at an alarming rate. Newspapers and magazines are filled with articles of protest and alarm. The architectural profession, alas, is too engrossed in great new works to heed what should be their first interest. With a few magnificent exceptions, the architects of the US have miserably failed to take the leadership in this business of preserving the unique character and the visual integrity of their cities.

And so, despite the hue and cry, the destruction goes on. Why? Stephen W. Jacobs and Barclay G. Jones, both formerly of the University of California at Berkeley, now both of Cornell, give four cogent reasons in their magnificent and monumental (yet unpublished) "City Design Through Conservation":

1) An insufficient awareness of the importance of this heritage, especially by the decision-makers.

2) The difficulty of identification of valuable items in cities, and the absence of any criteria.

3) Our present design methods do not take the trouble to retain important elements in the cityscape and don't provide any motive to do so.

4) There are no methods for weighing the value of these forms for the public, and no mechanisms for making such policy decisions at the local level.

Promoters, bankers and city and county officials still seem unable to appreciate the economic as well as the cultural values of conservation—it has not yet occurred to them that esthetics and history pay off. By and large, planning commissions, highway departments and others who prepare plans that affect large urban or rural areas, seem reluctant to consider conservation early in the planning process—it seems to have only nuisance value to them, as a source of trouble and delay. The fight *is* being carried on, however, by an ever-growing number of citizens. I have seen recently how genuine is their interest.

In June the Building Research Institute held a two-day forum on "Restoration and Preservation of Historic Buildings." There were five sessions, crammed with twenty speakers, who gave the best nuts-and-bolts program that has ever, I am sure, been produced anywhere on just exactly what to do and how to do it—and, most important, how *not* to do it. It was attended by 136 people, who came from all over the East, plus a few from the Midwest and even the West Coast—and they were mostly laymen.

About a month later, I attended a week-long seminar at Cooperstown, New York, one of those put on annually by the New York State Historical Association. The one that attracted me again this year was called "Saving the Past: Historic Preservation and City Planning." The lecturers were the two gentlemen from Cornell mentioned above, plus a third, Stuart W. Stein. It was the best damn presentation of urban esthetics to the layman that I have ever heard, with two or three fact-filled sessions on area preservation, urban renewal, political approaches, the setting up of local commissions and authorities and such matters. The class was composed of thirty-five or forty "just plain people"—again—from all over the East. They took elaborate notes, they asked good, hard questions, they lapped it up. They were a sophisticated bunch who knew what they wanted. *They* are the people who are leading the efforts to preserve the regional character and visual integrity of their towns.

The need for more effective efforts toward historic preservation, or area conservation, has reached a point where it can no longer be entrusted to the "teacup preservationists," as Charles Peterson calls them. Conservation must now become a part of the planning process in every community, whether carried on by a planning commission, renewal authority or other local group. And the members of the architectural profession, as those best qualified in such matters, should and must take a leading part.   J.W.
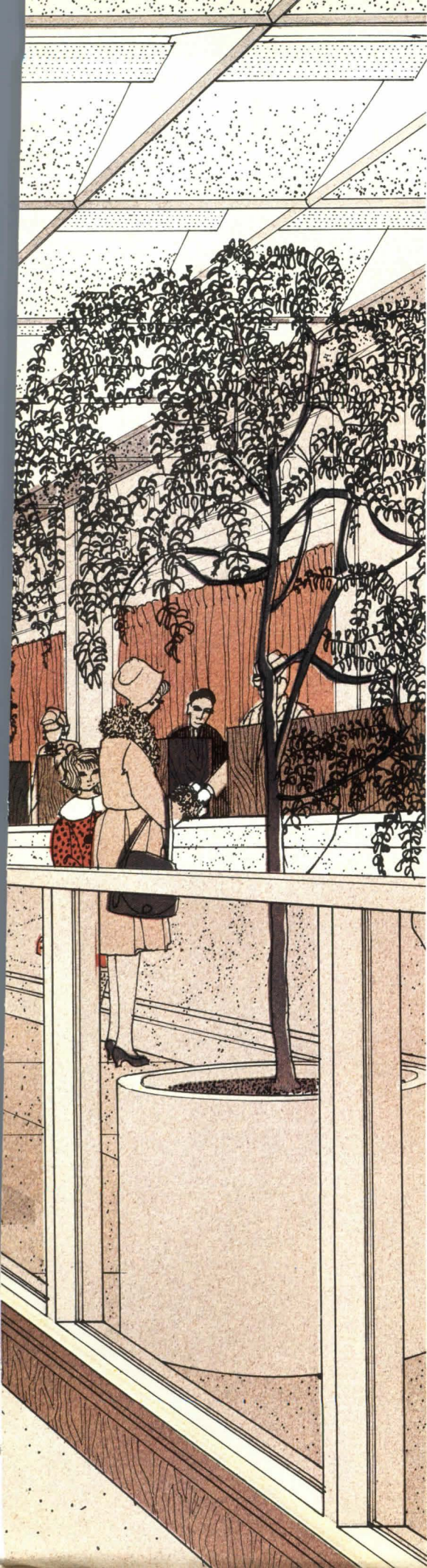
At work in Mississippi:
THE Ⓐrmstrong
LUMINAIRE CEILING SYSTEM

Here, the first integrated ceiling system creates an exciting new banking atmosphere. It also cools, heats, illuminates, and quiets.

The Armstrong Luminaire Ceiling System harmonizes beautifully with traditional interiors. That's why the architect chose it to modernize this Jackson, Miss., bank. But the Luminaire System contributes more than good looks. It also uniformly delivers conditioned air year round, illuminates, and controls noise.

Two-lamp, shielded fixtures illuminate to 100 footcandles . . . ideal for modern banking procedures. The light is even, yet visually interesting. (The system is available with one-, two-, or three-lamp fixtures. Light levels can vary from 50 to well over 200 footcandles.)

To assure the most comfortable banking environment, the system delivers 3.74 cfm/sq.ft. of conditioned air. It cools, heats, and ventilates. With the entire ceiling used to deliver air, distribution is draft-free and virtually noiseless.

The system's modular design greatly simplifies the ceiling and plenum. It eliminates all diffusers and most ductwork. Each 50″ module is a self-contained air- and light-distribution source. There are 128 modules installed throughout this 2,600-sq.-ft. area.

All Luminaire components are available from one supplier, supported by one grid. Installation is fast (especially valuable in remodeling installations). Even shielded, as here, lamps are easy to clean, replace. Initial savings of 30¢ to 50¢/sq. ft. are common, compared with independent lighting, air-distribution, and acoustical systems.

Horizontal ceiling panels allow the system's adaptation to any size or shape room. Specially designed to accommodate ceiling-high partitions, the system offers limitless layout flexibility. Further design variation is possible with the new B-48 modification. This system achieves an open, folded-plate effect, creates continuous bands of light. For complete information on both systems, write to Armstrong, 4209 Sage Street, Lancaster, Pa.

Jackson-Hinds Bank, Jackson, Miss.
Architects-Engineers: Cooke-Douglass-Farr, Jackson, Miss.
Electrical Consultant: Leigh Watkins III & Assoc., Jackson, Miss.
General Contractor: Wise Construction Co., Inc., Jackson, Miss.
Electrical Contractor: Seymour Electric Co.
Ceiling Systems Contractor: Nicholas Acoustics & Specialties, Jackson, Miss.
Mechanical Contractor: Independent Plumbing, Heating and Air Conditioning Co., Inc.

Ceiling Systems by Ⓐrmstrong

LETTERS

Reynolds Award: A Dissenting Vote

EDITOR, AIA JOURNAL:

The US Air Force Academy Chapel has been given the Reynolds Memorial Award for 1964. But to what extent does it really merit this honor? Unquestionably, the picture on the cover of your June issue is strikingly handsome and impressive. But this is due, it seems to me, much more to what the jury report calls "the intricate and beautiful forms of the pipe organ" than to the design of the building itself. And this is a view that the cadets using the chapel can see only momentarily, as they prepare to march out. When seated, they face the other way, toward the west end, which the jury describes as "lacking in the richness of material and inspiration of spirit which should be expected," as shown on page 29.

And the design has some other peculiarities that hardly appear justified. Because the inward slope of the roof trusses starts at the sanctuary floor level, half the width of the side aisles is lost, due to insufficient headroom. This is clearly shown in the section. The buttresses, shown in the same section, are apparently carried only by vertical columns and therefore cannot take up the thrust of the roof, which presumably is taken by tie rods under the floor. And the stairs from the campus to the sanctuary are about 30 feet high, all in the open, which in the snowy climate of Colorado does not seem very happy. There may be some inside stairs, behind the wall at the east end. I certainly hope so.

As for the exterior design, this is of course a matter on which everyone must form his own opinion. To my nineteenth century eye, it seems a piece of tin-can architecture, in which everything has been subordinated to a preconceived geometrical concept. I feel a complete lack of harmony between the lines of the chapel and the other buildings of the Academy, and between its spiky form and the rolling profiles of the mountains nearby. But this is just one opinion.

There must have been a number of other designs submitted in the contest for the award. It would be interesting to see what they were like.

JOHN J. KLABER AIA
Huntington, NY

Budgeting Taken to Task

EDITOR, AIA JOURNAL:

As a graduate architect attending Harvard Graduate School of Business, I am very interested in the recent article "Budgeting the Architect's Fee for Basic Services" appearing in the July issue. I am now working on my master's thesis which happens to be on this subject.

In regards to the article, I would like to comment on three main points. First, there is no mention in the article of what to do with the budget after it has been established. It is necessary not only to establish budget but also to provide a method that can be used to match actual performance with budgeted performance. It is this variance between actual and budget that will be important to the architect in managing his office.

Second, the tables in the article do not fully reckon with the problem of allocating indirect cost to all the projects. Following the procedure outlined in the article, it is impossible to determine whether the total indirect cost is fully or only partially absorbed.

Finally, the article tries to relate the timing of an architect's fee with a budget system. In my own research I would say it is impossible to use this cash-flow approach to acquire a reliable budget.

For my thesis I have developed a cost control procedure based on the cost per hour per draftsman to produce a project. The system is now being tested at Coletti Brothers, architects in Boston, and has proved useful for them. Presently, I am developing a set of graphs and charts that can be used by architects to both establish a budget and then determine the actual cost of that project during its progress and after it has been completed.

THOMAS J. EYERMAN
Brighton, Mass

One Architect's Convictions

EDITOR, AIA JOURNAL:

I am sure there must be other architects like myself whose work is not world-shattering and whose practice is in the smaller communities, who at times doubt the validity of our convictions.

Then in the April AIA JOURNAL we read Mr Bendiner's "Thru the Martini Glass" and our doubts were dispelled. We are encouraged to reaffirm our convictions that modern or contemporary architecture is not the only style; that traditional forms will always be in good taste; that they can be modified, simplified and adapted successfully to present-day needs. And, in so doing, produce a structure which will have warmth and color, as well as familiar elements in its design: elements which are known and understood by the man on the street.

This is not to say that I disapprove of contemporary style per se. I do think, however, too little thought and consideration is being given to the choice of elements of this style as they relate to the environment.

Contemporary architecture can be successfully integrated into a traditional environment without loss of its modernity. This has been successfully accomplished in the campus of a nearby college. Here a modern-styled library building has joined the company of derivative classic and pure Greek Revival. Through the judicious use of red brick and modified design elements of its neighbors, the building creates no disruption in the campus architecture.

Two dissimilar architectural forms can be in harmonious association, provided thought is given to their respective design characteristics.

I was saddened to learn of Mr Bendiner's passing. I am sure he will have much to discuss and laugh about with all the other great architects who have preceded him. Sir Christopher Wren and the rest must surely have been waiting for him to finish his work here and join them.

ARMOUR H. TITUS AIA
Rockton, Ill

OCTAGON OBSERVER

PRACTICE / Interpreting the Standards

As a result of articles published in the *Engineering News-Record,* the Institute has received inquiries indicating that these articles have caused confusion in the design professions concerning certain provisions in the newly revised Standards of Professional Practice of the AIA approved by the St Louis convention.

The sections of the Standards which the magazine articles had reference to are:

3.10 An architect shall not serve as an employee of unregistered persons who offer architectural services to the public, nor as an employee of an organization whose architectural practice is not under the identified control of a registered architect.

3.12 An architect shall not be or continue to be a member or employee of any firm which practices in a manner inconsistent with these Standards of Professional Practice.

In headlines and text the magazine interpreted these sections to mean that "An architect is forbidden to work as an employee of a consulting engineer."

In specific cases, when charges of unethical practice have been brought against a member of the AIA, the interpretation of the Standards is a function of the Institute's judiciary system. Interpretations by others than the Institute are presumptive and have no authority whatsoever.

For the benefit of readers who have been confused by such unofficial "interpretations," the following explanations are offered as clarification of sections 3.10 and 3.12:

Many consulting engineers have architectural employees to handle architectural work incidental to their engineering practice. There is no intent in the Standards to make it unethical for an architect to accept such employment.

Some firms combine the practices of architecture and engineering. They are organized with an established architectural division or section under the responsible direction and control of a registered architect who may be a principal of the firm or an employee. The Standards' intent does not make it unethical for an architect to be an employee of such a firm.

To cite a hypothetical case of another sort, a firm may compete with architects or architectural-engineering firms for building design projects and employ registered architects as minor employees to perform architectural work not under the responsible control of a registered architect. The registration and stamp of these employees may be used as a device to indicate that the firm can legitimately practice architecture, especially if a state registration law makes this subterfuge possible. There is a good chance that an AIA chapter would bring charges against an architect employed in this situation.

If a firm offering design services also engages in contracting, charges may be brought against an architect-employee under another section of the Standards

Ageless...because it's stainless

Sperry-Rand Building, N.Y.C., managed by Rockefeller Center. Architects—Emery Roth.&Sons. Consulting Architects—Harrison & Abramovitz. General Contractor—Uris Buildings Corp. Revolving Doors—International Steel Co.

A Stainless Steel door is beautiful, strong, corrosion-resistant, durable, easy to maintain, competitively priced.

No other material combines all the characteristics of nickel stainless steel. Its outstanding strength permits the use of thin members where desired, as in these revolving doors. Stainless steel has a subtle sheen that stays attractive for the life of the building with occasional detergent and water cleaning. Under normal conditions, it won't corrode, pit, tarnish or deteriorate. And since it's solid right through, there's no coating to scratch or discolor.

Why not specify the practical advantages and lifetime beauty of stainless steel for all your door and entrance designs. For helpful information and a list of door manufacturers, write for Inco's set of four "Architectural Guide Specifications for Stainless Steel Doors" covering revolving, swinging, sliding and rolling doors.

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New York 5, New York
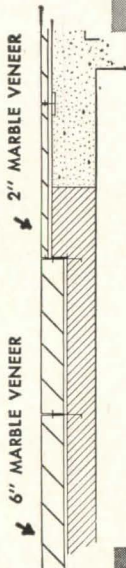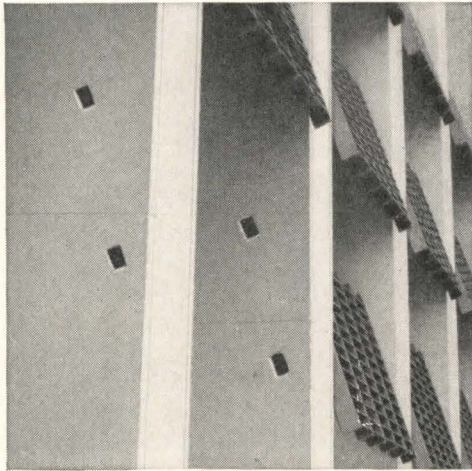
which forbids an architect to engage in contracting and thereby derive financial benefit from the profits of contracting. The same would be true for the architect-employee of a building contracting firm which employs architects to provide "design services" for clients as part of a "package deal."

The general intent of these sections of the Standards is to prevent architects from aiding unregistered individuals or firms which offer architectural services to the public in competition with architectural or architectural-engineering firms in a manner which is unethical, illegal, or both.

It is not the intent of these sections of the Standards to make it unethical for an architect to serve as an employee of a government agency or as an employee of a building industry organization or firm which does not offer architectural services to the public or engage in building or contracting. Such organizations are not presumed to be in competition with architects.

EXHIBITIONS / Latest in Libraries

Illustrating the general nature of today's libraries and their contributions to the communities where they have been built, an exhibit of 122 photographs and plans, together with an explanatory text, is being offered for sale by the Institute. The material, in the

New Libraries: Alice Graeme Korff, AIA Exhibits Manager, shows one of the 24 panels to Director Charles M. Nes Jr, FAIA, Baltimore; A. Quincy Jones FAIA, Los Angeles; Director Robert H. Levison, Clearwater, Fla

form of 24 panels, 30 x 30 in. and mounted on heavy card stock, is drawn from the Library Building Awards Program for 1963 and 1964 (see p 41 in this issue for the latter) jointly sponsored by the AIA, the American Library Association and the National Book Committee.

Each package contains six copies of a folder providing background material and listing the names of architects and buildings, which should be helpful in planning lectures and discussion groups. The bibliography is suitable for developing an extended program centered on library design. Parties interested in purchasing the exhibit, which sells for $30.00 each (express collect), should write the AIA, Dept E, 1735 New York Ave NW, Washington, DC 20006.

EDUCATION / Prerequisite for Survival

Twenty-six professors from across the land have completed four weeks on the University of Colorado campus learning about a type of construction none of them ever wants to see tested. The Institute for Protective Construction was sponsored jointly by the Office of Civil Defense, the CU Civil Engineering and Architectural Engineering Departments, the School of Architecture and the Bureau of Continuation Education. With Gale Vetter, associate professor of architecture and architectural engineering, as its director, the Institute concerned itself with shielding and design problems of fallout shelters.

TAKING DESIGN TO COURT: A general trial courtroom will be the subject of a national competition open to all architectural students at the third year level and higher and to all draftsmen under 30 years of age. The National Institute for Architectural Education will conduct the program—a 10-day exercise held between September 15 and January 15, 1965—for $1,700 in prizes sponsored by the Court Improvement Committee of the Junior Bar Conference and the American Bar Association. For details write the NIAE, 115 E 40th St, New York, NY 10016.

ON-THE-JOB TRAINING AT HOME: The Perkins & Will Partnership has initiated a professional fellowship program this summer with five college students participating in its Chicago, New York and Washington offices. In the 10-week period each student is being counseled by a partner and a senior associate.
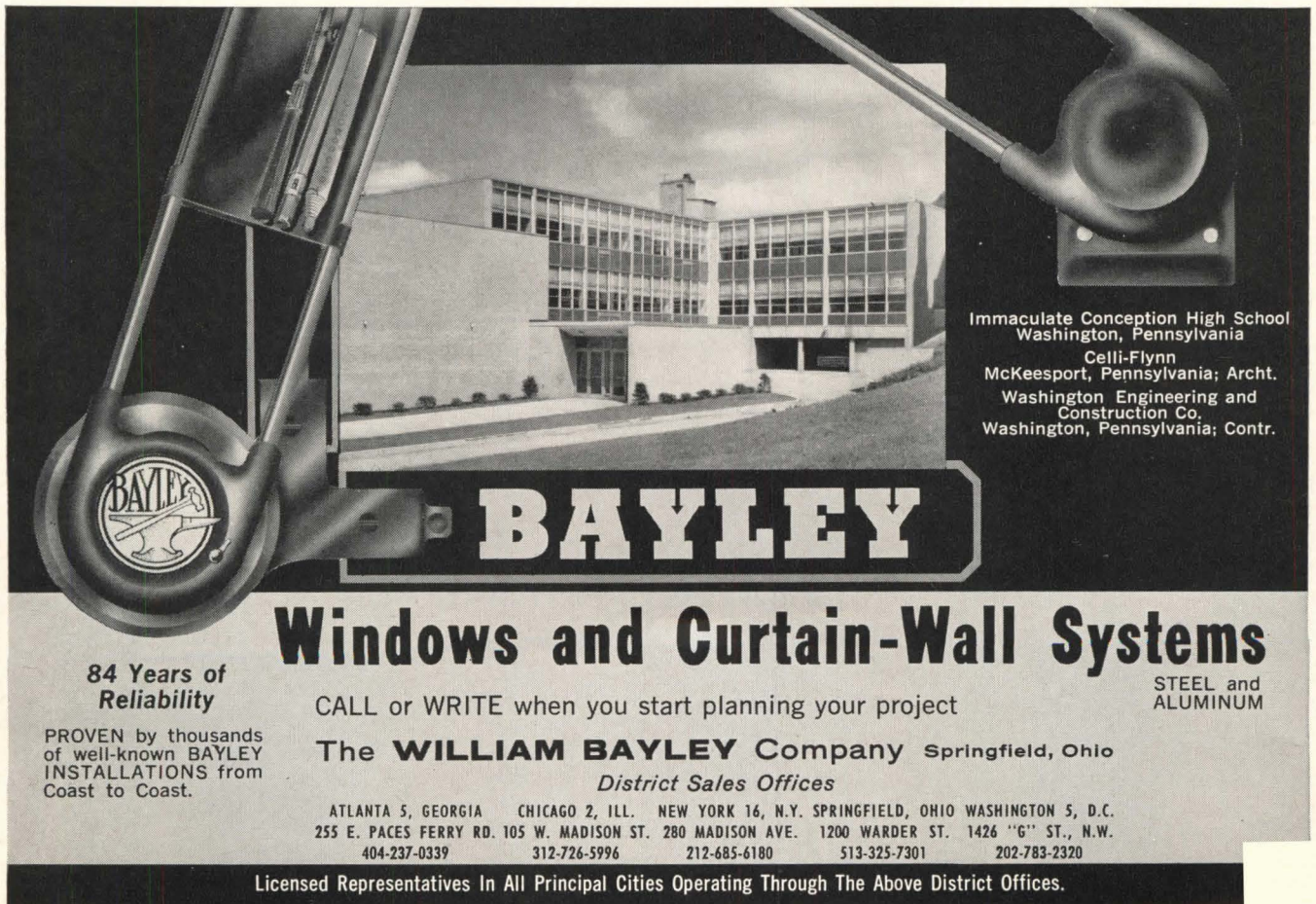
COLLABORATION / Money for the Mall

Believed to be the largest such project of its kind in the US, a $250,000 publicly supported art program for its downtown mall is under way in Fresno, Calif. George Tsutakawa, faculty member of the University of Washington who has an international reputation as a sculptor and artist, has received a contract for two bronze fountains to be placed in a six-block long, pedestrian-only facility now being built in the city of 150,000 people.

A second contract has gone to two local residents, Mrs Joyce Aiken and Mrs Jean Ray Laury, for 14 mosaic tile linings for drinking fountains and other water elements. The program will ultimately commission 14 artists for as many individual pieces.

MURALS FOR NEBRASKA: In announcing a program for the completion of the decoration of the State Capitol Building, the Nebraska Capitol Murals Commission is seeking an artist capable of executing a set of six mosaic panels, which will illustrate pre-established themes of the state's history. This will complete a project begun by Kenneth Evett in 1956 and developed by James Penney last year. Interested parties should contact the Commission at 519 Terminal Bldg, Lincoln, Neb 68508, before November 1.

El Chamizal

EDWIN W. CARROLL FAIA
Chairman, AIA Committee on Border Planning
and JONATHAN R. CUNNINGHAM AIP
Director of Planning, City of El Paso

The peaceful settlement of the long-standing Chamizal dispute will promote and strengthen the ties of freedom, culture and commerce with all the Americas at the gateway cities of El Paso and Juarez

UNPRECEDENTED INTERNATIONAL OPPORTUNITY

ON DECEMBER 20, 1963, President Johnson signed a treaty with Mexico settling the one-hundred-year-old Chamizal boundary controversy between Mexico and the United States. As stated by J. Roy Carroll Jr, FAIA, then President of The American Institute of Architects, in Mexico City in an address before the 1963 Pacific Rim Architectural Conference of the California Council of Architects, "This settlement offers one of the most remarkable opportunities for collaborative planning between two cities and two nations that has ever occurred in the Western Hemisphere. . . . The world may soon have a demonstration of what diplomacy, common sense and the art of environmental design can accomplish in the amicable settlement of age-old border disputes."

This opportunity, in itself, does not ensure an urban redevelopment worthy of this international achievement. Definition of objectives; further international cooperation of a type seldom, if ever, attempted; coordination of the construction programs of more than a dozen governmental agencies; support of the United States Congress and the Mexican Federal government, as well as the support of local communities and professional societies, are imperative. Determination, persuasion, patience and professional skill must all be applied in generous proportions if this achievement is to be memorialized by a unique urban design of international dimensions.

This opportunity arises out of the fact that the Chamizal Convention transfers 630 acres of land within the city of El Paso, Texas, to the city of
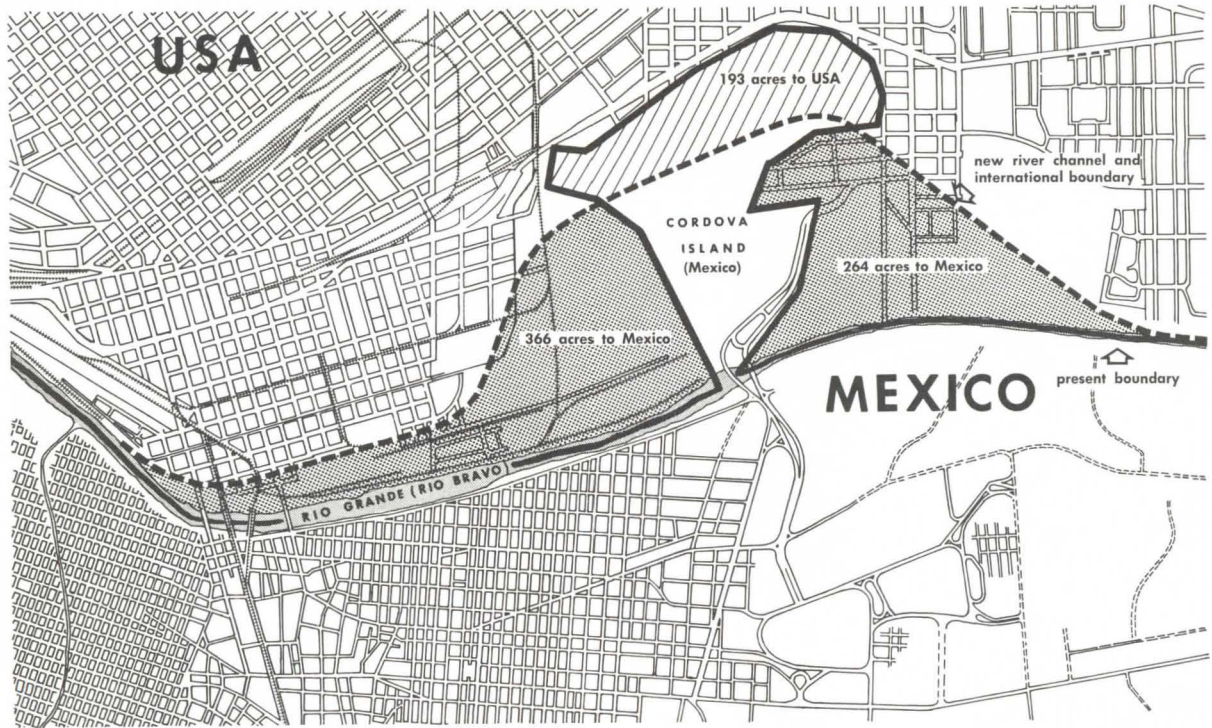
Juarez, Mexico, and 193 acres of land within Juarez to El Paso, a net gain to Mexico of 437 acres.

This agreement adds to a long list of already settled boundary problems which have arisen between the two countries due to the change of course of the river since the treaty of 1848, which established the Rio Grande as the boundary from its mouth to the New Mexico line. Under treaties signed in 1884 and 1905, more than two hundred detached tracts of land belonging to one country but attached to the lands of the other were eliminated. Pursuant to the 1933 treaty between the two countries, the Rio Grande below El Paso-Juarez was straightened by the International Boundary and Water Commission. Its meandering channel was shortened from 155 miles to 88 miles, and in this process 89 tracts totaling 5,100 acres passed from the United States to Mexico and 86 tracts with the same total acreage passed from Mexico to the United States.

The Chamizal settlement, however, involves the first exchange of land within an urbanized area and the first settlement wherein the jurisdiction of a portion of the land was under dispute between the two nations resulting from the river's frequent change of course. The controversy over this particular piece of land began with the actual survey of the Rio Grande River Channel in 1852 wherein the boundary in the El Paso-Juarez area was definitely established and approved by both nations. As the river through the years continued to move its channel south, the Mexican government claimed the area between the new river channel and the surveyed boundary line of 1852. The United States did not recognize these claims as development continued in South El Paso within the disputed area. Clouded titles in the Chamizal have already restricted the type of development, however, that would have been desirable.

President Taft and President Diaz finally submitted the matter to arbitration in 1911. The Mexican Commissioner and the Canadian jurist (third party) voted to award approximately 437 acres to Mexico, which they described as having been north of the Rio Grande channel in 1864. The US Commissioner refused to accept this ruling, contending that it was impossible to determine the river channel of 1864. Every administration since that time has made some effort to resolve the controversy and Presidents Taft, Harding, Coolidge, Hoover, Truman and Eisenhower made positive overtures at settlement, all unsuccessful. In July 1962 President Kennedy and President Lopez Mateos agreed to seek a solution. The US Embassy in Mexico City and the Ministry of Foreign Relations of Mexico were instructed to find some means of settlement at the earliest possible moment. The following year the recommendations of the State Department were approved by President Kennedy and President Lopez Mateos in July 1963. The terms of the treaty were agreed to and the treaty was ratified December 17, 1963, by the US Senate.

The Chamizal lands lie in the heart of the El Paso-Juarez international metropolitan area containing more than 600,000 people with a population of over 300,000 on each side of the Rio Grande. The metropolitan international community projected at the present rate of growth will reach 1,180,000 by 1980. The Chamizal is adjacent to and forms a part of a continuous development between the central business districts of El Paso and Juarez. In addition to being an industrial and commercial area, the Chamizal is home to 3,500 American citizens who will move from the Chamizal prior to consummation of the treaty.

The cities of "El Paso del Norte,"—"The Pass of the North"—began more than three hundred years ago with the founding of the Mision de Nuestra

Senora de Guadalupe de El Paso del Norte in 1659 in what is now Ciudad Juarez. The Ysleta Mission, now within the city limits of El Paso, Texas, was established in 1682.

El Paso became an important stopover and trading center on the Mexico City-Santa Fe wagon trail. Although both sides of the river were settled and cultivated with irrigation water from the Rio Grande, two distinct cities did not emerge until the middle 1800's. El Paso, Texas, acquired its name in 1858; El Paso del Norte was renamed Ciudad Juarez, Chihuahua, in 1888.

The two cities continue to perform the historic role of the community known as El Paso del Norte. The El Paso-Juarez metropolitan area remains a communication and distribution center for northern Mexico and southwestern United States. Six railroads meet in El Paso: four US lines and two Mexican lines. The people of the two cities are closely bound together by social, cultural and economic ties. There are sixty million border crossings between the two cities each year.

It is significant that in April 1960 President Lopez Mateos sent a delegation of Mexican architects and planners to the AIA annual convention in San Francisco to request cooperation and collaboration in planning along the 1,600-mile border between our nations. The AIA considered this proposal worthy and through the facilities of the Texas Region at the

Texas Society of Architects convention held in El Paso prepared a document with its Mexican colleagues known as "The Charter of El Paso." * The charter was designed by Arq. Guillermo Rossell HON FAIA, President of the joint AIA-SAM International Border Planning Committee, and formally signed by Philip Will Jr, FAIA, as President of the AIA, and Louis Gonzalez Aparicio HON FAIA, President of the Sociedad de Arquitectos Mexicanos, on November 4, 1960. This document pledges the untiring efforts of the two professional societies to the cause of cooperative and unified city planning all along the US-Mexico border. The objectives which it endorses have the support of the AIA as well as city planners throughout the US who were represented at the El Paso meeting by Charles A. Blessing FAIA, AIP, then President of the American Institute of Planners. The need for cooperative and unified city planning between Mexico and the United States was thus recognized before a settlement of the Chamizal controversy was thought possible.

The realization of the opportunity now presented for cooperative planning is a challenge to all who have a sincere interest in the achievement of excellence in civic design and international relations.

To implement the treaty, the river will be moved north to conform with the new boundary line and

* AIA JOURNAL, Dec 1962

the channel will be lined with concrete. New bridges will be constructed. The US government will compensate the property owners to be displaced. The structurally-sound buildings remaining will be purchased by the Banco Nacional Hipotecario Urbano y de Obras Publicas of Mexico. Of necessity the border inspection stations of both nations must be moved north to accommodate the new boundary. The railroad bridges and interchange yards must be relocated. Public utility facilities, schools, recreational facilities and other public buildings are affected by the settlement. The land on the north half of the area being transferred to the United States, known as Cordova Island, will be used by Federal governmental agencies, and that land which is not required for Federal purposes will be assigned to El Paso for public utilization.

Joseph Friedkin, US Boundary and Water Commissioner, and Herrera Jordan, Mexican Commissioner, have been designated to coordinate the planning essential to fulfilling the terms of the treaty. The El Paso Department of Planning represents the El Paso community and has participated in planning discussions with US and Mexican officials.

After the Presidents of the United States and Mexico approved the recommendations for the settlement, El Paso and El Paso County sent their Mayor and County Judge to Washington in October 1963 for a conference in the White House with other governmental agencies involved in the ultimate solution of the Chamizal problem. The purpose of the conference was to point out forcefully that it was acceptable for the Federal governments of the two nations to resolve the controversy, but that El Paso, Texas, should not be forgotten in the handling of the matter at a national and international level. The assurances received by Mayor Williams and County Judge Woodard were encouraging in that tentative commitments were made to compensate the local area for losses suffered through the settlement. Appropriate Federal departments are now in the process of preparing recommendations to the Congress for appropriations to carry out the requirements of the treaty and the supplemental program requested by the city of El Paso.

Also in October 1963, the authors of this article called on the US Embassy in Mexico City and the Directors of the Mexican Border Program to acquaint them with the mutual problems involved in the settlement. They also pointed out the remarkable opportunities afforded for a collaborative effort between the US and Mexico in the beautification and development of the disputed area into a symbol of unified design through friendly cooperation between the local communities and their national governments. There is every reason to believe that the Mexican government will cooperate in planning and building a complementary development on the south side of the Rio Grande. Such a development is in accord with the well-advanced Border Improvement Program initiated by President Lopez Mateos and directed by Antonio J. Bermudez. Other Mexican Federal departments such as the Departmento de Patrimonio Nacional have similar objectives.

The initial program proposed by El Paso and El Paso County is basically a Federal program to ensure a satisfactory treatment of the lands directly affected. This program is advocated as being in the national interest and in lieu of any claim of loss by the city of El Paso for the 437 acres tax revenues to local governments. The four-point program is as follows:

1) Adequate compensation to displaced US property owners to avoid loss or hardship in acquisition of the approximately 600 private properties and displacement of more than 3,500 people in El Paso. There is needed reimbursement to the private property owners as well as to the city of reasonable and just identifiable costs of relocation and re-establishment and indemnity.

2) A border highway along the new river location to provide the needed south loop main artery for traffic around the city in connection with the Federal and state highway system, which loop has not been possible because of the Chamizal dispute. It is needed to replace two of the streets in the downtown section of El Paso which will be lost by the settlement. Secondly, to improve and beautify the strip along the US bank of the new river channel and boundary location as a part of the coordinated plan with Mexico for a similar highway on its bank of the new channel.

3) A national monument park on the 193 acres of land which pass to the US from Mexico and on a strip of land along the new channel as a permanent monument and cultural center to commemorate the peace and good will reflected by the Chamizal settlement in this historic "Pass of the North" and to match the similar border improvement program on the Mexican side.

4) Federal irrigation canal relocation and improvement which has long been needed but not possible because of the Chamizal dispute. This canal should be placed underground in order to protect against further loss of life and unsanitary conditions in the old canal built in 1915. This improvement is needed to assure full use in the US of waters reserved to this country by the 1906 Water Treaty.

Thus far the efforts of the El Paso community have been directed to assuring a Federal development project of a character which will achieve the broad objectives associated with the settlement and which will complement rather than conflict with local interests. A much more difficult task remains to be undertaken: that of planning and achieving a complementary program of redevelopment of private property contiguous to the settlement area. A program must be devised which will challenge the imagination and command the cooperation of individual property owners. Finally, more direct communication and stronger administrative machinery are needed to further international metropolitan planning for the El Paso-Juarez area.

In the Chamizal settlement the governments have provided the setting with its opportunity. We hope that the challenge afforded to the architects, the planners and the builders will be accepted and accomplished with distinction. ∎

The Future
of the
Design Professions

S. B. ZISMAN AIA, AIP

*An address delivered at the 1964 annual meeting of the American Society
of Landscape Architects in Dallas in July*

THE mark of a professional is that he professes to know more than others the problems and answers of his professional field. He claims the exclusive right to practice what he professes. He asks that he be trusted and that he be granted special status in society.

The professional makes his profession and stakes out his claim on the basis of long-cherished beliefs that a profession requires a high degree of systematic knowledge, resulting from long, arduous and special training and experience, with apprenticeship served under professional masters; a commitment to the community and public interest rather than individual self-interest; a high level of ethics and standards established and maintained by codes of professional association; and the achievement of honors and prestige as well as monetary reward.

The traditional concept of the professions was that the professional practitioner was his own employer, never hired but rather retained or consulted by client or patron, with complete control over what he does and how he does it.

The design professions—those that tràffic in space forms—carry the classic concepts of the older "learned" professions of divinity, law and medicine into their own struggle for recognition and status. Their claim to esoteric knowledge, special skills and unique experience carries with it the additional posture of the arbiters of taste and beauty—the elusive human realm of esthetics—and the creators of the good environment.

Were the design professions simply to follow their present path and practice, there would be little to look forward to, other than continued confusion and chaos, despoliation and uglification, wretched cities and ruined countryside—and a continued diminution of their function and status in society.

More and more, the design professions particularly are brought to serve not so much the individual as patron or client but groups of people, committees and boards and above all a multiplicity of bureaucracies of business, institutions and government.

More and more the professional is appraised, judged and controlled not by his professional peers but by his administrative superiors. Increasingly he is asked to confirm and conform to a thickening stack of manuals, regulations, codes and administrative rulings. The creative task of preparing the imaginative program, of fashioning an individual approach is displaced by bureaucratic assignment. He becomes not the creative master but the cowed choremaster.

He sees a host of emerging professions making new claims on the provinces he has inherited as his own. He often is engaged in boundary and jurisdictional disputes with both old and new—and self-conscious—professions. The architect, landscape architect, engineer and planner are now joined in the fray by, among others, the computer conjurers, the dismal scientists and industrial designers.

In that regard, industrial designer Peter Muller-Munk makes this candid observation:

> The time has come . . . when any one profession had better stop kidding itself that it, more than any other, can control the total environment. . . . I don't think any one profession is able to handle the work of the world on its own. Today's problems are so complex that the professions interweave and overlap, and it is unavoidable and very necessary that they do so.
> . . . the fight for professional privileges . . . is a fight for prerogative, and we industrial designers are just as bellicose as anyone else.[1]

Even the very function of the design professions is challenged. It has been proposed with all the deadly seriousness of an economist that we had best work out the problems of the economy and the goals of the society before we try to design a good environment, that if there were a moratorium on all physical

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[1] *Progressive Architecture*, June 1964

planning and environmental design for twenty years, "it wouldn't make any difference."

It is an ironic note that in the very era of space adventure, where the far space is to be conquered as a goal in itself, the role of the space conquerors on earth is held to be little and perhaps useless.

Who Is Designing What?

This century has created a new world of an ever-expanding, complex technology, a proliferation of work in kind and number, and great changes in economic and social systems. We have not seen the full growth yet. The old order is old and, I'm afraid, disorderly.

The historic function of the established design professions is to deal with space, indoors and out. For the most part, each of the professions tends to go its own way—out of haughtiness or insecurity, one is not sure which. At the same time, each professional nurses the feeling that he is fully competent to give expression to the work of the others. He is a specialist ready to be general over all.

Yet the new and changing world, calling for even more specialization, will not permit this. The fracturing of specialization has produced the need for a synthesis of the disciplines, and there has been created the newer professional discipline of planning.

Until today, most of the practitioners in planning have come out of the established design professions. It is true that there have been and are distinguished planners who have come from other fields, notably law, but the roster is replete with landscape architects, engineers and architects.

It is significant that this newer of professions reflects the changes and challenges taking place. Planners are often criticized for being neither fish architect nor fowl engineer, that they are too much the generalist without any single basic familiar discipline. But this is the point precisely as an indication of what may be in store.

Planning today and perhaps even more in the future will not be limited to the older disciplines; added to the host are public administrators (each city manager is a planner in his own light), economists, sociologists, research specialists, data-processors—and the list is not closed.

What must be understood is that these specialists, no more than others, cannot make the new profession revolve about their own spinning planet. There is a new professional breed in the making, with its own systematized knowledge, its own special training and its own discipline.

What is disturbing is the question of who shall be the maker of design decisions, especially on the side of esthetics. In a society of numbers, the accountant threatens to take over from all: the bookkeeper becomes the arbiter of design. Where is the artist, the innovator, the creative form-giver—the individuals least identified professionally?

It is here that the space architects must step forward. It is no virtue or greatness that the architect or landscape architect shines as an administrator or business executive, or glibly talks of computers. Let him be what he professes to be: designer of spaces.

The romantic, creative individual is being submerged in the conforming group. Russell Lynes' "What's to Become of Architecture?" might be applied to the other design professionals:

Late in February of this year Union College . . . held a convocation to celebrate an architect.

The college had a special reason to remember a Frenchman named Joseph Jacques Ramée and to be especially pleased with him and with itself. Just a century and a half ago in 1814 its president, Dr Eliphalet Nott, had had the foresight (and good luck) to commission Ramée to make a "whole plan including a disposition of all the buildings and grounds" for a new campus for Union College. His elegant drawings—for a sort of Pantheon with a sweeping colonnade behind it and dignified, pilastered dormitories and classroom buildings set symmetrically to flank it beyond vast sweeps of lawn—laid out the first planned campus in America. Ramée not only imposed his will and his delight upon the landscape; he set an example that many other colleges in subsequent years took to heart. He taught them how to create an environment.

There is a lesson in Ramée still, and it is not a pleasant one. He is a reminder of the disagreeable fact that architects are not what they once were, no matter how talented. If Union College, or any other institution, were to celebrate some years hence the architecture of today, who would be the hero? There wouldn't be one. It would have to celebrate a committee, not a man, and not just one committee but a basketful of committees. It would have to celebrate a committee of architects (we call it a firm), a committee of engineers (because the intricacies of much modern construction are not within the mastery of most architects), possibly a committee of chemists (who concocted the materials with which the buildings were built), a committee of interior designers, a committee of acoustical experts, a committee of site planners and finally, that ultimate of all committees in grandeur and influence, the college's Board of Trustees, which approved of the design concocted by all those other committees.[2]

Fission and Fusion

Surely the design professions must change to the world as it will be—and if they are wise they will make their own changes—to plunge fully into environmental design and all that it implies. In a sense, every architect, landscape architect and engineer as he deals with the environment must become a planner too and be part of the emerging profession of the environmental planner.

More and more the architect finds that he must, if he is to establish the importance of his profession in the public mind, move not as an individual but as one of a group. He cannot singlehanded make any considerable impression on the environment and less and less can he afford to be merely the creator of individual gems to be put in tawdry settings. That is not to say that he must forgo his function as an artist and become merely a functionary, a committeeman, a name on a letterhead registering his disapproval of esthetic sin and his advocacy of plastic virtue. But he will have to become engaged intimately and doggedly in the larger problems of the environment. His horizon must move from the edge of the lot to the rim of the landscape. His concern must be not alone with buildings in which people do things—sleep, study, shop, play games, eat, carouse, meditate, relax, pray, putter—it must be with how they move from one

place to another, how they change their minds about what constitutes the good life, how values and standards of pleasure and necessity change from one decade to another.[3]

To move fully into environmental design, the first step as always must be in professional training. There is now the school of environmental design—a few now—but there must be more. There is no longer any excuse for the architect to be an appendage of the school of engineering or the landscape architect a part of the school of horticulture.

The professional organizations must take an affirmative, aggressive lead in the creation of schools of environmental design, addressing whatever trustees, commissions of higher education and legislatures necessary to meet the responsibilities of the future. In this, the professional society must make up its mind that the profession it represents will not be diminished, will not lose its identity, will not default in its professional commitment.

There will perhaps be needed a new attempt at apprenticeship, not in the Dickensian image but of a more sophisticated kind. Too many undertake professional responsibility too soon. Four or five years at school, even with the support of a licensing examination and registration, is not enough. There are too many unprepared for the tasks ahead, even with the appropriate professional letters after their names.

If these challenges are not met, the brighter spirits, the more able minds will continue to be drawn to other professions and more hacks and third-raters will be left to tackle the great design problems that face us in the future.

The practitioner too, as well as the student, will have adjustments to make to meet organizational necessities. He must work at and work out the adjusting mechanisms not only in the coordination of the several design professions in the planning synthesis but in his relation to other professions in the increasing organizational demands of society. There are heartaches and difficulties in this but adjustment must be made. There is some experience to observe in other professions—as, for example, scientists in government—but the design professions must find their own terms in the ever-growing maze.

The Great Arena

August Heckscher in "The Public Happiness" says:

The next decades will be a period of vast building and of great physical transformations of the American scene. It is not only that goods will pour from the factories. New highways will criss-cross the nation. Cities will be torn down and rebuilt. The countryside will become urbanized.[4]

It is in the urban arena above all that the design professions must perform. There will be some who shrink from this prospect and will defend desperately not only the virtue but the need of devoting their hearts and hands to the wide open spaces.

Yet if we understand more fully the great impact of urbanization on this century, we can come closer to the heart of the matter. I am not speaking of the urban problem in the older sense of the self-contained, easily identified city, town or village, with open countryside between one and the next. The surging, spreading, enveloping movement of a greatly increasing population in unprecedented prosperity and triumphant technology is changing, has changed all this. It is no longer the matter of lots, creeks and streets, but rather regions, systems and networks. We argue about the metropolitan problem when the regional question is before us.

The great task of the design professions lies in the creation of a new urban scheme where there is place and space for the intimate and personal as well as the vast and remote. As Heckscher points out, we are concerned too much about nature in its vacationtime, not in its everyday aspects.

They want a national park three thousand miles away; they do not seem to care—or to care enough—if there is no park to which they can motor on a Sunday, or one to which they could walk on their lunch hour. They want the wilderness to be forever wild but they seem to be unheeding if the roads are forever cluttered with billboards.[5]

In this great urban arena, there is now a great tangle of problems which somehow must be unknotted, and a great array of interests which somehow must be harnessed to get the new world won. There are a multitude of conflicts to be resolved.

The competition carried on among otherwise mutually respecting professionals is a dirty, hard fight. The highwayman in his deified status with billions at his command suavely throws such terms as "economic benefits" at the parkman and the schoolman. The dastardly destruction of parks and college campuses by the already almost obsolete expressway that is taking place in this country is hardly the shaping of a great civilization.

The scale of the urban scene, the complexity of its problems, the competition for the use of land, the alarm over pollution of air and water, the endless spread of suburbia, the repair of the outworn areas and the mad and irrational building of the new all cry out for a special breed of men, unafraid of size and difficulty, sophisticated in the new as well as the older techniques and tools and capable of growth in newer disciplines to reach a new kind of design discipline.

It does not belittle a landscape architect to become a regional planner, a synthesizer as well as a detailer, a member of what may well become a new profession. It is not enough that a design professional becomes an adherent to the bureaucracy of a highway department, making better in image or solution already accepted policies, programs and priorities; rather he must capture in new terms the position of the professional tradition, questioning, probing and proposing anew the space forms for the future. We do not need hacks in greater number in existing bureaucracies to shape the urban world anew; we need a new kind of creative master.

Could vanity and jurisdictional dispute be overcome I would suggest not merely a joining of forces by the present design professions in the task of

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[3] Lynes, *ibid*
[4] New York: Atheneum, 1962, p 232

[5] *Ibid*, p 239

evolving new urban forms, but the creation of a new level of environmental designer.

From our ranks—or from elsewhere—will come the kind of person who will meet the call of the President of the United States:

In the next forty years we must rebuild the entire urban United States. It is harder and harder to live the good life in American cities. There is the decay of the centers and the despoiling of the suburbs. There is not enough housing for our people or transportation for our traffic. Open land is vanishing and old landmarks are violated. Worst of all, expansion is eroding the precious and time-honored values of community with neighbors and communion with nature. Our society will never be great until our cities are great.

A second place is our countryside. We have always prided ourselves on being not only America the strong and America the free but America the beautiful. Today that beauty is in danger. The water we drink, the food we eat, the very air we breathe are threatened with pollution. Our parks are overcrowded and our seashores overburdened. Green fields and dense forests are disappearing. A few years ago we were concerned about the Ugly American; today we must act to prevent an Ugly America. For once our natural splendor is destroyed, it can never be recaptured. Once man can no longer walk with beauty or wonder at nature, his spirit will wither and his sustenance be wasted.

The Overriding Issue: Not Where to Build but Where Not to Build

We are still in the psychological mood of the old frontier. There is still the feeling that to escape crowding at one place we can simply move outward to build further out. By and large our concern has always been where to build, for space was always open freely about us. We have built everywhere, sometimes wisely, most often indiscriminately.

In planning, this is reflected in the great emphasis on land use. Only now is there a growing concern for the open space not merely as unused space—the vacant white patches of the colored land-use map—but as *a system of open spaces*. We have the beginnings of an analysis of open-space functions, types, purposes and uses. We are just beginning to formulate the rationale for an open-space system. Such terms as buffer spaces, green belts, green wedges, even later terms such as corridor spaces have become or are becoming common coin.

The new frontier is no longer the wide open space of a "continent so huge in its resources of land and forests, so unbounded that though men chopped away at them with only their own interests in mind, the great bulk of things remained unspoiled . . . The closing of the western frontier in the last century compelled the nation to turn about and live with itself."

The new frontier of the nation is the urban region and our frontier task is the shaping of a new urban civilization. The great issue is not so much *where to build but where not to build*. With the current concern for open spaces we can perhaps begin a grand program for environmental design.

If we could establish a system of open spaces from the intimate plaza space in the dense areas, through great corridor spaces planned for transportation routes, to the large free regional parks and preserved open countryside, we could have a basic structure for the space-form of a new environment. With such an open-space system, we could free building areas, opening the way to a great variety of architectural space expressions, where mixed uses in large concepts of design units could be developed to the limits of imagination. There would be place and space for the new town forms, for the rebuilding of the older complexes.

An open-space system could thus become a control for the urban space-form and replace the weak, inadequate systems of control, such as zoning and other regulations we now limp with.

The breakthrough in environmental design will come in this direction. Before us is the task of evolving a new urban form based on the planning of open-space systems.

The planner, the architect, the landscape architect, the engineer, the economist, sociologist and public administrator, the data processor and the other new emerging professionals might for once in this historic movement join hands and heart and brain in designing the urban environment of the twenty-first century.

In the future, perhaps even more than in the past—surely more than in the present—there must be an inner commitment to be concerned, to care, and care deeply, about what we do and what others do. The passive professional is no professional at all. There are battles to be fought, not only for commissions and fees but for the civilized environment itself. The commitment within must be partner to a public commitment, even as what is inside our skin is continuum with what is outside. Because we are armed with special knowledge and experience, we owe it to ourselves and to the community to engage in the contest for public decision, not only in creative contributions but in controversy if need be. We profess not only an occupation but an obligation to society.

Nothing is more symptomatic of our own state than the heedless, and determined, assault which is being made on the inherited environment, both natural and man-made.

The question is not whether the next decades shall see building and planning; these things in one way or another are bound to occur. The question is whether we can build with love and a sense of the values involved. . . . The physical and cultural environment has meaning only so far as it bears the marks of what we are and what we aspire to be. Without meaning, this environment must overwhelm the individual and hopelessly blur the beauty of both natural and created things.[6]

President Johnson has said:

Your imagination, your initiative, your indignation will determine whether we build a society where progress is the servant of our needs, or a society where old values and new visions are buried under unbridled growth. . . .

There is a world ahead to be fashioned, a world of growth, of great and varied work to which we owe greater skills, greater understanding—yes, even greater indignation—and, above all, greater faith in ourselves and greater love in what we profess. ∎

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[6] Heckscher, *ibid*, p 233

1964
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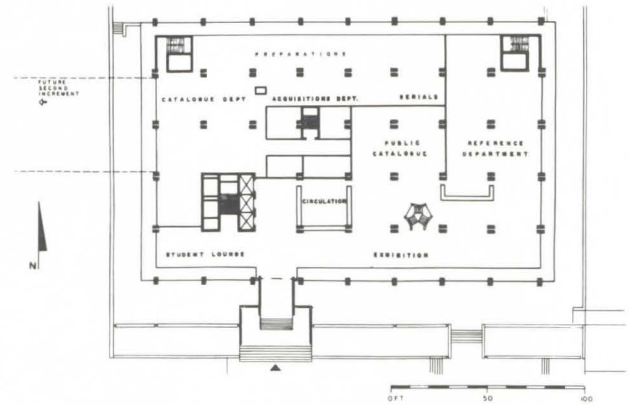
College Libraries

First Honor Award
Charles Patterson Van Pelt Library
University of Pennsylvania
Harbeson, Hough, Livington & Larson
Architects
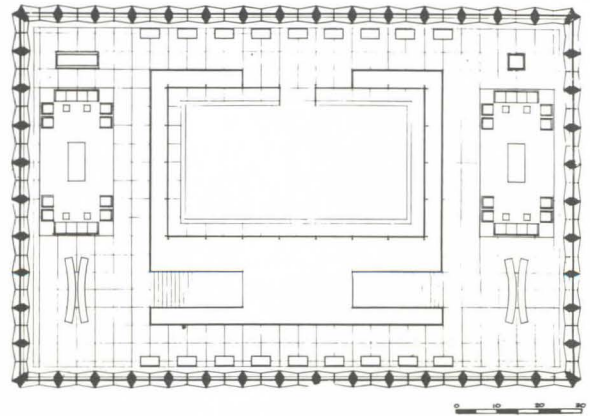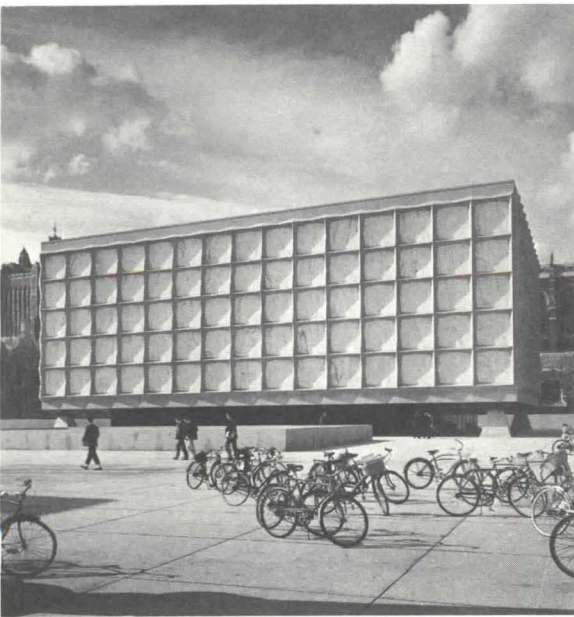
First Honor Award
Beinecke Rare Book & Manuscript Library
Yale University
Skidmore, Owings & Merrill
Architects

Award of Merit
Hollis F. Price Library
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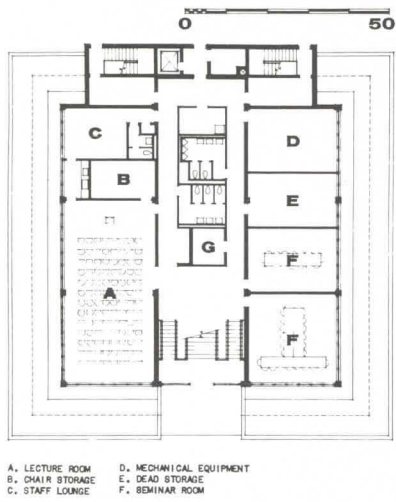
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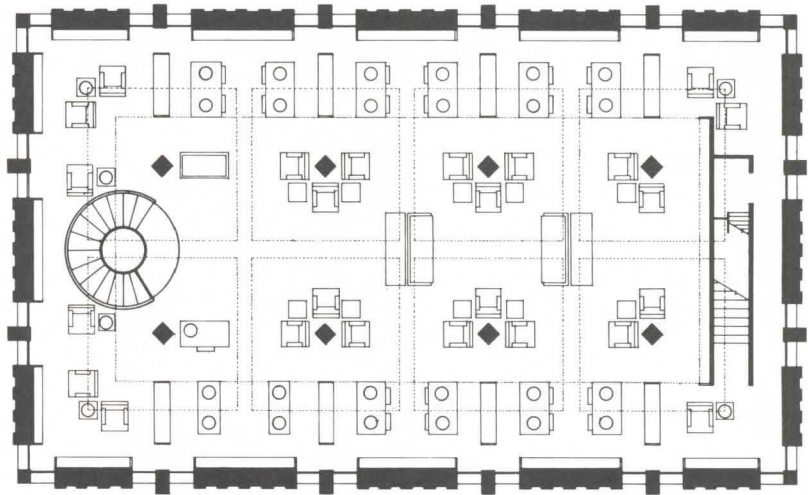
GOTTSCHO-SCHLEISNER, INC

Award of Merit
Archbishop Alemany Library
Dominican College, San Rafael
Schubart & Friedman
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KEY
1 ENTRANCE
2 GENERAL CIRCULATION CONTROL
3 CATALOG AREA
4 MAIN READING ROOM
5 CIRCULATING BOOK STACKS
6 REFERENCE BOOK STACKS
7 REFERENCE READING ROOM
8 REFERENCE CONTROL DESK
9 PERIODICALS
10 BIBLIOGRAPHY
11 PROCESSING
12 CATALOG & ORDER DEPT.
13 SHIPPING
14 STORAGE
15 CUSTODIAN
16 OUTDOOR READING AREA
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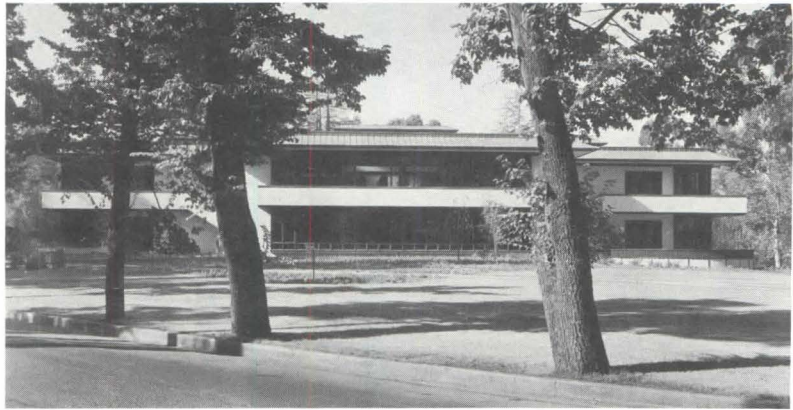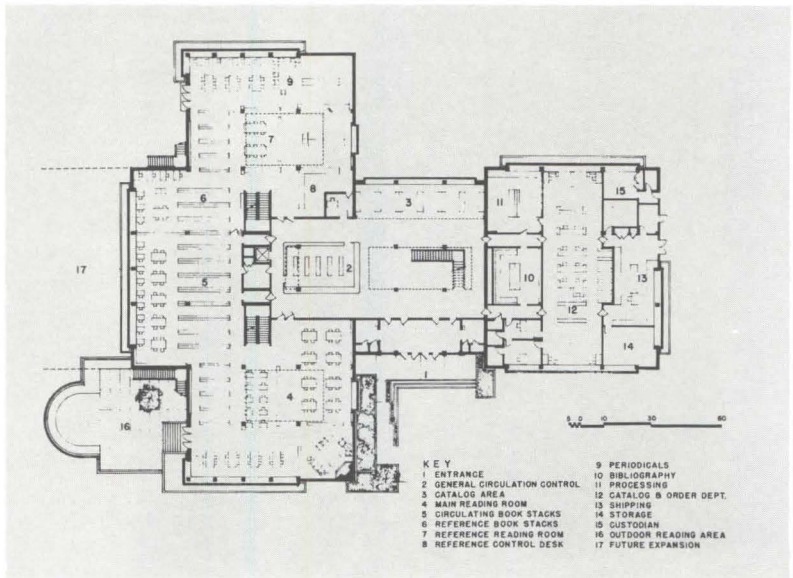
Award of Merit
Otto G. Richter Library
University of Miami
Watson, Deutschman & Kruse
Architects
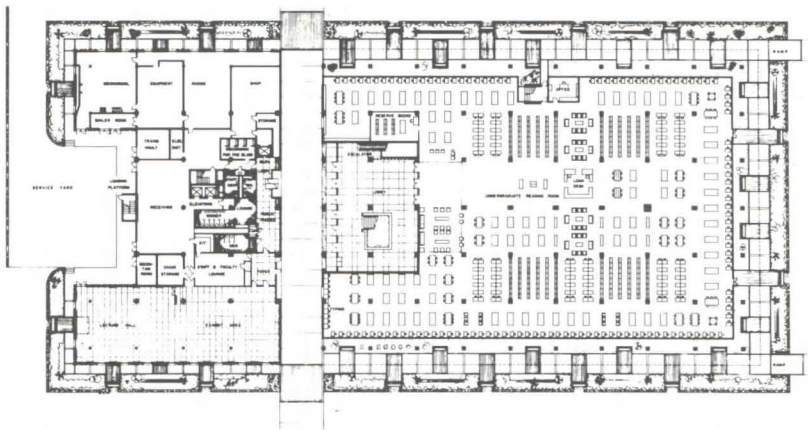
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Lafayette College Library
Easton, Pa
Vincent G. Kling FAIA
Architect
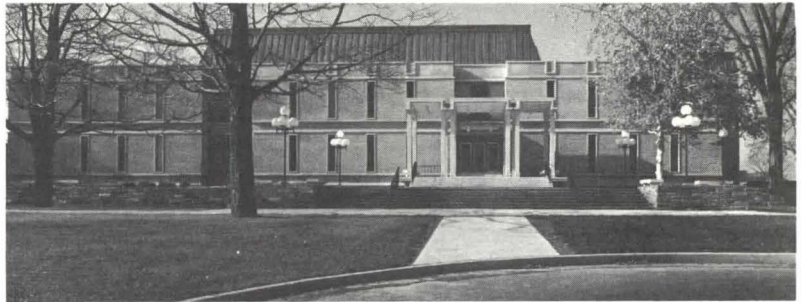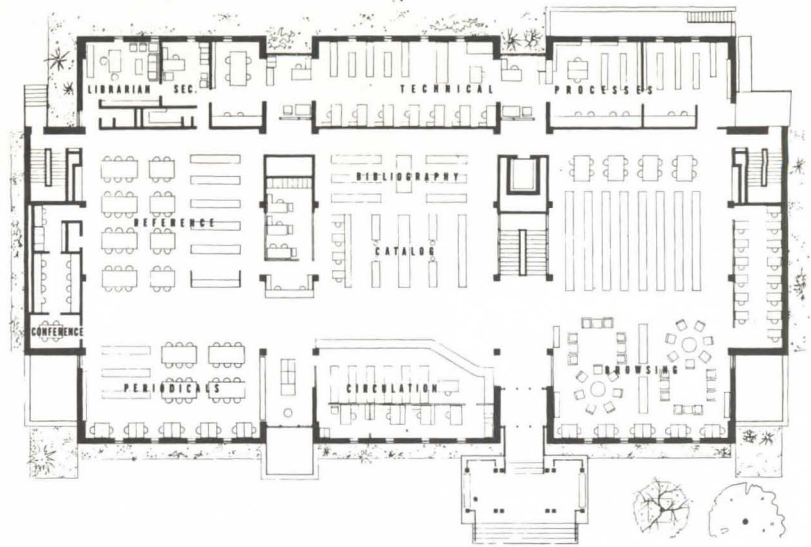
Public Libraries

First Honor Award
Flora B. Tenzler Memorial Library
Tacoma
Russell N. Garrison AIA
Architect

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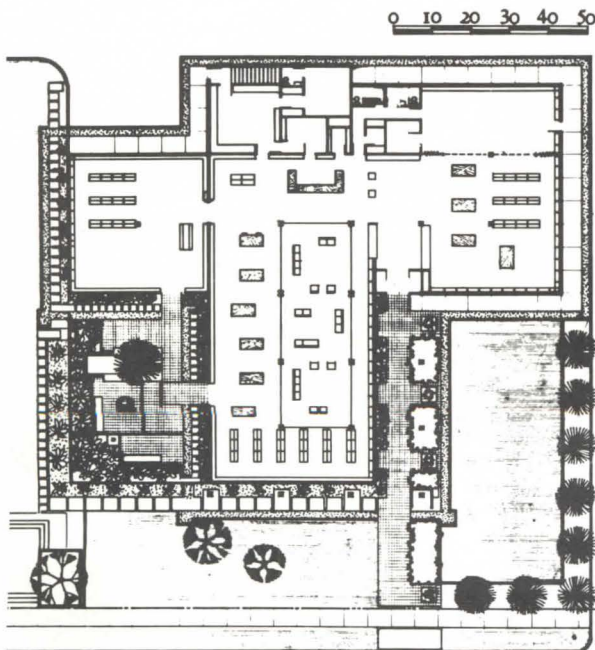
Award of Merit
Southwest Branch
Seattle Public Library
Durham Anderson & Freed
Architects
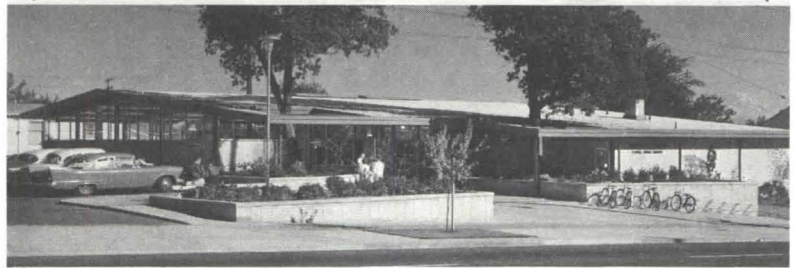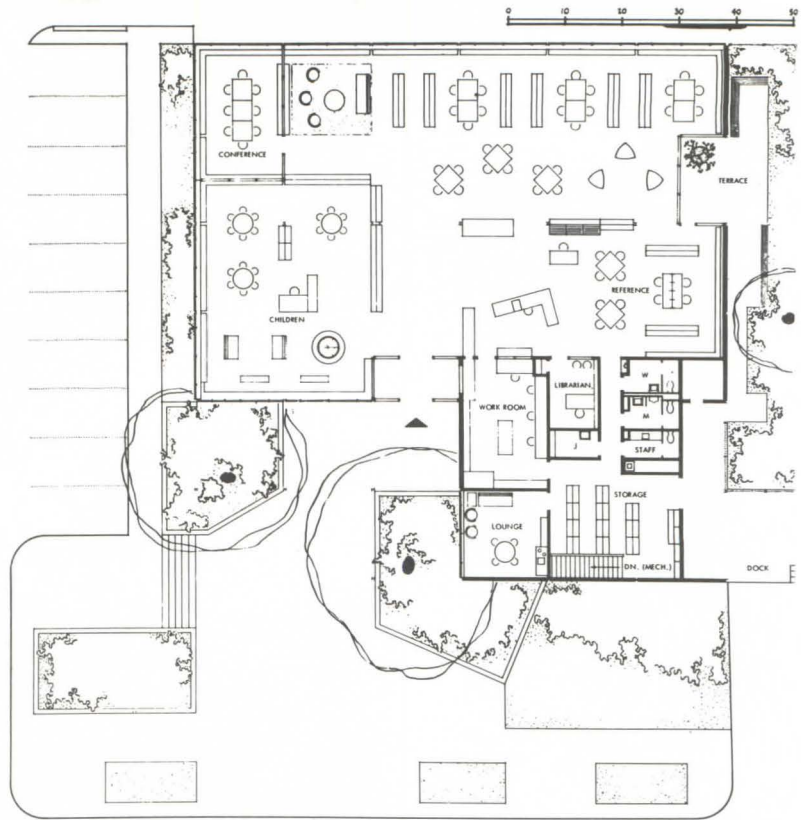
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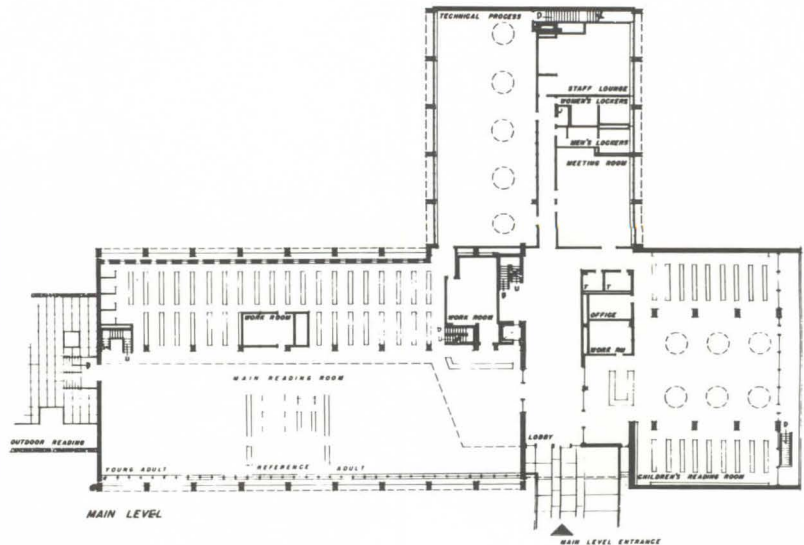
Award of Merit
Silas Bronson Library
Waterbury, Conn
Joseph Stein AIA
Architect
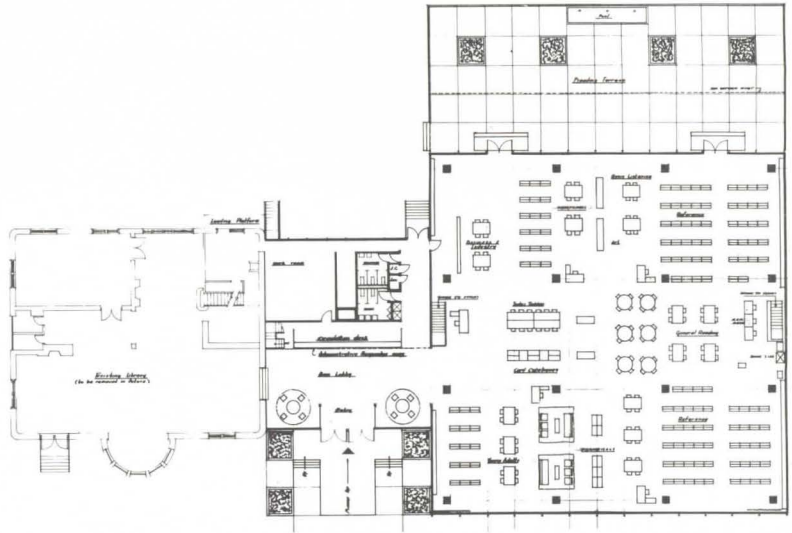
Award of Merit
Detroit Public Library
Cass Gilbert Jr
 & Francis Keally FAIA
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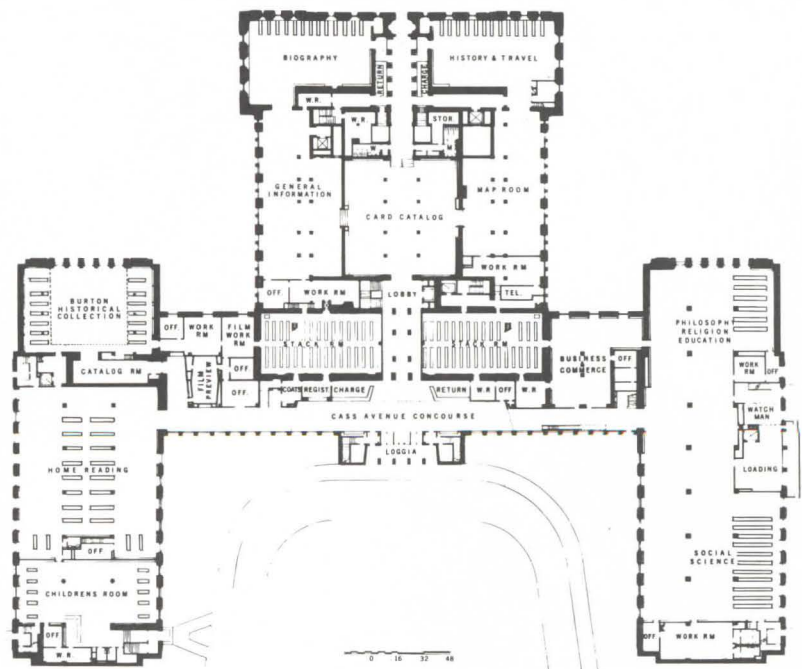
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Coconut Grove Branch Library
Coconut Grove, Fla
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Architects
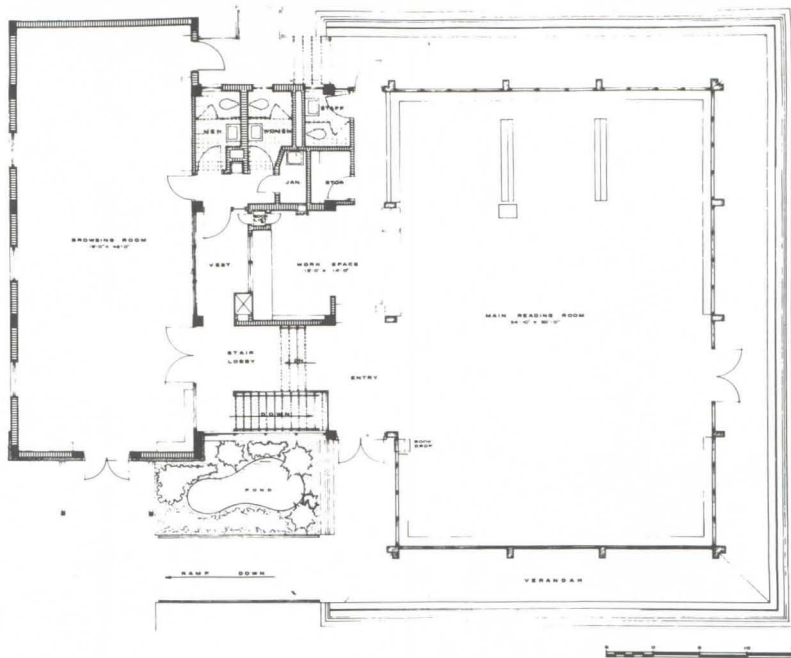
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Seaside High School
Fort Ord, Calif
Fred Keeble & George Rhoda
Architects
Gerald E. Ervin
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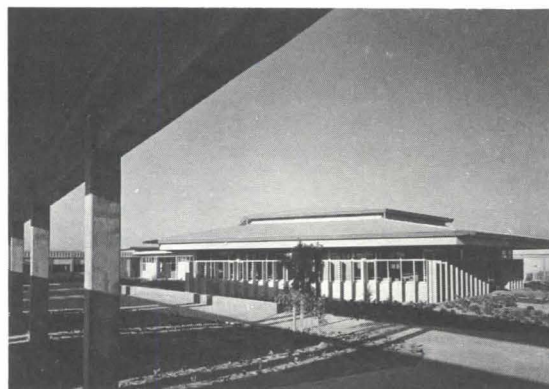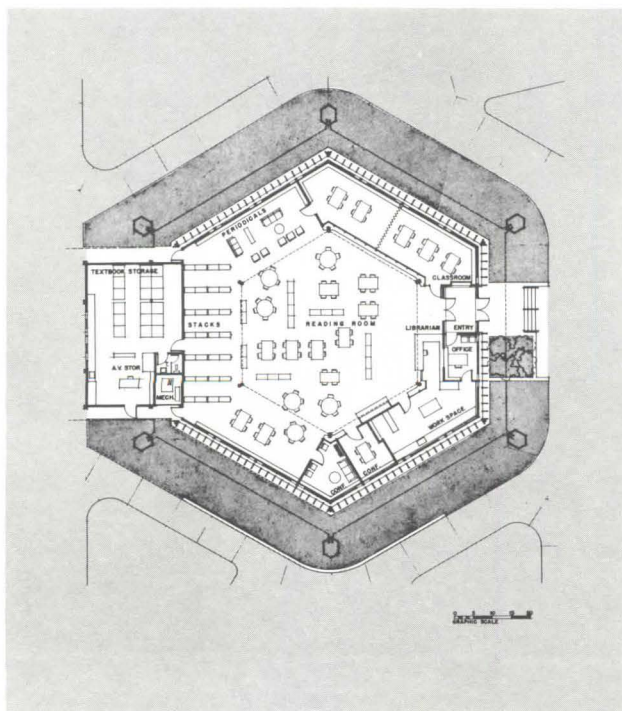
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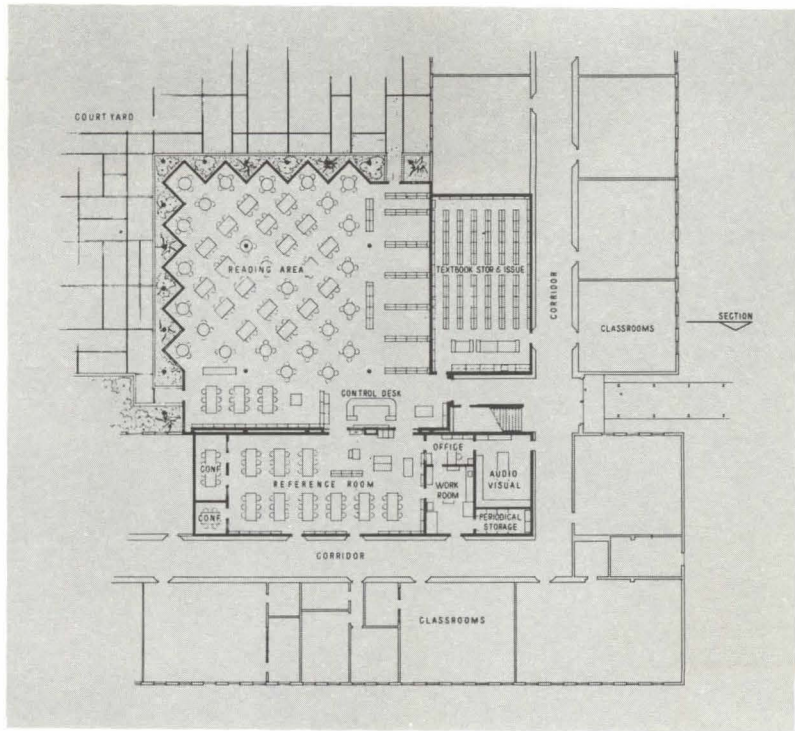
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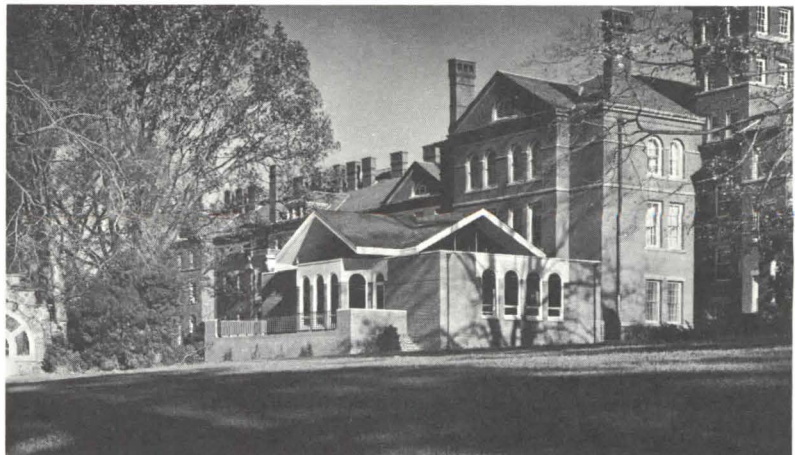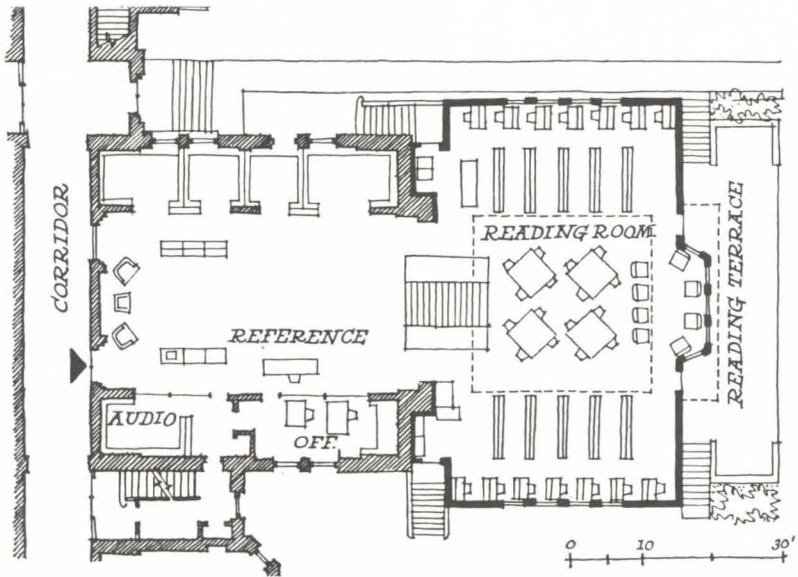
What Do We Look For in a Church Building?

EDITED BY JOSEPH WATTERSON FAIA

*The fourteen prepared addresses and two discussion periods of
the seminar produced such a volume of absorbing and valuable material
that editing it for publication required condensing it to one-tenth of its original
length. In endeavoring to select only that which was strictly
relevant to the avowed purpose of the meeting, it was necessary to
severely curtail or omit entirely many remarks even though they
provided great insight into American religion and religious life today*

Introductory

MR RICHARDSON

In 1961 it was suggested that the Institute sponsor an annual exhibition of religious arts and architecture which would include the Jewish, Protestant and Roman Catholic faiths. When the AIA Executive Committee instructed the Committee on Religious Architecture to work out the operational details, Scott Ritenour suggested that the project be expanded to include a research program into the religious needs of contemporary American society. A tentative statement of broad objectives and immediate procedures was approved by the AIA Executive Committee, and this seminar was set up to prepare the way for a long-range Interfaith Research Project. Its purpose is: 1) To analyze our society and the ways its religious buildings can make possible a more meaningful expression of its religious convictions. 2) To describe techniques by which this analysis could be explored and defined.

Toward these ends, the seminar discussed the following questions, with leading scholars presenting position papers on each:

· What kind of *people* have we in relation to religion in our contemporary American society?
· What are the forces of today's *civilization* which mold the people and influence their relation to religion?

· What must be achieved in religious building to provide the environment in which contemporary American man can find religious fulfillment?

In view of the lack of understanding of the factors which influence the building of churches and synagogues, as well as the rapidly-changing nature of our society and the ever-increasing investment of funds in our religious buildings, it is deemed advisable that a thorough study of the several interrelated fields be undertaken.

The work now being done suggests that designers are approaching their work without any common basic understanding of religion and its relation to architecture. The wretched quality of much current work suggests that there are no clear criteria, ambitions or aims existing in the minds of many architects and churchmen. The benefits which potentially could accrue to the profession, the religious bodies and to society at large from this enterprise are of the utmost importance.

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"One cannot hope to design a satisfactory church unless one is prepared to face fairly and squarely the question of what a church is for . . ."

—PETER HAMMOND

First Panel

What kind of people have we in relation to religion in contemporary American society?

SOCIOLOGY—DR SKLARE:

What might be called the glory of American religion is the extraordinarily high percentage of the population which has some sort of contact with religion. The overwhelming proportion of the American population, about 95 per cent according to the 1957 census, identify with some denomination.

I said "contact," and I am leaving this unspecified because I am not talking necessarily of affirming religious doctrines, attending services, membership in a church or making a contribution to a church. I would remind you of what de Tocqueville said after his trip to America in 1830, "There is no country in the world where the Christian religion retains a greater influence over the souls of men than in America." This is still true. This contact of people with religion is not sharply demarcated along the lines of class, sex, age, racial or ethnic background.

There is a differential of impact and involvement but we should not lose sight of the big fact which might be called the out-reach of American religion.

There is generally more involvement of women in American religion than of men. This does not necessarily happen in all societies. There are many societies where it is quite the opposite and therefore we must assume that there is nothing innate here.

Again, there is more involvement in religion at higher class levels. This is partly a manifestation of the tendency for greater involvement at the higher class levels in all extra-familial activities. There are, of course, examples of intensive working class involvement; Irish Catholics and Negroes are well-known in this regard. But we do not have true bifurcation in American religion; it is not distinctive to the middle class.

This leads to another significant fact, that there is no distinctive non-religious or anti-religious segment of society. There are people who are detached from religion and there are people who are indifferent to religion, but there is no group which is militantly opposed to religion.

As people are mobile in American society, so are they also mobile in their denominational affiliations. Religious institutions are active in recruitment—as they have to be because of this mobility. There is also class mobility, there is status mobility and there is geographic mobility. So people have to be won over and over again as they change their geographical location; as they change their class level; as they find different aspirations for themselves.

This leads to what to the sociologist is a prime characteristic of American religion, and that is its denominationalism, and I use denominationalism here in the following sense: sociologically, it expresses not so much unique theological perspectives, but social differences. Actually we know very well that within each denomination sometimes the differences are larger than between denominations. If one were to construct a pattern of reactions to this, one would see that the sociologists are not unhappy with it. They look upon this pattern of denominationalism as functional. The religionists and the professionals look upon it as a scandal.

More sociologists consider our population highly secularized. Religious motives, feelings and decisions are separated from other aspects of life, and there is little tension between religious institutions and the secular order.

Secularity is thus an aspect of the diffusion of religion in American society. There is another twist to this, namely, secularization of religion in American society is mediated by the moralistic emphasis of American religion, that is, the emphasis on principles, on ideals, on religion as showing the difference between right and wrong; the emphasis on religion as a system of ethics, and with little stress on the contemplative life, subordination of the mystical element in religion, subordination of the sacramental sense of the intellectual and of the theological element in religion. Very important here is the stress on the moralistic emphasis as permitting cooperation between religious groups because religious groups generally have the same ethical principles, and these ethical principles permit cooperation across religious lines, whereas the stress on transcendental beliefs would mean divisors. And also connected with this is the emphasis on religion as part of the national life—religion as necessary for American democracy, since democracy requires morality to operate, and morality requires religion.

This emphasis on American religion brings out a persistent fact in our religious life which definitely affects the shape of the buildings—the relationship of religion to the child.

"Religion is good for everybody, but it is especially good for children." This is because children need to be taught morality, and the source for getting their morality is religion. But there is a bigger point here which the relationship of religion to children brings to mind, and that is that religion is part of the social identity of the person, and that religion is malleable in terms of social identity.

One is not worried about shifting to another denomination as long as that denomination belongs to the same subcommunity—Methodists, Baptists, Presbyterians, Congregationalists are different in terms of doctrine, different in terms of church organization, but belong to the same subcommunity. Therefore, as one has the geographical mobility to change one's class, one can move to a different denomination depending upon what is available in the neighborhood, depending on what social position one denomination occupies in the region. A Roman Catholic may cross church lines to find a parish which is a little more suitable to his particular brow level, class position or his status position.

This leads to a very important aspect of American religion that has a great deal to do with the building of churches—the voluntaristic character of American religion, that is, the absence of any institutional connection between the church and the government. This separation is the voluntaristic ideal, and it makes American religion unique. It certainly makes American Protestantism unique in the Christian world since the American nation was the first nation in which religious groups were viewed as purely voluntary associations, where churches have to compete in the marketplace for support. A church building is a part of the competition, it is expressive of the competition and is an element in the competition.

This voluntarism involves an active laity to help the church compete in the marketplace, both with non-churches, or with anti-churches and with other churches, resulting in a unique type of lay personality in the church leadership.

Another aspect of voluntarism is congregationalism, by which I mean that relative independence and self-sufficiency of the local congregation, and its tendency to go its own way in spite of what has happened at higher levels in the institutional structure of the denomination.

Finally one more facet which many students would put high on the list of characteristics of American religion is its perfectionism and optimism, as contrasted to a dominantly somber and pessimistic theology committed to the doctrines of the evil nature

of man, the corruption of the world and ultimate damnation. Some say these doctrines are no longer adhered to, and that there is no longer a lag between American perfectionalism and a more gloomy theology. If this be so, there may be a contrast between the more sensitive and theological spirits and the dominant laity which inclines to perfectionism and optimism in spite of the theological revolution.

PSYCHOLOGY—DR LINN:

We speak of poverty and ignorance and addiction and anti-social behavior—the whole gamut of destructive behavior in which man destroys himself and his fellow men. There are a half-million patients in the mental hospitals of our country—more than all other patients in all hospitals for all other reasons. Add to this the fact that the people who fill these hospitals tend to come from certain specific social and economic areas, and you will realize that the social, moral and ethical concerns of the religionists and those of the psychiatrists overlap considerably.

Every individual has specific zones of responsibility. The first is common to all men—the responsibility as private citizens. But then there are further responsibilities, according to one's role in life. In psychiatry there are at least four separate zones of responsibility. The psychiatrist working in his hospital, operating within the zone of that hospital, might be doing a magnificent job, yet he might at the same time be inattentive to the fact that the slum neighborhood a block away was pouring people into his hospital and filling up its wards until finally people insisted that the zone of responsibility of the man in the hospital be extended into the community. But the psychiatrist says, "Look, I'm not trained for that. I'm not even interested in it. Leave that to somebody else."

Well, that's his privilege. But the family doctor might have a patient come into his office with a case of venereal disease, and he may fulfill his responsibility to that patient by giving him the appropriate quantities of penicillin, yet his zone of responsibility cannot stop there. He is compelled by law, and by his own obligations to his fellow men, to report the case to the authorities. At that point a new zone of responsibility is brought into operation, and other people go out and contact members of the family to prevent spread of disease. This is the second zone, and when the doctor in his office accepts the responsibility of the community, then there has to be administrative machinery to coordinate these activities, and this brings about the third zone. Finally, the administration of all these expensive matters involves money and legislation, so operating these affairs on a governmental level represents still a fourth zone of responsibility. These are the four zones of psychiatric responsibility. I leave it to you as architects to see whether there are parallel zones in your relationship to the community.

Five years ago there was established in uptown New York a comprehensive community mental health center where patients could be placed under observation or treated close to their homes and in their own environment—often without leaving home.

This conception of the comprehensive community mental health center, which is a multi-disciplinary, multi-goal series of endeavors to improve the mental health of the community, is the model I would like to present for what I would call a comprehensive community religious center. If it is put in those terms, it becomes quite clear that a lot of the religious structures we have all seen come nowhere near this concept. If the comprehensive community religious center is to have a point of contact with the people, it must be regionalized. This is implicit in what Dr Sklare refers to when he speaks of denominationalism. The comprehensive community religious center must address itself to the needs of its specific locale, and depending on the socio-economic and cultural factors, there may be different divisions in each region. Once this concept is established, you will recognize that instead of one magnificent edifice towering over a whole community, you will end up with population areas divided into many zones of responsibility, reaffirming perhaps, the old patterns of life that existed when we operated in smaller units.

An important psychiatric lesson we have learned is to work towards the smaller unit. How small is the unit? Everything in psychoanalytic theory starts with the proposition that the primary social unit is the family, and that everything that takes place in other groups is really conditioned, programmed and determined by primary family experiences. We also must know that there is no normal healthy development except in a context of normal family life, and that if the patient breaks down, there is no cure unless you can return him to a normal home—which means that you may have to help the family while he's in the hospital, or you may, if the family is beyond help, have to provide him with surrogate parents. In psychiatry, this translates itself into a vast program of so-called halfway houses, of shelter residences, and if this seems a far cry from a religious and architectural frame of reference, I would remind you of the whole program of the YMCA, which includes in its religious mission the recognition that there are people who have no roots and no homes, and who need them. Thus the mission of the comprehensive community religious center must be to reinforce normal family values, to shore up the weakness in existing family situations and to substitute a surrogate family where it may be needed. In order to get people with a sense of commitment, in order to teach them the techniques of such a complex program, there will also have to be a program of education—and you end up then with still another mission for the religious center.

In religion, as in psychiatry, there is a crisis mission and an ongoing mission. No human being can go through life without a series of crises—such as the feeling of helplessness when one has lost a loved one. There are great thresholds of life, whether it is embarking on a marriage or the birth of a child. These crises arouse in every human being a sense of awe, and the religious center must be prepared to present something that is in harmony with the need for acceptance of that sense of awe. This involves the use of symbols. I have noticed a curious reluctance and

embarrassment to recognize nostalgia as an influence in religious architecture. From the psychoanalytic point of view, the essence of the crisis experienced is what we call regression, a reaching back to a time in the history of mankind when life was somehow simpler, and solutions were provided by the living experience and knowledge of the continuity of human existence, the realization that what is happening today has happened for centuries. Regression must be accepted as part of the crisis experienced, not as something to be sneered at or rejected as sentimental.

Then there is the ongoing mission, the provision of an ongoing life experience with education, in the sense of the sermon as an educational experience. If a patient comes to a psychiatric hospital in an acute crisis, what he needs more than anything in the world is a face-to-face contact with a fellow human being. A loud speaker address system, a PA system, is no substitute. A television screen is no substitute. There is no substitute for the direct visual, living human contact between one human being and another, and any plan that eliminates that, eliminates the heart and soul of communication between human beings at the most useful level.

CULTURAL ANTHROPOLOGY—DR MOERMAN:

Dr Linn asked me a little while ago, "What is the difference between sociologists and anthropologists?" I think it was clear in his remarks that any psychiatrist speaking as a social scientist focuses upon the individual and upon the pattern. The sociologist goes to the other extreme and focuses upon categories— social categories, of the wealthy, the poor, the black, and the residents within a certain census area. The anthropologist comes from a discipline which has as its normal social reality in the community, a group of people in face-to-face contact with one another. In speaking of the religious career of the American individual or the American family, one can see religious membership, religious identification, denominational participation, as an emblem of class membership or membership in a certain category. One can also see the working out of American religion as an attempt by a group of individuals to make their social categories into a social group. This effort to translate our social categories into social groups, into real face-to-face human communities, in a society where we move about so much, means that to the lay member of a religious group a given institution or, in terms of this particular discussion, a church building, serves and symbolizes not a relation, not a denomination, not even a certain census area, but the congregation—a group of people who want to be a community. This is perhaps a more general and a more sympathetic way of phrasing the tension that exists between the congregation as a club, the congregation as a social group of like-minded people, and the religious building as representing the values and the aspirations of a denomination and of a religion.

A potential source of contribution to this conference, comes from the work of Peter Hammond, who in one of his books asks for ". . . an approach which starts not from formal concepts but from the analysis of human activities." This is a task which is often required of the anthropologist, since the formal categories of his own experience usually seem inappropriate to the human activity which he finds in an erotic setting. One purpose of this conference, as I understand it, is to enable us to view American religion with the same childish wonder and absence of preconception which the anthropologist tries to bring to his field of work. There is one question, however, with which anthropologists have traditionally been concerned when they talk or think about religion. It is a very elementary question: "What is religion?"

For us as native Americans, religion is what the clergy and the laity say it is. Since this conference is concerned with practical problems within our own culture, this simple definition at first seems sufficient. Nevertheless, an analytic definition has some interesting implications for our practical tasks. Older anthropologists tended to answer the question "What is religion?" by referring to the supernatural, but this sort of answer really begs the question since we can usually distinguish between the natural and the supernatural more easily than between the religious and the secular. Moreover, there are faiths, Buddhism and Communism, for instance, which certainly seem religious although their orthodox doctrines exclude the supernatural.

For such reasons, another definition of religion has gained favor, although it's not a specifically novel one. To quote one authority, this other definition, "held by a growing number of scholars and members of the general citizenry, sees religion as ideals or values, often ethical in nature, that are highly cherished and surrounded by intense emotional feelings."

They are, moreover, ideas which express and which frequently sanction, or even create, the unity of the social group. Now, our folk category of "religion" excludes a great deal which this definition would admit. In other words, a good deal of our religion in the analytic sense, is found in what most Americans would characterize as a secular life.

Architecture, like any significant product of our behavior, implies values which are felt by participants and made articulate by specialists. Our concern for these values is the reason for this seminar. But let us not forget that the value implications of a church building are not limited to liturgy, theology or even to the entire institution which the laity and the clergy call "religion," in the folk sense. It is conceivable that some of the values of religion in the folk sense may conflict with some of the highly cherished and intensely emotional values which dominate our so-called secular lives and thereby constitute American religion in its more analytic and most compelling sense. In other words, it is possible for the values articulated by the clergy to differ from those implied by American culture. This is not a criticism. On the contrary, the hallmark of civilization, and its main intellectual difference from primitive living, is the ability of its intellectual leaders to reformulate and reform the basic values of its way of life. I merely suggest that it is possible for the expressed values of the clergy and of their architectural briefs to differ from the values implicit in American religion. And if

this occurs, the architect must know which values his building represents.

The principle of separation of church and state is an issue about which the clergy and the laity may disagree. The pride in grand and expensive church buildings, the feeling for the congregation as a club, are areas of tension between the theologians and the members of the congregation. There are these areas of tension but they are not tensions between the folk category of religion and the folk category of the secular. But rather, tensions between the truly religious and the religion of social identification. Many clergymen who believe quite sincerely in the separation of church and state believe in making this separation watertight and yet they have American flags in their church buildings. This is certainly a symbolic expression, a ritual expression, a part of the language of space and of things which imply a certain set of values whatever the verbally articulated values are. Defining religion is very difficult, especially to distinguish between the clergyman's religion and the laity's religion, the religion implied by the acts and faults of the clergy as against the religion articulated by the writings and statements of the clergy. We must realize that in planning or building a building which is intended to symbolize religious values, we must know whose set of values and whose vocabulary of values we are building this building for.

DISCUSSION:

DR SKLARE: In contemplating a research program, one would have to work within the several religious traditions and begin thinking of what people bring to the building and what they take out of the building, and what is repressed in what they bring to the building and what are the meanings they would take out of the building. Furthermore, one should begin to think in terms of congregational responsibility and the congregational activity, and one should look behind these activities and see what sociological, religious and psychological factors feed into these activities—and thus begin to design facilities which are appropriate to these needs.

MR MANNION: We need to find out from a research program precisely what a building symbolizes to people and how it affects people in terms of their religious experience. Do they look on their exercise of religion as a retreat into the past? Does St Patrick's Cathedral represent a medieval experience in mid-New York City? These are the sorts of questions that need to be asked. There is a crisis in Roman Catholicism at present, in the light of which we can't really say to the architect what a church should be. There is not a clear consensus of the articulation of Christianity by the two schools of thought which are now in tension—out of which will come, we hope, a better synthesis than is now available to us. But this so complicates the situation that we feel that a research program might help us bring to light those factors in liturgy, history, theology, scripture and all these other so-called secular disciplines as well that have a bearing on our church buildings. We must build from

an actual, more accurate, more authentic understanding of what Christianity is.

MR SCHEICK: It seems to me that our program has demonstrated beyond a shadow of a doubt that a research project in this area must have something to do with people, over and above what has been covered. Architects have always been designing for people, but people in a classroom or people in a factory or people in an office building are a very simple subject to deal with compared to people in a church. I believe that neither the architects nor the clergy seem to have a very good idea about the people they are designing for. From what I have observed, the problems really susceptible to research are those that have to do with people and religion.

DR FREY: A legitimate research problem has already been phrased for us by Dr Sklare: "What do people take to the building?" In other words what is the frame of mind of people as they confront architecture? The building as environment, the building as a symbol, the building as a tool. "What do they take from the building?" Answers to questions like this, results of such research, would be of tremendous help to me as an administrator and teacher of people who confront building programs and should be a tremendous help to architects as well.

DR SKLARE: Theoretically it would be very good to have architects design a series of buildings having radically different solutions to the same problem, and then bring people through them and study their reactions. This, of course, would not be practical, but there must be buildings for the same approximate type of people, in the same approximate denominations, at the same approximate economic levels and with the same approximate type of ministers, which have radically different solutions to the same problems. Apparently nobody has ever studied these different solutions for the same problems under pretty much the same conditions.

DR LINN: There is the problem of research versus service. We are living in a state of calamity and we can't sit around and stroke our beards and say "Let's set up a nice design research project." Here are people who need help, right now. You can't stop and wait for final answers. What you have to do is accept the fact that there is an ongoing need and that response is an ongoing fact. All you can do is set up your data so that at the end of a year, or five years or ten years, you can say that this answer is better than that answer—and maybe out of it you will get an evolving set of principles.

DR MOERMAN: If I were called upon to describe Thai Buddhism, I would start with a brief statement about Buddhist theology and about Buddhism as a social force and its implications in various social institutions. But as an anthropologist, I would devote most of my time talking about Buddhism as it is lived in a Buddhist village, and I would describe what rituals take place and analyze the social relationships among those who participate. I would tell when those rituals occur both in a liturgical year and in their relationship to the life cycle and in their relationship to the agricultural year, and I would talk about the meaning which the participants are aware of in the

rituals. Then I would finally get to the point of the analysis where I would try to sum up these rituals in terms of their meaning for the social life of Thailand.

To my knowledge, no one has studied American religion in this way. If I had to design a research project for a bright graduate student who wanted to study American religion, I would suggest that he observe the religious activities of Americans. And I would suggest to him that he go to a church and observe what people do and what they say about what they do. My impression is that we don't really have primary descriptive data or a primary analytic description of the activities of our religious life.

Second Panel

What are the forces of today's civilization which mold the people and influence their relationship to religion?

SCIENCE AND TECHNOLOGY—DR CORNELL

There may be some usefulness in setting down some of the forces that are at work in today's civilization —in no particular order:

First, the disappearance of the frontier. The disappearance of the old frontier meant that national energies had to turn elsewhere.

Second, urbanization. This is a phenomenon of the utmost depth and significance.

Third, population growth. Unprecedented population pressures can be expected in the future, and we seem ill-prepared to cope with them. Learned groups struggle with the problem and the best they can come up with is a mechanical or medical answer—the pill.

Fourth, communications. The circumference of the earth has for some time been less than a seventh of a second to the spoken language and is now measured in a few dozen hours for the corporeal presence.

Fifth, education. Thomas Jefferson described the purpose of education in a democracy as that of conveying to the next generation the best in the moral and intellectual thinking of the past. But we seem to take its purpose to be, on the human side, to train men and women to rationalize any intellectual or moral position they wish to take; and on the technical side, to train them to create more and more automation when we don't know what to do with that we already have.

Sixth, the bomb. The enigma of the bomb is that you can't tell whether it has saved humanity or doomed it.

Seventh, the revolution of rising expectations. Coined to describe the restless drive of underdeveloped countries, it seems to describe even better and more urgently the deepest problem we face in our own country, among our own people, who have been too long a world apart.

Eighth, the world Communist drive. Revolution on the march. A world force with a world strategy, without regard to national boundaries, with defined aims and fantastic thrust.

Ninth, the disappearance of empires—except that of Communism. One colonialism is on the way out, another in the ascendency in the name of anti-colonialism. Generations brought up in certain nations with the sense of responsibility and of service toward colonial empires find the need for a new frontier that challenges and expands and builds toward a worthy goal.

This is a rough outline of forces at work on humanity today. Detlev W. Bronk used to say, "Science gives us the building stones of a better world; but the world will be what we choose to make it." I know of no basic discovery in science that cannot be used either for good or for evil.

The dilemma of science and technology is this: They have led to world-shaking developments that must be exploited if humanity is to be served; while they have led to worldwide illusions that must be corrected if humanity is to be saved. What are the illusions?

First of all, because science has been so enormously successful in elucidating and mastering the laws and forces of nature it is easy to fall into the trap of thinking that the forces of nature are the only, or the principal, forces in the world, and therefore that in science lie the answers. This is perilous blindness in the modern world. The forces of human nature are far more crucial to the course of human history, indeed to the very survival of the human race, than are the forces of nature, even, or perhaps especially, in a nuclear age. Science extends immeasurably the power of human nature to express good or evil, but it leaves human nature itself untouched. Man somehow hopes that science will build "the better life" and will excuse him from the consequences of his human nature. But the fact is that he, not science, must deal with human nature and learn to change it.

Second, science and technology have created great modern miracles in the material sense. And it is easy to be dazzled by those wonders and to think that somehow in them lie satisfaction and fulfillment for mankind; that in them and in their extrapolations into the future lie man's destiny. Whether it is in defeating disease or multiplying wealth or power, or in rendering comfort still more comfortable, or security still more secure, it is a siren song indeed. And we seem to have ample evidence around us of its turning into a siren wail—an affluent society with crime, juvenile delinquency among well-to-do families, and mental disease strongly on the increase.

Third, and most destructive, the tremendous advances of science into the depths of nature—the marvelous structure of matter, the incredible ways in which nature replicates herself, the roots of life itself —all these seem to create the illusion that life is mechanistic in some way, that there is no moral truth, no right or wrong, except possibly in the pragmatic terms of what serves a goal that someone has established. This is the worst illusion of all. For to destroy the sense of right and wrong is to reduce man, not to a scientific and wholly rational being but to

the beast. We have become a Godless nation of moral pacifists: a country full of church-goers of all faiths, where God is talked about but not thought about, called upon but not listened to, enthroned in public statements but not in public policies, recruited for causes but not elected to the Board of Directors.

ECONOMICS—DR KEEZER:

I think I can indicate a few of the pervasive characteristics of our contemporary economic life and some of the problems they seem to pose for the people participating in it. One of the aims of our economic life is to become increasingly affluent, yet the principal contributions to increasing affluence are made by a relatively few people. Our economic life is moving along at great speed and it is tremendous in its accelerating complexity. We live in a highly competitive economic society, dominated by larger and larger units. And much and perhaps most of the discourse about it is unrelated to the realities.

I don't think I as an economist or you as architects and theologians have begun to appreciate the implications of the society of abundance that we have created. Our traditional conceptions of good morality, family discipline, community discipline by government, sound economic doctrine are overwhelmingly weighted by experience with scarcity. That's been the lot of man through most of history. That's the lot of man around the world today. In the light of the present facts of abundance in this country, many of these ideas have become decidedly quaint, if not even irrelevant. It would seem that this abundance would make the beneficiaries happy, but it doesn't seem to work out that way. As psychiatrist Eric Hoffer has said, "Our frustration is greater when we have more and want more than when we have had nothing and want some." These failures to match our bounty with happiness may also be due to considerable degree to the difficult moral and philosophical problems that have been encountered.

This expanding abundance is largely the creation of a relatively small group. But the great mass of run-of-the-mill workers regularly demand, and are given, a larger share of this abundance for doing no more and often for doing less. In economic terms I don't complain much about this. Milton said, "They also serve who only stand and wait." It may be that we have reached the time where they also serve who only sit and consume. Ultimately this may have something to do with the construction of churches, but it fights violently with some of our most ancient and honorable moral precepts.

One of these is, "Each according to his contribution," as opposed to, "Each according to his needs." We are honoring this position in the breach. We have institutionalized the business of getting something for nothing. I have heard it argued that this arrangement makes its beneficiaries conservative. They don't want to disturb an arrangement which gives them something they haven't earned. I have also heard it makes for radicalism in the sense of wanting more governmental underwriting of individual economic security. I haven't heard that these riches make Americans on

the whole more generous but the fact is that as a nation we have been remarkably generous. All I am sure of is that the degree of abundance that has been created has eliminated many of our intellectual guidelines and undermined many of our most venerable and cherished moral precepts.

Harrison Brown, Professor of Geophysics at Cal Tech, said recently, "Never before in history has society changed so rapidly as it is changing today. The closest parallel to our modern situation occurred about 7,000 years ago when our primitive food-gathering ancestors learned that they could cultivate edible plants and domestic animals." This means not only changes in our ways of doing things, but changes in geographic locations—one out of six Americans moves every year. This is one manifestation of the speed of change and the increasing complexity of modern economic life. It is estimated that about two million jobs each year are eliminated by the replacement of people by machines, machines of increasing complexity. This figure is less imposing when it is put against the fact that we have approximately 70 million people at work, but I have the impression that two very important things are happening: The speed of automation is accelerating, and it is moving more and more into the white collar group, where occupational stability has been one of the main attractions. Blue collar workers have long been used to having their jobs shot from under them. This brings about a new element of insecurity in an area which has in the past provided considerable community leadership.

Automation is being underwritten by an outlay for research and development of something like $18 billion. I wish to point out the tremendous disparity between research and development in the physical sciences and that in the social sciences. This can very well be the road to disaster.

John Fisher, the editor of *Harper's,* some time ago summed up the matter in an article entitled, "The Stupidity Problem." He pointed out that according to any measures we have for intelligence and stupidity, about 20 per cent of us are stupid. Our economy makes it more and more difficult for people of this type to find jobs. The problem would be relieved if we could generate respect for the jobs relatively stupid people can do.

All these factors—our abundance and affluence, our mobility and changing moral standards, and our increasing production with less and less manpower, which creates new areas of insecurity—have a tremendous meaning for people and are bound to affect what people build. I am optimistic about our general outlook, but I see a tremendous difficulty also, cutting across sociological, economic and political lines—and it doesn't start with bricks and mortar. It starts with people, what their prospects are and what is happening to them.

URBAN DESIGN—MR FEISS:

The title of my remarks could be "The City as a Vehicle of Faith," but if we assume that the city could be a vehicle of faith, we are not talking about one building; we are not talking about a locus for

faith and for religion. We are talking about a place in which human beings reside and are to reside. That particular locus must in itself be an article of faith.

No city is any greater than its worst slum. No country is any better than its greatest problems of poverty and suffering. In the development of our programs of faith, we must have faith in ourselves that we can create an environment so beautiful, so challenging, so fine, that we can say to our children and our children's children, "We are proud of what we have created."

I no longer think of the church as an isolated building; I think of it as the community and as the whole community. I don't want to have to think of the only church experience in Washington as being those two great buildings on the horizon, the Shrine of the Immaculate Conception and the Washington Cathedral. These are important symbols and they form perhaps Washington's most important elements on this level because they rise in more resplendent fashion than almost anything else. But are they symbolic of the religion of this city and of this country? Or are they simply dead symbols of a series of rituals that do not apply to the needs of the people in the slum areas and of the faith and hope that we've got somehow or other to supply to our people? I hope that the time will come when those of you churchmen who are working in the suburbs will begin to rotate in your work so as to change churches from time to time—and perhaps even to forget for a while that there is a church at all, but to find a way to communicate with those people who need the strength and the faith that you have. Because those of us who have worked in the slums know very well that there is very little that the slum-dweller can hang onto in the way of faith.

I urge that any research that's done be research into the programs of faith as they apply to the building and the communities that we build. I have infinite faith in our capacity to design, but I do not have infinite faith in our capacity to design well enough to provide for the permanent housing of society in the dynamic world of today. We must find out those things in our society which are essential to preserve the worthwhile longings of life in these tremendous movements of people.

Why is it that people come to the Lincoln Memorial and, to all intents and purposes, pray, even though it is not a religious building? This illustrates that it is possible to create an environment, even a monument, that gives people a moment of worthwhile thinking and worthwhile emotion.

I'm certain that the people who come there and look at the austere figure of Mr Lincoln and respond to it do not know why they are responding. I don't know that it's important that they know why they respond; but it's important that they do respond. It is possible for us, in much of the work that we do, to provide an environment which evokes that kind of a response.

The city of today is a very incomplete and inadequate vehicle of faith, but I hope that it will be possible for us to complete the city in such a way that it will be from now on and always a vehicle of faith.

Third Panel

What must be achieved in religious building to provide the environment in which contemporary American man can find religious fulfillment?

ESTHETICS—DR ZUCKER:

I propose to discuss the fundamental categories of esthetics in their application to church architecture. To begin with the most basic: Every building is a temporal and spatial phenomenon. Though an act of man, it appears at a certain point in time and it has a history. Even as a ruin it is still an architectural phenomenon and continues to have a history. Only rarely is a building erected as a temporary structure; it is the intention of the builder that it last forever, although it never does. Thus every building displays at the same time the features of temporality and eternity, and the tension between these contrary categories is esthetically so fascinating that in some periods new buildings are constructed as though they were old.

In the Judeo-Christian tradition nothing is eternal but God Himself, and before Him even a thousand years are only as one day. But since the Ecclesia, the Communion of Saints, is also the Body of Christ, the Church is eternal. The church building, being the incarnation of the eternal Ecclesia, is therefore both temporal, corruptible, transitory and, on the other hand, that which transcends time and corruption. Thus quick decisions like: "The modern church building should be in modern style," or the opposite: "The church should always express the everlasting tradition," are both obviously false and inadequate.

Modernism is as much an error as antiquarianism, because both fail to take into account the historical nature of the Church. But an error is, in the terminology of esthetics, a lack of taste, and in the terminology of theology a heresy. The typical Protestant church building of the nineteenth century is, indeed, not only tasteless but heretical, because it is the result of a confusion of tradition with the external formal elements of some specific period of the past. But equally heretical are modern churches which we might mistake for skating rinks or movie theaters with shyly concealed or stylized Christian emblems.

In both cases there is a failure to take the historical character of the church seriously; the traditionalists do not seem to understand that the historicity of Christ is true only if the Holy Ghost manifests itself also in our own days, while the modernists who insist on the spontaneity of religious expression now and here forget that the Gospel stands and falls with the appearance of Christ in a specific moment of recorded time, namely in the time of Emperor Augustus when Cyrenius was governor of Syria.

Both conservatism and modernism have two forms, a genuine and a non-genuine one, and they are not always easy to distinguish. Genuine conservatism is based upon security of tradition. The little white-

washed village church in the Italian countryside is so traditional that in many cases one would not be able to distinguish on merely formal grounds whether the church is five hundred or fifty years old. And why should one even want to know? The tradition need not be questioned when life does not change essentially. But there is another form of conservatism which reflects a basic loss of tradition and a desperate worry about a future without guideposts. Here tradition is held on to like a life-preserver. Traditional forms of expression are fanatically defended because the alternative is a threatening nothing. It is true that such non-genuine conservatism, since it is basically insecure, makes atrocious mistakes, precisely because it wants to be true to its ancient models. The eclectic cathedral style of Riverside Church is funny enough, and the half-hearted Normanism of Union Seminary where Niebuhr, Tillich and Van Dusen used to preach very un-Norman doctrine is not less comical. It would be easy enough to reject such architecture, not because it is traditional, but precisely because the tradition is not genuine and therefore misunderstood. But would these churches be more acceptable if their architects had been better historians? After all, less than two miles up the river, in the Cloisters, they copy old churches with greater perfection. They even have there a half authentic, half imitated Gothic Lady Chapel with a statue of the Blessed Virgin and kneeling chairs where people, while listening to old music, may worship, if not the God of Jesus Christ, at least the God of reliably genuine antiques. No, the problem of tradition is not solved by historical scholarship.

At this point we may say with a variation of the word of Archbishop Temple: God does not care primarily for modernism, He does not care primarily for traditionalism, or even not primarily for church architecture, but always for the Church, the Communion of Saints.

No genuine building designed for worship can completely omit a reference to tradition, as also, on the other hand, none can in its very structure be totally oblivious to the fact that all human handiwork is corruptible and that the only permanent is God Himself and His Holy Word.

Here we switch over to the analysis of the spatial determinants of church architecture. Every human construction, be it the hedge of a garden, the wall of a house, or the boundaries of a city, creates a dichotomy of "inside" and "outside." A garden, a townhouse, a city, are esthetically different, whether experienced from within or without, but it is of the nature of architecture that man is constantly switching from one attitude to the other.

Not everyone who enters a church is a member of the Ecclesia. Without having taken a head count, I wager the statement that more people who would never kneel or cross themselves have visited Le Corbusier's church at Ronchamps than have confessing Christians. To a smaller or larger extent this is true for most of the great cathedrals all over Europe. The same paradoxical situation may be reflected in the fact that the best examples of modern church architecture are found in countries where church attendance is relatively low. Does this mean that new churches are built right from the beginning as museums—museums for sacred music, art and feelings?

The visitor to any church, even if he belongs to the communion of worshippers, can, and must, look at the church also as an outsider. The church offers itself to him as an objective structure besides being the environment of his subjective religious experience. The visitor can see its beauty, its solemnity or its gaiety, its clarity or its mysticism, without necessarily being existentially involved. And such objectivitating distance is not contrary to the intention of the church architect. For the church building is always and inevitably not only the House of the Congregation, *Domus Ecclesia,* but also the House of God, *Domus Domini.* This has to be explained, because at this point there seem to originate most of the controversies concerning church architecture.

What does it mean when we speak of a church as the House of the Lord? Certainly not that God dwells in this structure, as we dwell in our houses or apartments. Thus an architect subscribing to a radical functionalism must really be at a loss when faced with this task to design a "House of God." No, the *Domus Domini* rather is the objective aspect of the Church, namely the center of Holiness, the symbolic image of the Divine, the representation of the Universe which by its own beautiful being proclaims the Glory of God.

The problem of church architecture is truly not where the altar stands, whether the chancel should be separated from the nave or not, or whether the lights should be concealed or straight. The problem is, in all sincerity, how the same building can at the same time be *Domus Ecclesia* and *Domus Domini:* the house where the congregation presents itself to God in fear and trembling, in contrition and brotherly love; and at the same time, the Holy Temple in which God is, and let all the world be silent before Him.

It is not sufficient, as sometimes has been attempted, simply to separate the two aspects, for instance through the iconostasis of the Russian Church, or the high and insurmountable wall between choir and nave in some English cathedrals. But if such easy solutions of spatial separation must be rejected, what can the architect do? I cannot answer this fundamental problem of church architecture, because it is, indeed, a reflection of the fundamental Christological problem of theology: How can Jesus Christ be totally man and totally God at the same time? In a certain sense, every theoretical solution to this problem is always in danger of being heretical, and the faithful theologian must always be prepared to be rebuked by the Church for his statements. In the same sense, every new church, being determined by the mysterious tension between the *Domus Ecclesia* and the *Domus Domini,* is a risky undertaking which easily falls into some heretical fallacy.

Thus, the ultimate consequence of this heretical architecture, this architectural heresy, must produce a church building in which the congregation forever calls on an absent God who will never appear, or who, if He appears, will do so contrary to and in spite of the structural concepts of the architect.

The other extreme is the temptation and pitfall of radical sacramentalism. Where all attention is given exclusively to the sacred act of the sacrament, to the manifestation of God's presence in the midst of the congregation, it is often and too easily forgotton that this congregation consists of human beings with dirty hands and feet (both metaphorically and literally), of people in heavy shoes and bulky overcoats, of women with their shopping bags and men with their lunch boxes. This architect is inclined to make out of his church totally a *hortus clausus,* a guarded garden laid out in noble woods and softly shining metal, all dainty and beautiful like the illustrations of a well-dusted, but unlikable living room in a fashion magazine. This type of church building, available in all styles from the guaranteed genuine Gothic to Danish modern, is too clean, too germfree, too abstractly holy for the blind and the paralyzed and the lepers. It is, in the last analysis, the tastefully set stage for some theatrical pageantry, a stage where the Grail scene from Wagner's "Parsifal," or perhaps "The Miracle," is to be performed, and where nobody would dare to sing *Kyrie Eleison* out of tune.

Such criticism comes, of course, easy enough. I am not speaking as an architect, but as an analyst of conditions. I do not know how the real church should look; I only state the conditions it must meet in order to be a church of the Church. Maybe it is impossible to avoid all the heretical pitfalls, maybe it is impossible to meet all the conditions—we should not be too shocked if we hear such desperate expressions of frustration. But also the Church has found it impossible at many times to be the Church—why should the task of building a church be easier? And the dichotomy between the *Domus Ecclesia* and the *Domus Domini* is not the only one which is present in every concrete church building. There is also the contrast between the militant Church and the triumphant Church, the Church which is fighting for the Kingdom to come and the Church that rejoiced in the victory of its Lord over Devil and Death. How can the architect reconcile both aspects of the Church? He certainly would be wrong if he, arbitrarily, or even ordered by a misguided congregation, neglected either or both sides.

It seems clear that a church building that is faithful to the Church would have to be peaceful and exciting at the same time, proud in the possession of the Good News and yet humble in its service to the world, ever teaching its message to a recalcitrant audience, and ever learning the meaning of the treasure of which it is the guardian. To be sure, the church building must be a place that offers peace to the sorrowful, reassurance to the despairing, consolation and comfort to the mourner and security to the fugitive. But, at the same time, when the self-assured, the self-complacent enters the church he should be shaken out of his smugness by the building itself, he should be impressed by the truth that his worldly wisdom is foolishness; he should be reminded that now is the acceptable time in which God says to man: "Son of man, stand upon thy feet, and I will speak unto thee." Perhaps there are not many church buildings that fulfill such demand. The nearest example of this deeply disturbing serenity, of this terrible triumph, is, in my opinion, the Jesuit Baroque style of the late seventeenth century. In these churches every corner seems to force the gaze of the visitor toward the tremendous sunburst of the altar, while he, at the same time, feels himself totally exposed to the unerring Judgment of the Almighty.

The pluralism of intellectural and spiritual life in America, praised by so many as the highest form of freedom and development of individualism, does not permit to concede a central role in a city or a city quarter to a church building of a specific denomination. American city architecture leaves such exalted position to the movie palace, to the football stadium, or to the assembly of cut-rate stores, euphemistically called "The Mall." In these places, the social group of visitors is indeed identical with the community, and thus on festival days these buildings can rightly decorate themselves with flags and the national emblems of the community. No church can compete with them. Are we then living, as some modern observers have suggested, not only in the post-Christian, but also in a post-ecclesiastical era?

This possibility must be thought through in all sincerity. When the community can no longer be defined by a specific commitment to God and the corresponding liturgical service, then only two possible ways are open. The one followed by the earliest Church in the time of the persecution by the state: The church building will be shut off from the outside. Neither will it permit the outsider to look into the house of the congregation, or to guess from its structure what is going on inside—nor will it favor any connection of the insiders with the outside. The Church will then be a Church in hiding, a Church that culturally has gone "underground," even though it does not enjoy the triumph of martyrdom.

The other alternative may be the opposite: When the Church despairs of giving meaning to secular reality, the relationship may be reversed and the place of ritual may receive its meaning from the secular. But it seems that the present church is only too often a mixture between a clubhouse that gives its members the illusion of being exclusive and a place that liberates us from a burdensome past. Now, I should say that if our churches accept this mixture—and I fear that it is very much to the taste of many of our congregations—then the problem of church architecture is solved, because it does not exist.

But this certainly will not be the living Church, the Church in which man seeks and finds the meaning of existence, where his cultural achievements are brought before God as a sacrifice and are always found wanting, where the last day of time is suddenly there when man fully accepts his own first day as the creature of the Almighty, where stone and glass and wood will finally begin to sing the song which is the only real word of all creation: the praise of God.

The living Church has no eternal master plan—there is no recipe for its construction. But where man is conscious of the tension between the Profane and the Sacred, the Temporal and the Eternal, the Congregation and the Community—where he knows the dialectical difference and yet longs for the Union—

there is always the possibility—and may God be gracious to those who try.

ARCHITECTURE—MR GOODMAN:

It has become commonplace today to say, in the field of architecture: It is not the building itself, it is the space around the building, it is the city, it is the total environment, with which the architect must be concerned. So it is not the individual that we tend to talk about; it is the individual in his relationship to the community. We have listened to the sociologists, we have looked around at the life we live, and we have decided that no man is an island.

In terms of man, it would seem that any religion that has any validity at all is a way of life, and so this more modern conception of the architect's role seems to be much more reasonable and pertinent than the former idea that somewhere a church was built and what happened in the rest of the city was not important. The totality of man's life is essentially his religion. Now in our modern time, because of the centralizing aspects of modern technology, we are all very much in a family. Lewis Mumford said that in the past the city was the world; today, the world is the city.

Having the potentiality of freedom, we discover that everyone is frightened of it, and we have read books by sociologists that bewail the new leisure time of man. We have every possibility for man to be freed from his burden of material survival and we are frightened of it! We find that with the swiftness of communication, with our alternative methods of doing things, our older notions of the city are beginning to dissipate. The reason for the city originally was a crossroads to bring merchandise to it and it had to be located at a port or on convenient flat ground. It had to have a water supply, it had to have a power source, it had to have a labor pool and people came to it because it was the center of culture.

When you look at each one of these items, you find that in our time we have no requirement for the gathering of people together in great masses in metropolises, because with automation and cybernation we have no necessity for great gatherings of labor in one place; and culture can just as well be carried on in much smaller enclaves than previously, and yet broadcast everywhere. And it comes to mind that the great metropolis is really not such a culture center after all. As a New Yorker I can speak to this point. We have something like 26 million people in our metropolitan region. Yet it appears that we cannot support more than two symphony orchestras.

There is a difference between science and art: Science advances stone by stone and a wall gets built. From Archimedes to Aristotle to Galileo to Newton to Einstein, each one built on the other. But art changes; it doesn't advance. Look at the cave paintings of southern France or Spain, compare them with the art of Egypt or the sculptures of the Parthenon or the work of Michelangelo or Rodin or Picasso, and you find no advancement; you find only change.

In architecture, science and art combine. What changes in architecture is not its art, for to compare a magnificent Gothic cathedral with the Parthenon does not reveal that the Parthenon is less good because it was previous in time. No. The real difference is in the structural techniques, so that it was possible in the Gothic cathedral to span wider spaces. Thus in our time the difference between the buildings we've built and the buildings that were built previously is not that ours are qualitatively better. We have better construction methods, we can do more things, and we are much more free in their use, just as we are more free in everything that we have available to us.

Religion is also partly an art and partly a science. But essentially in the elements of religious practice we can separate the mystical element and the ethical element. Thus, the House of God and the House of Man can co-exist.

There seems to be no possibility for advancement in the mystical element, only the possibility for change. Whether it is an African tribesman worshiping in his mystic way, or someone in a synagogue or church worshiping his particular God, it does not seem that there is a vast difference in terms of the human psyche.

In terms of ethical precepts, however, it does seem that there is some possibility for advancement. On the other hand, the human being, being the sort of backward person he is, heard certain ethical precepts thousands of years ago, from Moses, from Buddha, from Confucius, from Jesus. We have not yet caught up with these ethical precepts. But there is an improvement in ethics from a precept like an eye for an eye to "Thou shalt not kill."

Thus we have to ask ourselves, "What shall we do?" It does not appear to be a difficult problem for the architect, but it's a fantastic problem for the statesman, and for the priest, minister and rabbi—and it's a problem for the organizations they represent. The architect doesn't have a real problem, because what he wants is a patron. He needs a patron who has a conscience, who has a real need for a physical plant; the architect is equipped, both technically and morally, for the task of coping with the problem.

A religious organization wants a building and employs a firm of architects. The architects say to their patron: "We accept your principles, as Roman Catholics, as Protestants or Jews. We do not argue about whether it is correct to have a trinity or correct to believe in the Ten Commandments; we accept these points. We are not theologians, and we can understand and in good conscience operate with your principles."

Then the architects have to ask, "Are you conveying the message as you believe it should be conveyed? Are you facing, in fact, the actual world as it exists?" When the architects find out all these things, their problem is how to build a suitable physical fabric.

As far as this architect is concerned, when Dr Zucker said, "Son of man, stand upon they feet and I will speak unto thee," this would be a sufficient order for me as an architect, and when he gives a description of what the Church ought to be, this in a way is almost enough order, and I am going to take the liberty of asking you to go back and reread Dr Zucker's last two paragraphs.

LITURGICAL ART—MR RAMBUSCH:

The artist must visually express the reality of both the theologian and the social scientist. To fail or to deny or to ignore one or the other is to fail in his role as an artist, which is also that of a prophet and a teacher. Our reaction when Dr Linn mentioned "nostalgia" was because those who are interested in art and architecture realize that when we did have an overdose of nostalgia, it divorced the worshiper from the reality of the world. Art and architecture, unfortunately, confirmed visually this divorce. Much contemporary art is suspect, precisely because it reveals today's realities described by yesterday's speakers in the social sciences. The dimension of self is a very dramatic revelation. Man's discomfort with the reflection of self in art can often be linked to man's non-acceptance of himself.

Let's start off with the self. What name shall we give the shell that tries to approach God? Too often religious groups have viewed art as mere cosmetics or diversion. The role of a vital art is not that of a lapdog, but of a seeing-eye dog.

Dr Sklare pointed out the moralistic emphasis in American religion, with its emphasis on principles and ethics. As a result, the contemplative, the sacramental, the sensorial, the intellectual and the theological insights are subordinated to it. Unless one believes that the sacramental, the contemplative, the sensorial and the intellectual—and also the irrational, incidentally—have validity in a religious experience, one will be closed to any consideration of the role of art and worship.

The development of our sense of God is closely related to the integrity of the images inspiring it. Too often a religious sweet tooth develops puerile candies of sentimental art in which there is much sweetness but little light. When the eyes are blind to vital and competent religious art, the eyes of the soul risk suffering severe spiritual myopia. Art not only informs, but forms or deforms us. Religion expressed in sentimentalized art is the opiate of the masses.

Religious art should therefore speak of God; it should be Godly—a visible interpretation of the mystery of the presence of God in his worshipping community. Art should give a sense of the holy, for it serves the holy; it performs a type of continuing service as long as we experience it. Religious art should have a universality since it is to serve the community. When an art becomes too esoteric, it loses contact with the community. On the other hand, when art contrives to be too common, sacred realities are reduced to a light, popular vein—a sort of visual Montevani.

A competent sermon contains within itself sacred truths simply but fittingly expressed, meaningful to each, the simple-minded, the enlightened and the mystic. One should not pander to the common taste; religious art should reflect the best of man, not the most of man. The artist is not only a man of his time, the artist is also a man beyond his time. The task of the artist is to restore to modern man an awareness of his inherent wholeness, and also to restore to modern man an awareness of spiritual reality.

A religious art that is not capable of fulfilling us, of radically changing us, of edifying us—and I mean edifying in the sense also of structuring an edifice, completing a wholeness—is not a valid art, for art implies a unity, an assembly. Art, Claudel once said, is the world clamoring to become one single city, and religious art, I hope, is the visible world asking to become God's city.

ARCHITECTURE—MR SOVIK:

The artist's attitude when he approaches a solution to the problem of religious building is quite different from the philosopher's attitude when he analyzes the ideal characteristics of a religious building. I don't think the artist starts with a concern for the composition or the introduction of both the traditional and the new into a building. I confess I don't find very compelling the urgency of retaining a conscious anchor to the past. Tradition is *with* us. We can't escape it, unless we are very conscious rebels or revolutionists and are trying very hard—which is an affectation. I would rather not have to be self-consciously either a traditionalist or a rebel, but to use as a criterion for my judgment the apprehension of reality. I agree with Picasso when he said that tradition is not wearing one's grandfather's hat, but begetting a child. Creativity is the real tradition, and I'm not satisfied that this is what will help make people real people—this is a sort of religious fulfillment, not nurturing their nostalgia, which to my mind is an affectation.

I'm tired of attempts to build churches which artificially assert the holy mood. On the other hand, I think that those buildings which are really works of art have embodied in them a mystery which is the very best possible reflection or image of the mystery which I need in my faith. The implication is that if a good work of art is in this sense an image of God, then we can expect to see religious architecture in all kinds of buildings, of which some may not be remotely ecclesiastical.

There are no ways of saying how we can meet these paradoxes by defining them. I think of the Cistercian architecture, for instance, as compared with the Jesuit Baroque. The former has the rigors of discipline, the almost harsh, somber character that is part of our knowledge of what truth is. But, along with it, it has a marvelous joy in workmanship and in material, where the stones are so lovingly chiselled without having their stoniness destroyed, that one senses a real joy and, at the same time, the somberness.

In Jesuit architecture one has a different way of combining or discovering this paradox. So perhaps it is possible that the artist can meet the issues that seem to be unmeetable. The inconsistencies seem to be diametrically opposed, but the artist doesn't deal with verbalized concepts. He deals with what Mr Rambusch calls the affective elements: feelings. So where the philosopher and the theologian may be in danger of heresy because they cannot meet the problem rationally, the artist can deal with these things because he deals in a mystery.

In closing, I pose a few questions that seem to be proper subjects for research:

How do we go about setting the arts to breathe, to do good things?

How do we get artists who will assume the obligations of the profound and difficult problems that face them which great architecture must meet?

How do we illuminate the owners as to the potential quality of architecture, so they can know that this is something much more than a matter of housing and activity, however important that may be?

What's the attitude of mind which will lead us to this kind of solution? And how can we encourage it?

REMARKS BY DR KERR:

"What must be achieved in religious building to provide the environment in which contemporary American men can find religious fulfillment?" If I were to bring a question like that to my students, particularly the more creative and alert students, I would be met with silence, snickers or perhaps laughter. This would not seem to them to be a very vital question. Religious fulfillment—this would seem to them to smack of the perpetuation of a status quo, a bourgeois conception of what the Church is architecturally, theologically, historically, and the thing that they would be least interested in would be the perpetuation of this stereotype.

In our common concern for the dialectic or the ambiguity of the relationship between the transcendental and the human, the revelation itself and the history in which the revelation takes place, the definition of this problem has been to some extent ignored or perhaps regarded as unimportant. I wish to pose it as an area of importance, not only for research, not only for theologians, but also for architects. The tendency, historically speaking, both within Judaism and in Christianity, both in Catholicism and in Protestantism, has been to move toward the transcendental, or the spiritual concept as far as church life, as far as church buildings, as far as the architecture of the meeting place is concerned. This can be symbolized if we take into account, or try to concentrate upon, the meaning of the door or the portal or the gate. What happens when the person of whom we have been speaking sociologically, economically, psychologically, goes inside, goes through this door? What does he go into?

There is no question that the overwhelming motif of the Judeo-Christian tradition has been that he leaves the world behind and goes into an interior, religious world. The building has always had this kind of suggestion for the people, for the worshipers as well as for non-worshipers—to leave the world outside and go inside into a special world. This is a movement from one ontological level to another; going from the profane to the sacred. What happens in this building? A certain kind of music is sung or performed—and certainly it is nostalgic rather than contemporary. There is a book there that represents the past—an ancient book that no one today knows, not even theological students. There is a ritual. There is a ceremony. There are sacraments. There are all kinds of trappings and vestments; everything that suggests a world of its own, a place that is different from, and

very much isolated and insulated against, the world in which people live who come through the doors.

If the problem of church architecture is only to perpetuate that tradition, it seems to me that this is no great problem. The big problem is—does this door open the other way? To go into the church, does this mean that somehow one also goes into the world? Is this a revolving door, or is this a one-way door?

Whether the architects know it or not, theologians know that a very chill wind is blowing across the whole arid waste of institutionalized religion and the institutional church. The theological student today couldn't care less about the institutional church and the parish ministry as a profession. He would ask: How are you going to build the church so it gives some suggestion that the church is in the world, not apart from the world? So that these people who are going in through the doors are people who belong in the world? How does the revelation take place in history, in the actual situations in which we live, and not just in the worship, or in the liturgy, or in the sacraments? I am not suggesting that these things are unimportant. But rather, the question is, how can we suggest today that the church is a part of the world, and speaks to the world? This is the kind of problem upon which the architects and theologians and sociologists need to combine their efforts toward research and toward the possibility of a new name for the Church itself.

Fourth Panel
Theological Evaluations

RABBI LIPMAN:

Mr Rambusch spoke of the problems of how to build anything for people who are shells, for people who aren't real people. I don't know how to build a building that says something real if the client isn't real. Of course there is a corollary to that. The artist and the architect have to be real people too.

We twentieth century men tend to talk in universals. This whole seminar has been positive in universals, and I worry about this because there is an element of self-delusion in limiting oneself to the universal. I don't doubt for a minute the fact that God is universal. I don't doubt that theologizing can be done in universal terms. Churches and synagogues are not necessarily universal institutions, and the process of creating institutions for the people who are supposed to use them, the particularism of individuals and individual groups must be very much in evidence.

Mr Goodman said that the problem of the architect is essentially simple. I take issue with that. The architect who goes into a religious building project is in an impossible position. He is trapped in a dilemma, a dilemma between what *is,* which is the reality situation, and what *ought* to be, which is the function of religion in the first place. And what is, is pretty dismal when the architect goes into an institution to try to

create something in terms of what ought to be—which he has to do, or fail.

I have just written an article in which I insist that the constituents of metropolitan congregations increasingly are customers of a service agency, and this is a reality which you can't ignore. I wish it were not true, but I don't think that this group has the right to deal in anything but reality. You have people; you do not have a congregation. The primary direction of the people in all the synagogues I know is external. Their affiliation with the congregations is incidental, and it's functional. If they want to give their kids an education, they want to be involved in certain kinds of activities in the congregation; and they have an inchoate desire to have something to do with the purposes of the institution.

Conceptually, in terms of architecture and decor and ideas, even a rabbi is not thinking most of the time in terms of what ought to be. His own ego gets in the way; his own relationships with the congregation get in the way. A rabbi over the age of 55 who has been in the congregation 25 years has life tenure; he wants to build a monument—and I am sure it's equally true of ministers and priests as well. This is a reality. The dilemma is the fact that this doesn't have anything to do with religion. What ought to be is that the architect should have the opportunity to do research in the authentic tradition of the denomination he is concerned with. To find out what the correct relevant reality functions of the institution are, he ought to be able to find out what the real purposes of the group are so he can reach out into the ultimate which is religion, and then he ought to have some very practical opportunity to find out what the architectural requirements are, either of the tradition or of the particular group—and then he can tell them what their limitations are. It doesn't work this way.

I hope it's obvious from what I have been saying that the primary research which needs doing is research in the worship process, not in the spatial problems. Most of the people I know don't know how to pray, and it bothers them very much. We've had a project in our national headquarters for years to do a major job of worship research—all we need is money. The number one job would be to try to find out why people worship in the first place. We don't know. Second, what inner factors affect the capacity to worship? And then third, what external factors, including the synagogue or the church structure, affect the capacity to worship?

But until we get some idea of why we worship or don't worship, we're really shooting in the dark. This is the primary job of research.

THE REV DIEKMANN:

There is a desperate need of research as Rabbi Lipman has said, not only into the meaning of worship, but also into the history of worship, and particularly the relationship of Christian worship to Jewish worship. We have neglected this badly to our own impoverishment. Some of the things he said bear out the objectives that we in the clerical movement have been fighting for for the last forty years: If a church

or synagogue is built for worship, if it is to be functional, it is not merely a matter of the mathematics of space, but it is rather of spiritual functionalism also —that the building correspond to its purpose. We must understand that purpose and understand it thoroughly, not only in the light of modern ethical needs, but in the whole tradition of worship—which includes more than the social sciences can give us, for it also includes that which God has revealed about worship.

In the Vatican Council there was a constitution on liturgy, containing a chapter on art and furnishings, and an appendix which will be published in the next issue of *Liturgical Arts* which states the mind of the assembly. The chapter on architectural art is very spare, but the context is contained in the appendix. Its first sentence is the following—and it is the first time, as far as I know, in the history of the Roman Catholic Church, that such a statement has been made concerning the role of architecture in relation to the worshiping community:

"The church building should be so constructed that the very arrangement of places and things will be a clear sign and a faithful echo of the sacred assembly." There is the key word. "The sacred assembly," the *populous Dei*, the people of God, which is the congregation of the people of God, and only after that comes the articulation into the ministers and the laity. This is the most important advance in the ecclesiological thinking of the Vatican Council. Ultimately the whole problem confronts not only the Vatican Council but all Protestant churches too.

If the church building is a space in which the people of God worship, then the first concept must be the unity of this group. It must be a people of God before its articulation. But there must be articulation—according to the Roman Catholic tradition this is essential. There must be a distinction, but a distinction which is not a separation. And there you have your paradox, a most difficult thing to achieve; a sense of distinction between the sanctuary and the community. We have, for instance, such things as the communion rail; historically, the iconastasis of the Eastern Church; or the rood screen which separates. All goes contrary to the basic notion of an assembly of God, the people of God which is a unity. Furthermore, we in the Roman Catholic Church, in spite of our theology, have for centuries been very individualistic in our whole devotional approach towards God. Hence, the thing that we need to discover more than anything else is the sense of the community, the sense of our being a people of God. That is why I venture to suggest that the architects could be of service to the community in their purpose of worship. Perhaps for the time being, the time of building monumental parish churches is passé. I agree with Rabbi Lipman that frequently parish church buildings are monuments to a venerable pastor, and the result is emphasis on the physical structure at the expense of the spiritual structure.

The Catholic Church has suffered from clericalism for a thousand years—emphasis on the clergy at the expense of the laity. In order to achieve a sense of unity we shall have to take extreme measures. At the same time, the other concept of beauty, of being

generous in the service of God, of using all things to glorify God, should not be frustrated. There should be a certain number of symbolic churches which will fill that need. The cathedral church would fulfill that function—or, as a monk of a large abbey, I would say a monastic church. From the purely practical standpoint, have we any right to burden the congregation of the parish church with a huge structure? Also, a modest type of architecture for a parish church would be called for to achieve a personal relationship.

A second point that the Vatican Council stressed very much is that the people of God, the Ecclesia, come together for worship, particularly in the service of the Eucharist. The Roman Catholic Church building is a place where a certain number of functions must take place: The Mass is celebrated; confessions are heard; baptisms administered; stations of the cross said; and devotions held. It is not a question merely of the Eucharist plus other things, but rather the Eucharist as containing in itself all else. This was very clearly expressed in the constitution: the absolute centrality of the Eucharist; all other things are merely progressive assimilations of the central thing which is the Eucharist.

Beyond that, the Eucharist, as the constitution says very clearly, is composed of two things: the service of the word and the service of the bread. Therefore, we have here a very important development, for since the Protestant Reformation, Roman Catholic emphasis has been on the Sacraments and, by and large, Protestant emphasis has been on the Word of God. Now for the first time the Catholics are rediscovering the Word of God in its full significance.

A final basic problem is that in all our worship of God, we must take into account both His transcendence and His immanence. And here we have a most difficult architectural problem. We want to stress the fact that we are a people of God, united to Him, in Christ. Yet it seems we are running into very serious danger, if at the same time we do not safeguard the ideal of the transcendence of God, and here we have a particular paradox: How to reconcile the remoteness of God and the closeness of God?

It is a mistake to put the altar in the middle of the people. There must be a sense of mystery—not mystification, but of mystery, of reverence, of awe, to correspond to the fact that God is God, and we are still only his creatures even though by His Grace, He has raised us to adopted sonship. Therefore, strive for closeness and get remoteness. Thus the sanctuary must be big enough so the altar is at least somewhat removed from the people. Furthermore, it should not be put up on a high pedestal, which was derived from the time when the emphasis was on the Eucharist as sacrifice. Since we are *invited* to the table, the altar should be lowered, to bring out the sense of participation in the Eucharist itself.

DEAN HOPPER:

People, not being sophisticated, but nevertheless exhibiting all of the patterns that Dr Sklare outlined, are caught in a curious bind. Matthew Arnold described it as wandering between two worlds, one dead. One was the formulation of the faith as it has been handed down, and the other was powerless to be born as though it didn't know where to turn. Gustave Flaubert, in one of his letters, said that between Cicero and Marcus Aurelius, the classical gods being no more and Christ being not yet, there was a moment in which man stood alone, and he speaks of this as though it were unique, and then implied that we have reached a similar moment in our time when the elaboration of the God-consciousness of Christendom no longer functions with the vitality that at one time it did, and a new way of apprehending perhaps the same reality is not yet available. There is this moment in which man, the people, stand naked and alone.

This is the embarrassing feature which lies behind my item number one, that is, what kind of people are we working with? What we experience in terms of people's apprehension of numerous meanings is what one of my students called the lack of function of symbols. Symbols are there but they don't function.

The second question has to do with the forces of today's civilization which mold people. This sort of thing doesn't happen without causes, and it may be that we have not researched these causes sufficiently. The forces of radical change which have affected the basic displacement in the ability of people to understand themselves in the world as they experience it are probably fairly obvious, yet we have not talked about them very much. One is the change in the cosmological setting for all thinking—the world picture. Another is the psychological change, which seems to be quite radical—at least theologically, our psychology has been classical up until quite recently. Here again is the failure of the symbol to function, and it would seem that in a time of cultural unity, we project symbols that function and they help to integrate the self. Then we canonize the symbol, and when we canonize the symbol, this may be an indication that the vitality of the symbol is beginning to lapse—then the unconscious becomes agitated and thrusts up fresh symbolizations. Thus we have people going to the Museum of Modern Art who don't understand what they see but are perhaps unwittingly looking for symbolic representations that will begin to function meaningfully for them again.

Third is the problem of the names for God, or for that matter the problem of language as we are experiencing it today. The most radical observation that is being made today is the possibility that all language is based upon metaphor.

The last point has to do with this problem of religious building and fulfillment. I feel we have not yet succeeded in coming close to this very simple problem that all of these things are evidence of. We are seeking a new way of seeing and we are in the midst of exploration. Rilke, in one of his letters, says that maybe we have gone at this whole business of understanding our relationship to God in the wrong way. He says maybe our fault has been that we have been trying to look at Him, whereas perhaps we should be learning to see as God sees. If we succeeded in that, we would be seeing into God's creative futurity—that is to say, we would become co-creators with the creative deity.   ∎

THE ARCHITECTURE OF TOWNS AND CITIES

ELEVENTH IN A SERIES OF ARTICLES

THE PRACTICE OF URBAN DESIGN

Government & Urban Design

Only through the coordination of government and private enterprise at all levels can we rebuild our American cities and towns. Only with coordinated public and private efforts will we be able to build well for the future. This partnership has been developing since the day our country started but its details have become increasingly complex.

We architects must know the details of this process and know them well, for only through understanding and using them will we rise to the real heights of our professional obligation—the design of our cities in the best tradition of architecture.

An explanation of how our city-building programs work is an explanation of the principal *tools* of urban design. These tools came into our hands slowly. We are quickly learning to handle them but we must develop them further so that they are even more useful. Undoubtedly, like our design philosophies and architectural techniques, they will always be in the process of evolution.

Because we understand the complexities of urban life only gradually as the problems arise, we are slow in developing our city-building tools. We architects have a most important role to play in forging these tools because all city-building projects end up as architecture in one form or another. Today, complex as our government and our lives are, we are better equipped with means to rebuild our cities than we have ever been before.

To present this complex subject we shall make it personal. We have invented a typical American town which we shall call "Center City." We hope it approximates your own city. We are going to describe its history as a city and as design—in relation to the people, acting through government, who built it. We shall take it from its founding up to its present, and lay forth the problems it currently faces.

Our advisor for this paper, Roger Montgomery AIA, AIP, is among the leaders in this fast-developing area of architecture. Mr Montgomery is now a teacher at Washington University in St Louis and is also a practicing architect and planning consultant. Until recently he served as Urban Design Specialist in Washington, DC, with the Urban Renewal Administration. In this capacity he was able to observe at first hand government programs in action.

Joseph Watterson FAIA edits these papers, which are financed by the Institute's supplementary dues funds. The papers are written and illustrated by Paul D. Spreiregen AIA.

CHARLES A. BLESSING FAIA, AIP, *Chairman, Urban Design Committee*

Government & Urban Design

Center City's Background

Early History

Center City was originally a fort at the crossing of a river and land routes

The city's early plat gave it its first form

The Federal land survey was the foundation of future regional form

Any child in Center City can tell you the story of its founding, for it is taught in school. Originally it was a fur trading post, established by trappers who chose a river site with good access to overland trails. The original settlement was near a river-crossing above flood water.

For many years it was a raw camp, sometimes at war with the Indians. Later, under a military governor, a stockade was erected. The first impetus to growth was the opening of the West to settlement when the land became American territory. Center City then became a major provisioning town for the western trails.

The territory was surveyed as a series of six-mile squares according to Congressional Ordinances of 1784 to 1787. Center City was platted accordingly as a grid of streets running north-south, east-west. This gave the land its pattern in both city and country, a system readymade for land division and sale. When statehood and admission to the Union were achieved, Center City became the country seat and was a town of some renown. The choice of site of the original trappers proved fortunate for the land and water routes turned out to be major ones. So it was that Center City was destined to become a transportation hub and a center for manufacturing, cattle processing and farming.

As the city prospered a land-grant college, a private hospital and a religious seminary were founded. A state road system was started, financed by 5 per cent of the proceeds from the sale of public lands, this the result of an early Federal act.

Center City set up its municipal government as a corporation according to enabling legislation in the state constitution. This charter was modeled after the charters of other states. Center City then built a fine court house and town hall on a square in the center of town. It had its own public fire department, schools and a water works up river. People were beginning to talk of such wonders as paved streets and sewers.

Center City's seemingly golden future was marred by a series of disasters. One spring the river flooded, carrying away some poor houses on the lowland and ruining the riverside docking facilities. In another section of town a fire leveled eight city blocks of wooden houses. Had it not been for an all-out fire fighting effort, the whole town might have been wiped out.

The flood prompted thoughts of a flood control system—dikes along the banks. The fire led to legislation forbidding the erection of nonfireproof buildings in a specified central area. The dock problem resulted in the creation of a River Commission which issued bonds for the construction of a large common river-ramp docking facility. The Commission also erected a dike along with the dock, the cost of both being paid by a tax on ship tonnage. A few shipping companies built their own facilities in accordance with the Commission's plan.

So it was that Center City learned how to organize its resources for civil action.
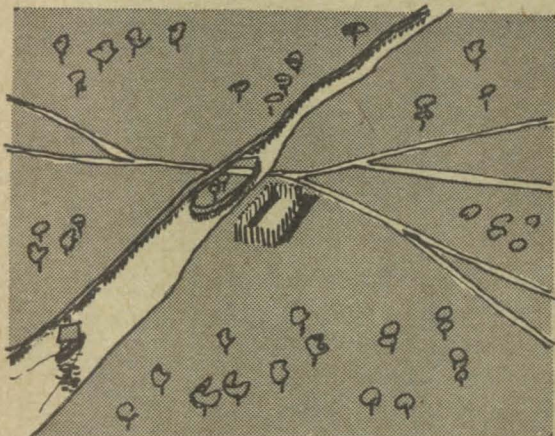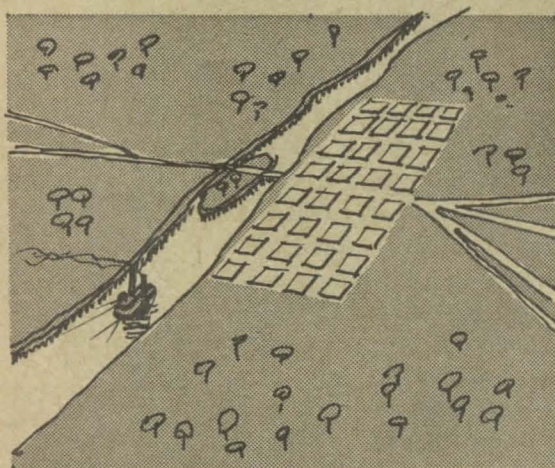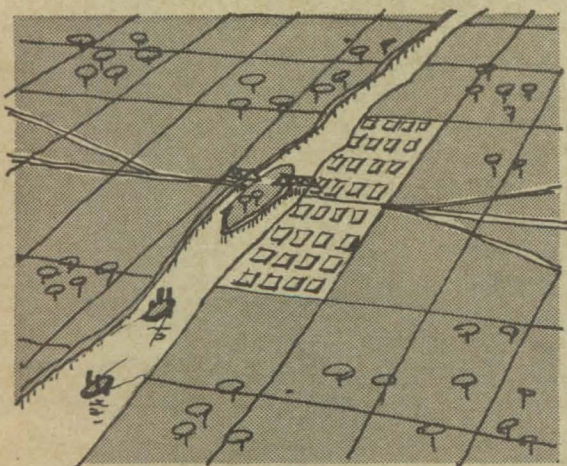
Private Companies for Public Service

A gas company was created to supply gas for lighting. Because of some serious accidents in other cities, the mayor formed a committee to oversee the work of the gas company. A telephone company was organized and telephones installed in the major offices and banks. Long-distance telephones were as yet unknown —telegraph was used for long-distance communication.

At this time Center City was beginning to feel the pressure of circulation problems. Many American cities had electric street railways but Center City had none for it had not yet developed a source of electric power. The city issued a franchise to the City Power and Light Company. Its first job was to provide electric lighting for the central part of the city. Later the utility would extend its lines to provide electricity for residents. An electric street railway company was formed and franchised; then another, for a different route. The street railway companies, eager to exploit their enterprises, bought up land along the streetcar routes for subdivision. At the end of one route they built an amusement park to promote the lots for sale along the way.

The streetcar line construction was accompanied by the paving of streets, some of it done by the traction companies as part of their agreement with the city. The city also embarked on a street improvement program—paving and sewers—supported by tax revenue on the sale of new development tracts.

So it was that Center City developed its public utilities and learned, in the process, to coordinate private action and public responsibility.

Civic Beauty Comes to Center City

Some of the more thoughtful citizens of Center City looked more deeply. Was Center City to be only a place of commerce? Other cities were developing beautiful parks and well-landscaped residential areas which proved to be good speculative ventures.

A corporation was formed and a leading landscape architect brought to Center City to lay out a new residential section on land bought by the corporation. He was much taken by the natural setting of Center City and proposed a citywide park system. Outlying lands and stream valleys, he pointed out, could be cheaply bought for such a network, tied into the residential section.

When one of the town's wealthy citizens offered to pay half the cost of the park land, the town voted a long-term bond issue to pay for the rest. Most people thought that the park land was unnecessary, for a short walk in any direction led to open land. Actually, the bond issue was passed because landholders felt that the reduction of salable land would raise its value. Also, only the landholders were being taxed to pay off the bond. The voters who held no land were willing to vote for a "free" park.

Debt and Growth

Center City was empowered by the state to put itself in debt—float bonds—according to a formula based on the value of its real property. Since the city was expanding, this presented no great problems. Indeed, small outlying towns were only too willing to be annexed, for that meant better municipal services.

Some of the growth was haphazard. Before the turn of the century a local newspaper carried a small item about a Federal investigation into slum areas. But Center City's workingmen's
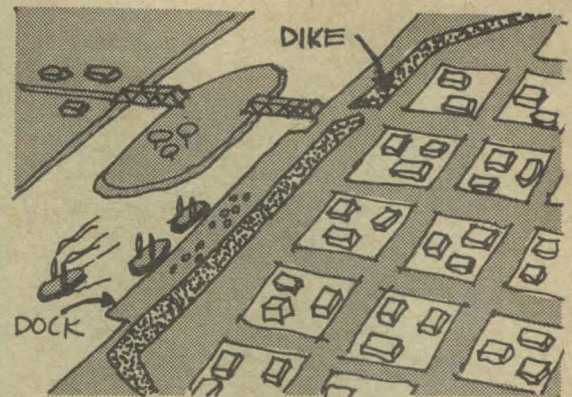
Dike and dock facilities were results of early municipal action
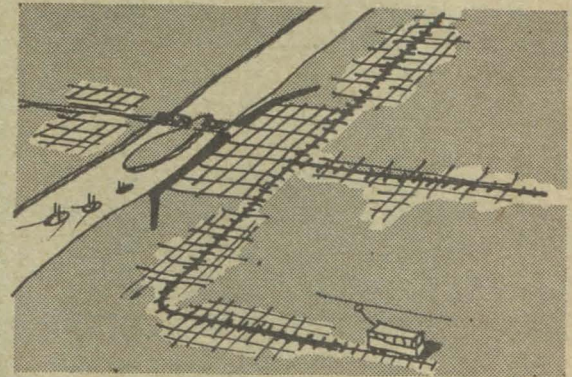
Utility and trolley lines set the pattern of suburban growth
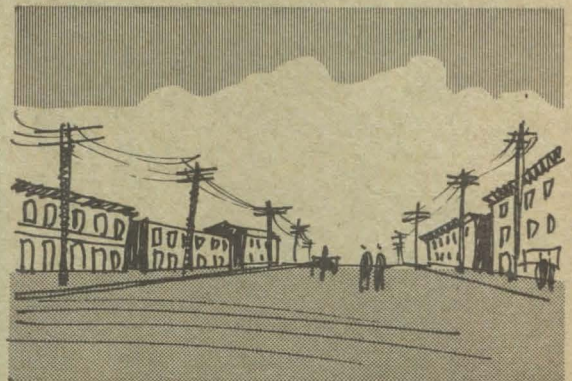
Telephone and electric lines were the early street furniture of progress
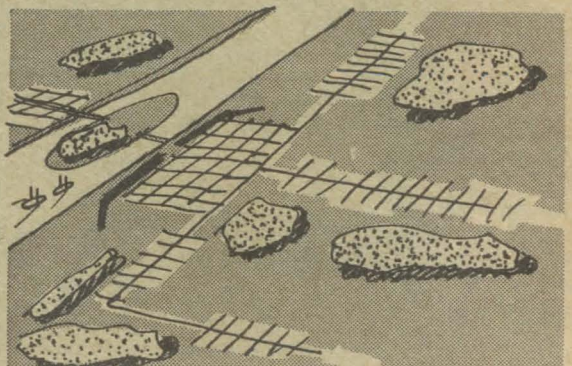
A park system was added to Center City's form
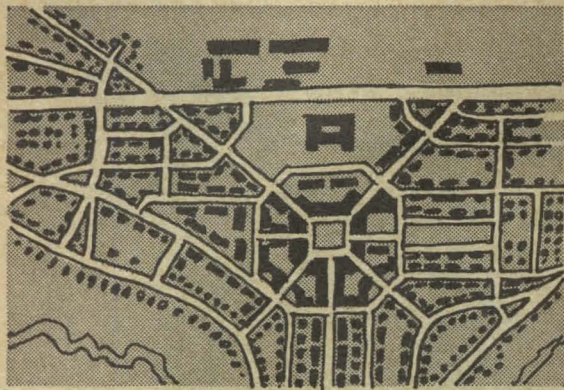
*Yorkship Village in Camden, NJ,
an example of a workers' residential community
built by the US War Shipping Board*
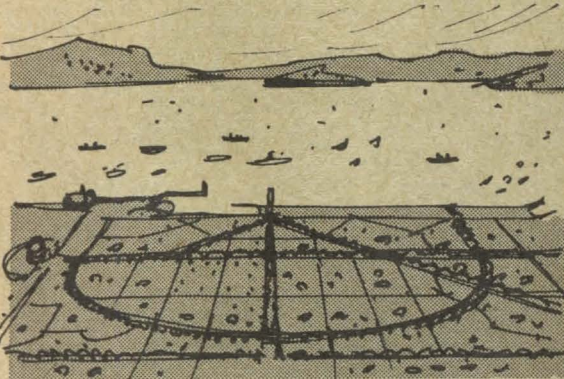
*San Francisco's Marina, originally an
exposition ground—from the 1917
AIA book "City Planning Progress"*
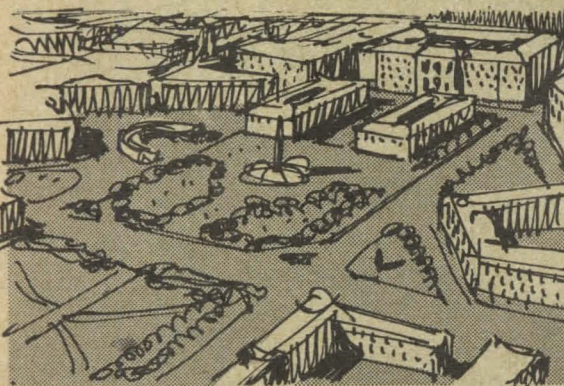
*The Denver Civic Center concept—from the
1917 AIA book "City Planning Progress"*
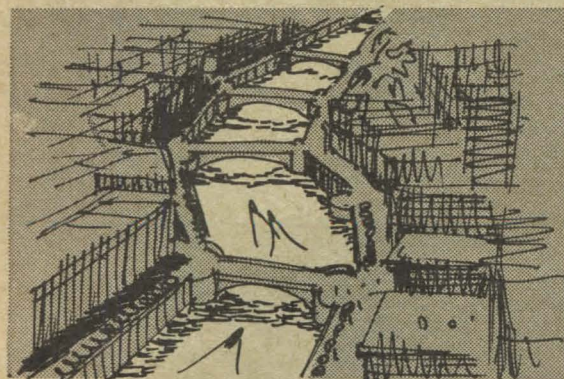
*Proposed river front improvement in Milwaukee
—from the 1917 AIA book
"City Planning Progress"*

houses were a far cry from the tenements of a city like New York, where conditions were so bad that tenement laws were passed which required certain minimum construction features, like windows in all bedrooms.

The economy was such that dwellings could be built for low-income workers. But World War I changed that, and more.

Effects of World War I

World War I proved to be a boom for Center City. Its opportune location for shipment, its resources and its skilled workers rendered it a prime manufacturing center. Many people came to Center City to work in its plants. Consequently, housing became a critical problem.

Had Center City been a shipbuilding town it might have been one of the first cities in the nation to have a Federally sponsored housing program. The Emergency Fleet Corporation was building housing for shipyard workers under the US Housing Corporation. Local architects noted that the program was producing residential towns of some distinction. The design concepts were similar to those of Center City's old landscaped residential areas. Some mused on the possibilities of extending this notion to the outlying areas of Center City, which would surely be developing after the war.

Their premonitions were an indication of the generally optimistic turn of mind in Center City's citizens. The postwar years were to be boom years. If America could win a world war, what could it not do? The American Institute of Architects sensed this too but was somewhat doubtful of the results. The Institute knew what our towns could be at best but they had seen too often what they were becoming at worst.

A town planning committee was formed at the national AIA level. In 1917 the AIA published an illustrated book which listed every proposal and accomplishment in town planning in the country. In the early 1920's this committee published a series of articles on town planning in the AIA JOURNAL. Among the contributors were Lewis Mumford, Clarence Stein and Henry Wright.

Many notable works in civic design were built in the twenties. Cities were eager to outdo each other in handsome public works—new municipal buildings, parks, bridges, civic centers and schools. Speculative builders built some notable residential neighborhoods, some on private cul-de-sac streets with handsome entrance gates. Businessmen dreamed of skyscrapers. The city commissioned an elaborate "plan"—an impressive document which showed what Center City might become at its best. It was a practical if not ambitious plan, and all looked on it with pride.

But Center City's picture was not all rosy. For every conscientious builder there were ten whose sole interest was speculative profit, with no concern in the long-term value of their work. Many people were investing in real estate who had little building experience. These speculators used a land-platting system that was made to measure for transaction, the simple and unimaginative grid subdivision.

A Zoning Ordinance and a Building Code

This haphazard growth alarmed many people in Center City. They had carefully read a section in the city's plan on zoning, a new system for controlling development. Indeed, at the Division of Building and Housing of the US Department of Com-

merce, model state-enabling legislation was written for states to use and modify as they might wish. The states had to allow their constituent cities to adopt zoning. Model zoning ordinances were also drafted for the cities themselves, and experts were available to write a zoning ordinance for Center City.

When, at the insistence of the real estate interests, the state approved the enabling legislation and Center City adopted a zoning ordinance, some lawyers questioned the legality of the measure. It seemed too much like an infringement of private property rights. Others questioned the Federal government's involvement in such a local matter. A Supreme Court decision in Ohio set the precedent for settling the legal question and it was pointed out that the Federal government had merely made the zoning enabling legislation and the model zoning ordinance available. Hadn't the government also offered agricultural knowledge? It was for those who wanted it to use as they would. The Federal Bureau of Standards also had written model building codes and had outlined methods for establishing and operating a municipal building inspection department. Center City also adopted this. The model building codes and zoning ordinances were based on the experience of cities which had developed them independently. The government merely made this experience available to all cities.

Zoning and the building code were regarded by some architects as the legal means for enforcing Center City's plan. But that plan was advisory only and, even supported by zoning, had no status in the day-by-day process of building the city. It could not persuade developers to build where and how the plan specified. It had no program for replacing the worn-out sections of the city. On the other hand, the plan did guide the city in such questions as the placement of schools, parks, public buildings, the enlargement of the water and sewer system and in planning for traffic.

The Traffic Problem

Traffic was becoming a very serious problem, particularly to the police force which had the task of unsnarling rush hour jams. But traffic concern was not limited to the city. The state was actively engaged in a state road program at the insistence of farmers who were using trucks to get their produce to the market. Better state roads meant wider markets.

A new and expanded state road program was initiated in response to a Federal program that would match state funds fifty-fifty. The Federal government again took its cue from existing state programs but wanted to insure that the several state road systems connected to each other at state lines. The Federal government also prepared standards for road design and construction. Behind the Federal program was the deep-rooted tradition of stimulating interstate commerce. A State Highway Commission and a local Traffic Bureau were set up in Center City, the latter a section of the Police Department.

New Ideas

The nucleus of architects who, in the twenties, had been active in the AIA's early city planning programs saw in these developments a possibility to plan on a statewide basis. Henry Wright and Clarence Stein had made a plan for the state of New York integrating highway planning with resources to achieve a sound and balanced economy based on efficient production and distribution.

The same group also demonstrated in Sunnyside, Long
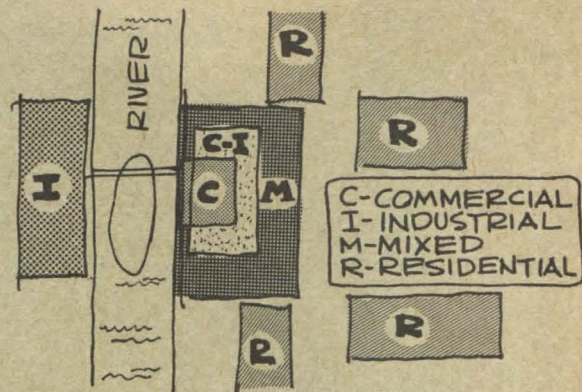
Center City's zoning map allocated land uses—the legal statement of the city's plan
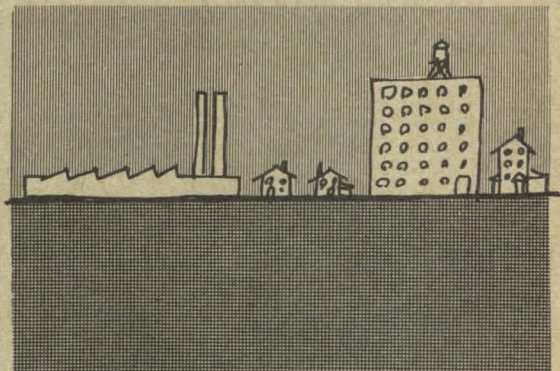
Zoning was instituted to prevent incompatible and economically unsound land use like this . . .
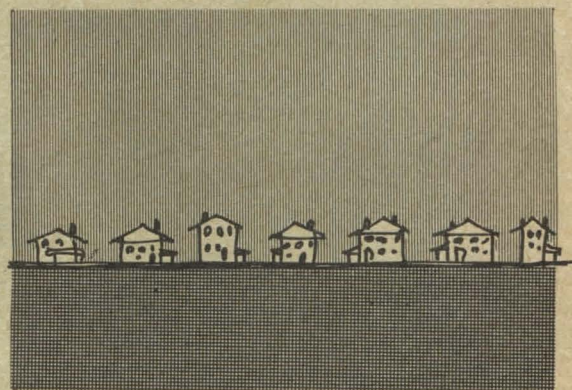
. . . but it would often result in overly uniform development like this
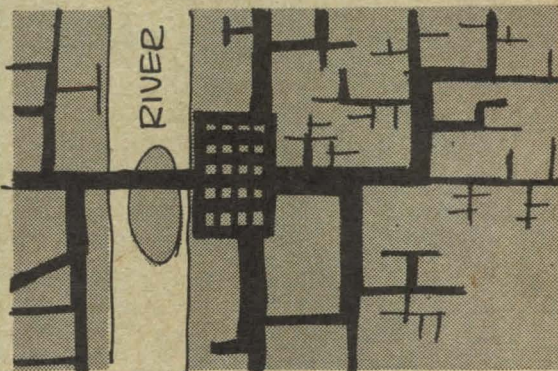
A map of Center City's traffic volumes portrayed increasing core congestion
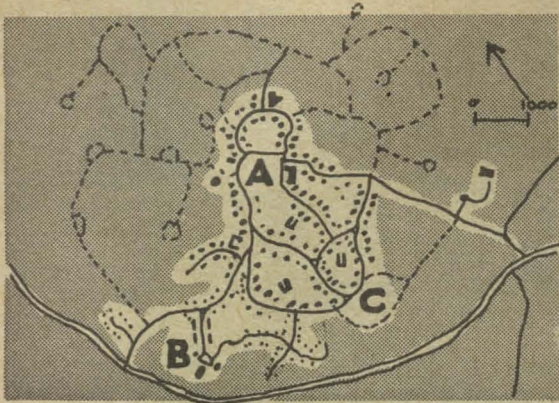
Norris, Tenn, a principal new town in TVA, was planned in 1936 for growth over hilly terrain (A) Community Center (B) Construction camp (C) Industrial buildings

Radburn, NJ, was envisioned as a self-sufficient satellite community in the New York area

Industrial areas
Urban development
Agricultural development
Forested areas
Pasture areas
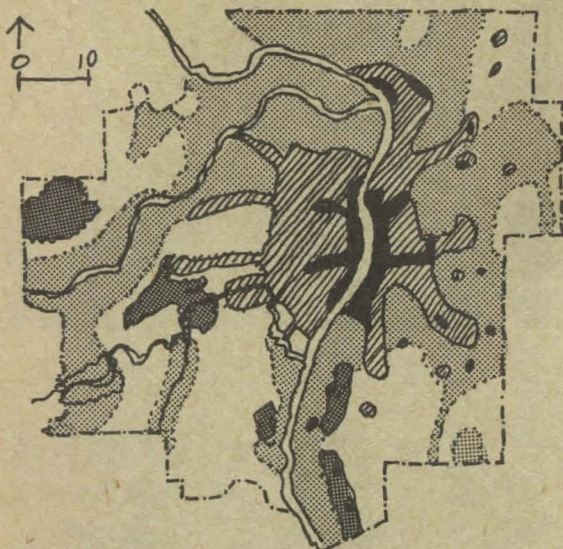
Diagrammatic plan of the 1930's of the probable organization of the St Louis region—an early example of National Resources Planning Board work. This was a fundamental study in developing a regional plan for a large industrial city with surrounding agricultural areas

Island, in Radburn, New Jersey, in Chatham Village near Pittsburgh and elsewhere, that our building system could produce fine residential neighborhoods. Our cities had the ability but the lessons and techniques of these successful projects would have to become available everywhere—and people made aware of them.

In the early days of Center City, urban design had been simply a matter of deciding where to put the next building. Subsequently private groups learned how to adjust their undertakings to the public's rudimentary demands. In the early 1900's a note of civic beauty was introduced. But after World War I and before the depression our energies to build and exploit, quickened by an expanding technology, outran our ability to design our cities.

It might be interesting to speculate on what would have happened to all our Center Cities had not the depression occurred. Would our ability to design cities have matched their growth? One can only guess, for that was not to be Center City's story.

The Depression and National Recovery

Local Crisis and Federal Action

When the depression struck, many homeowners were unable to meet their monthly mortgage payments. Mortgages were foreclosed and homes were taken over by the savings and loan banks. The banks found themselves with unsalable houses and diminishing cash funds. In 1932 the Federal government set up the Home Loan Bank System to relieve the banks directly.

This relief proved inadequate and so, in 1933, the Home Owners Loan Act was passed to give immediate relief directly to the homeowners. This enabled many Center City families to keep their homes and it gave the banks ready cash. The Federal government was beginning to reform an inefficient system of savings and loan institutions.

NRPB—In 1933 the National Planning Board (later called the National Resources Planning Board or NRPB) was set up to study the entire country as a series of regional areas and to encourage planning at all levels of government. This activity had lasting effects on Federal policies for national development. Studies were made of Center City in relation to the state. For the first time the economic role of Center City was accurately understood in terms of its natural resources and productive equipment. Plans were drafted to improve that role. These helped allocate public expenditures.

TVA and the Greenbelt Towns—TVA remains the outstanding example of planning on a regional scale. TVA was organized as a flood control measure, a system of hydroelectric power, and a regionwide program for an area's economic improvement. TVA had the cream of American design and engineering talent. The idea actually originated in World War I but needed the emergency impetus of the depression to bring it into being. TVA's work included the creation of recreational areas, improving farm lands and town planning, and its town planning accomplishments set a standard for subdivision design.

The Federal government also built the three famous Greenbelt towns in the thirties under the Farm Resettlement Administration. They were regarded as the beginning of a new era in town building. But NRPB, TVA and the Greenbelt towns were not to usher in a new period. They were the products of emergency times and were not to become a part of our normal way of

doing things although certain design details were widely imitated—curvilinear roads, cul-de-sacs and shopping centers.

FHA—In 1934 a National Housing Act was passed to extend programs for rebuilding the country's shattered economy by restoring the building industry's activity. This Act established the Federal Housing Administration (FHA). It gave assurance to commercial banks, savings banks and insurance companies to lend money. It also opened the way for investment capital to flow more freely around the country. The Federal National Mortgage Association (FNMA or Fanny May) was established to administer mortgage programs. Construction standards were adopted for the homes insured. This reassured lenders and protected public funds.

PWA—The Federal government also sought to put people to work through civic projects, for which the Public Works Administration (PWA) was set up. Center City took advantage of their programs to get its unemployed people back to work. Fortunately, it had the experience to use the opportunity well. Roads, public buildings and parks were built. The PWA tried a modest program of moderate income housing in 1933, which resulted in but a few homes around the country. In 1934 PWA introduced a program for low-rent housing in slum areas. Center City took advantage of this program and built one good "project." The execution of this project, however, created several administrative problems.

PHA—In 1937 the US Housing Act was passed. This established the Public Housing Administration (PHA). This program was to be locally administered by local agencies. Enabling legislation was required for any state to avail itself of Federal funds. Again, the Federal government drew on the experience of several states which had initiated their own programs. Center City established the Center City Housing Authority. To be eligible for Federal grants it had to make its public housing projects tax exempt. It could then build low-rent public housing with low interest-rate loans and direct Federal grants.

The Federal government, through trial and error techniques, had tried to get building construction back in operation as one major key to general employment and economic activity. In doing that it had tested a mechanism which would be the basis for more comprehensive urban programs after WW II. FHA remains as a basic tool for home construction and PHA for low-income housing. The slum clearance operations of the late thirties were to be models for programs for beginning to rebuild our cities after the war and NRPB had set the example for metropolitan planning.

Groundwork for Post-War Growth

During the war a National Housing Agency (NHA) was established to try to ameliorate the housing problems of war workers. The architects who had designed public housing and new towns in the thirties went to work designing military posts, defense factories and defense-worker housing, much of it of distinction.

In 1944 the Veterans Administration (VA) was set up to tend to the problems of the returning GI—schooling, retraining, hospitalization and housing. The VA established a program for a 100 per cent GI home mortgage with a 4 per cent interest rate and no insurance fee. Lacking organization to administer construction and working under duress, some scandals occurred. The GIs got their houses, American suburban sprawl got a boost and some speculators got very, very rich.

The post-war years opened the door to large-scale suburban building around Center City's periphery, across and beyond the city
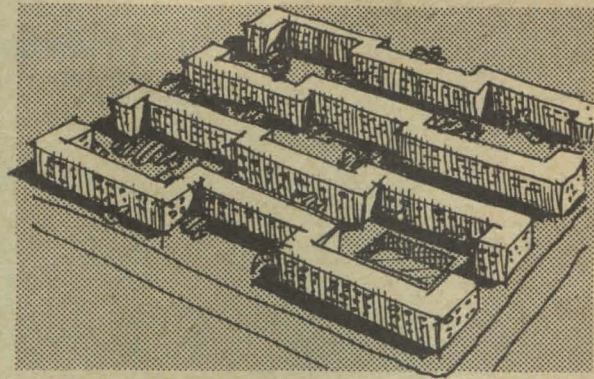
The Carl Mackley Houses in Philadelphia (1935) were an early example of PWA housing
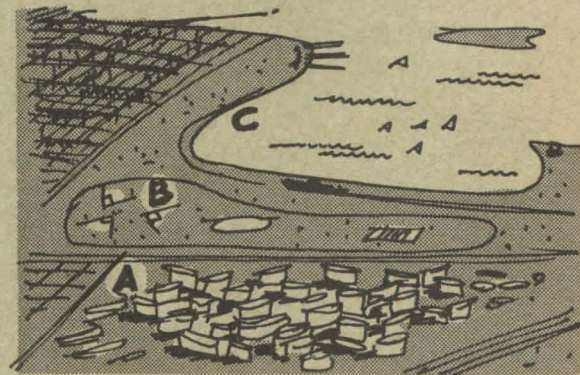
Old Harbor Village in Boston (A) was a 1937 PWA project. The sports field (B) and beach development (C) also were public works projects
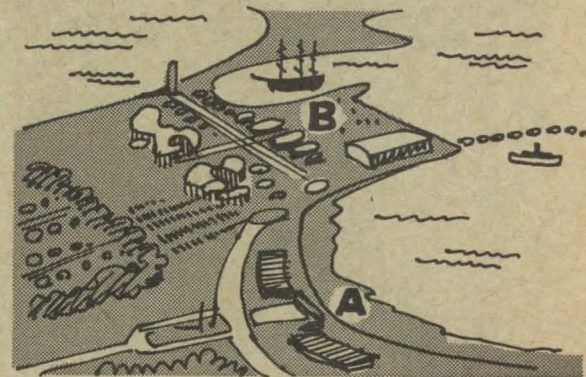
Orchard Beach in the Bronx was created in 1936 under the New York City Department of Parks (A) Beach (B) Amusement park
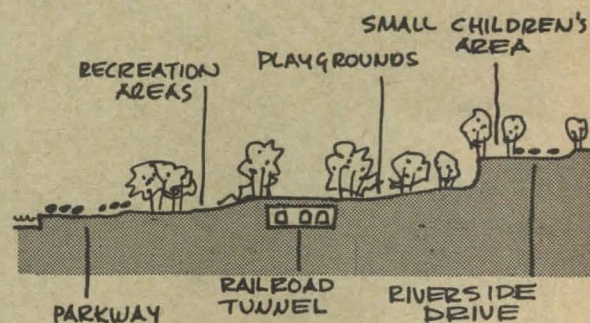
Cross section of West Side Drive in New York City. This project involved Federal, state, city and railroad authorities in 1937
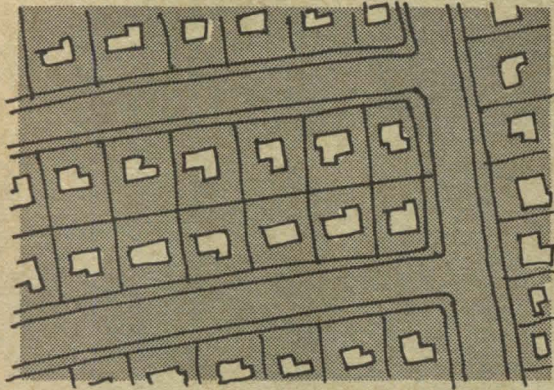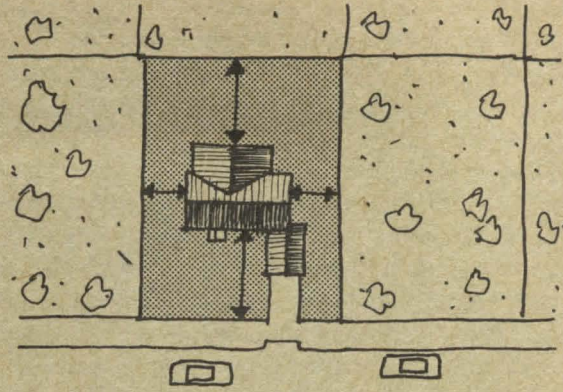
. . . but these regulations, applied over extensive areas
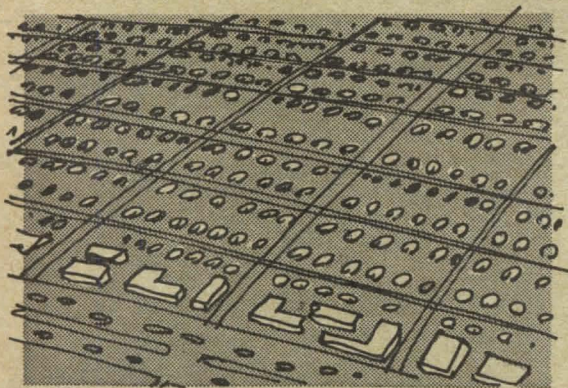
. . . produced monotonous and ill-designed residential communities
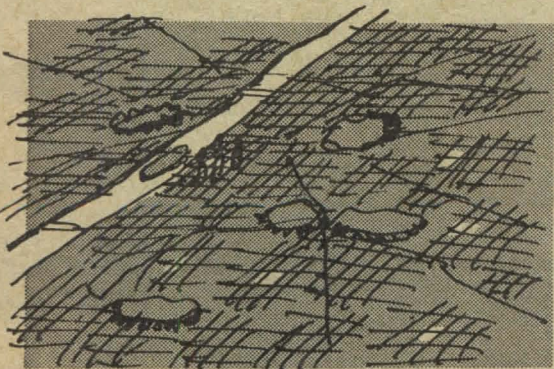
Center City became the victim of this "design" as it sprawled into the countryside in its post-war growth

limits into the surrounding county. The majority of houses were built under FHA-insured loans. There were only minimal requirements which would lead to any kind of well-designed community. The standards produced houses on lots which, multiplied by the thousands, added much to our suburban monotony. FHA loan programs lacked the ingredients which build sound communities.

The demands on Center City increased as they had never increased before. There was a lack of trained personnel and a considerable backlog of civic work as a result of the war. Special districts and authorities were created to circumvent various limitations. Some thought the answer to administrative difficulties lay in hiring a city manager. The universities started holding forums on city administration and planning.

The core of Center City was beginning to lose population to the suburbs. Old buildings which should have been replaced or extensively remodeled were now obsolete. People were leaving the old suburbs for the newer ones further out. Old housing in the city decayed into slums. Center City's municipal burdens were increasing but its revenue was actually decreasing; its bond limits were strained. The city was unable to help itself. Worst of all, the state legislature, being of rural outlook, was unwilling to put money into the city or to allow Center City to develop new sources of revenue. Center City could no longer annex land and could enter into but few metropolitan compacts. In many ways Center City's public officials showed great ingenuity in the face of their problems.

In Center City itself new municipal agencies were set up to deal with new problems, rather than increase the operations of existing agencies. Metropolitan Commissions were established for water, sewer, parks, police and traffic. Some problems were made more complex by compounding responsibilities. Circulation problems, for example, became the responsibility of the Police, the Traffic Department, the Parking Authority, the Bridge Authority, the Public Transit Authority, the Department of Streets and Highways, and the Department of Public Works. The Planning Department had made good traffic studies but had no means of injecting these studies into the city's operation.

Thus, the increasing problems of Center City met with a fractionalization of responsibilities, locally, at metropolitan level and at state level. In this atmosphere the city could only grow chaotically. The pioneer efforts could only be groundwork for more effective programs.

In 1947 the National Housing Agency became the Housing and Home Finance Agency, coordinating housing and community facilities operations. But 1949 was the landmark year which ushered in the first step toward resolving some of these difficulties.

Our Present Programs

Center City's post-war problems had surpassed its ability to cope with them. At the same time the county and the state were unwilling and, to a certain extent, unable to respond to Center City's problems. Only the Federal government could help.

The Housing Act of 1949

The Housing Act of 1949 provided Federal assistance to all our Center Cities to arrest the spread of blight and slums. It set forth as its goal "a decent home and a suitable living environment for every American family."

Briefly, the idea was that cities could establish a local redevelopment agency with permission of their states through enabling legislation. The redevelopment authority would buy slum properties, help relocate the people displaced, clear the land and then offer it for redevelopment on the private market. Because the reuse value was less than the cost of acquisition, two-thirds of the net loss would be paid by the Federal government. The Housing Act of 1949 also authorized a certain amount of public housing.

This act did several things. For the first time public land-taking action had to be accompanied by the relocation of the people displaced. It also introduced the principle that the most profitable use of land to a private owner was not necessarily the most advantageous use to the city, neither from a tax nor a social viewpoint. Redevelopers were to be selected on the basis of "highest and best" reuse of the cleared land. This was to open the door to a broad spectrum of community interests—monetary, social, industrial, special interest and soon, good design.

The financial logic behind redevelopment was that the city and the government would regain their outlay in increased taxes. City welfare and management services would also be lessened. The redeveloped area would be able to pay for the services the city provided and would be redeveloped for residential, commercial or industrial use. Redevelopment would also generate new economic activity. One early restriction on the cleared land was that it had to be originally in residential use. The 1949 Act was far from perfect in actual operations, specifically in regard to the relocation problem—and that is still a major fault.

The Housing Act of 1954

Because all programs thus far had been products of Democratic administrations, the Republican administration of 1953 reviewed existing legislation and studied alternate possibilities. These reviews confirmed the earlier program. Further recommendations were made to enlarge upon them. Government's role in housing and community building thus became bipartisan.

Starting in 1953 HHFA was reorganized to include five major units: the Federal Housing Administration (FHA); the Public Housing Administration (PHA); the Urban Renewal Administration (URA); the Federal National Mortgage Association (FNMA); and the Community Facilities Administration (CFA). All operate under an Office of the Administrator.

The Housing Act of 1954 enlarged the concept of urban redevelopment to include rehabilitation, conservation and other blight-preventing measures to add up to a comprehensive program for renewing cities—hence, the term *urban renewal*. Again the Federal government had drawn upon the experiences of cities already at work—Baltimore, Chicago and Philadelphia. To develop
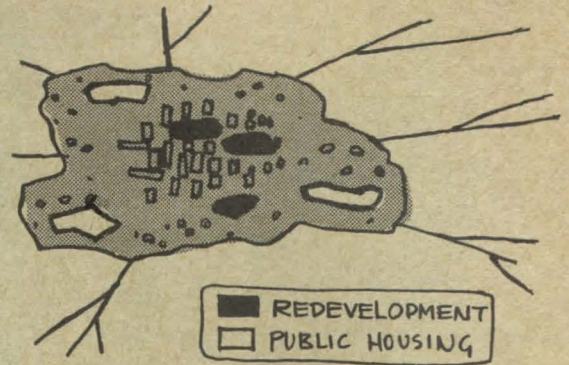
A typical city's concept for redevelopment subsequent to the 1949 Housing Act . . .
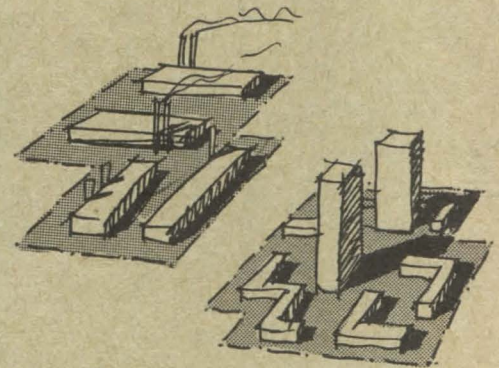
. . . cleared sites were redeveloped for such uses as industrial or middle-to-upper-income residential
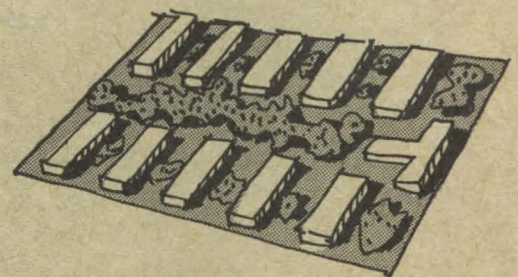
. . . while public housing projects were built for the relocation of displaced people
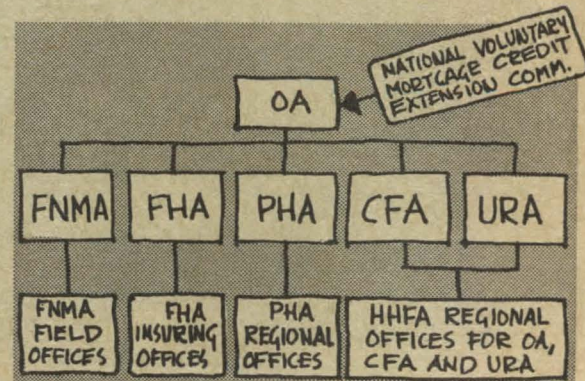
The HHFA organization chart
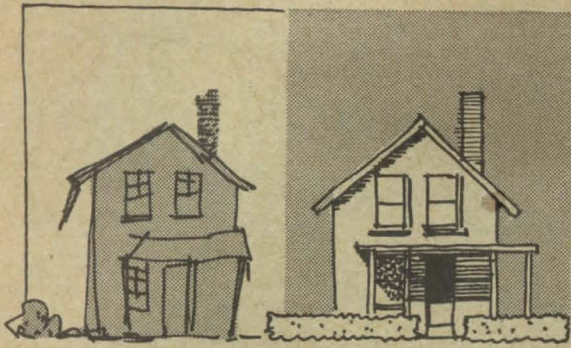
Federal programs allow the rehabilitation of still useful old structures ...
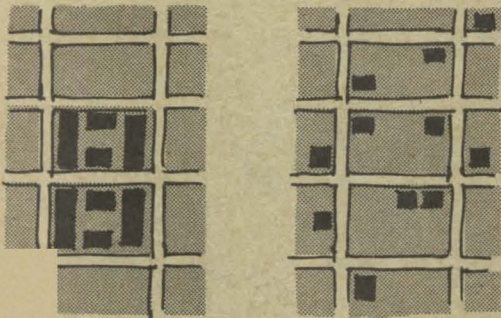
... rather than concentrate public housing in a community it can be dispersed and blended
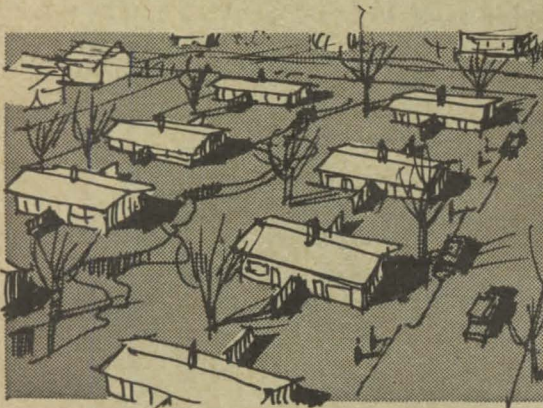
... housing for the elderly can be arranged as groupings in the community
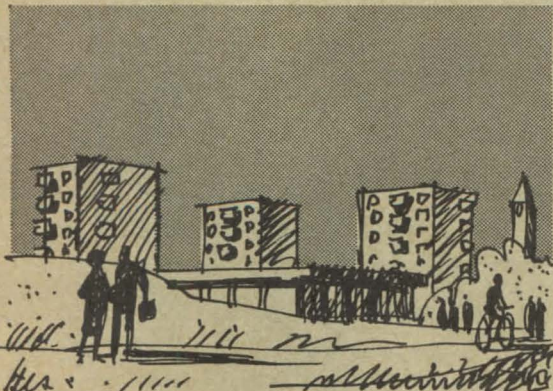
... needed college dormitories can be financed

broad local responsibilities a seven-front program was conceived. This was called the "Workable Program for Community Improvement" (WPCI) composed of the following seven elements:

1) Enforced housing codes and zoning
2) A comprehensive community development plan
3) A neighborhood analysis to determine treatments needed
4) An effective administrative organization under state law to carry out programs
5) Local financial capability to pay the local share of expenses
6) Provision of suitable housing for displaced families
7) Active citizen participation and support

These seven points were to be a framework for local action. The 1954 Housing Act also provided numerous loans and grants to help finance these efforts. To be eligible for aid funds, a city had to adopt and follow the seven-point Workable Program.

Two types of planning programs were also initiated, one for *comprehensive* planning and the other for *renewal* planning. The 701 Planning Assistance Program, so designated because it was Section 701 of the 1954 Housing Act, provided funds on a matching basis for metropolitan or city planning. On the metropolitan scale the 701 program is the descendant of NRPB programs.

Subsequent to the 1954 Act, complementary measures were instituted over the years, establishing a Community Renewal Program (CRP) to handle planning, and designing the General Neighborhood Renewal Plan (GNRP) to create renewal plans for a particular neighborhood, to be realized in a period of up to ten years. Aids for student and faculty college housing were made available, as well as community facilities loans, loans for advance planning for public works, and a program for demonstrating urban renewal techniques.

The 1956 Highway Act

During World War II a Federal act initiated a national system of interstate highways, 40,000 miles of roads criss-crossing the country. This was enlarged in 1956 to a 41,000-mile network to be completed by 1969. Federally aided road construction has a long history of step-by-step programs, as in housing and community development. The system has two main parts—the primary (interstate) system and the secondary system. In 1956 the primary system was designated as the "National System of Interstate and Defense Highways." Ninety per cent of its cost is paid by the Federal government, 10 per cent by the state. The secondary system is financed on a fifty-fifty matching basis. In the haste to expedite the Highway Act local communities and their planning operations were overlooked. This serious shortcoming has caused no small difficulty and destroyed urban tissue which should have been served. Only after years of criticism was this fault corrected.

Too often the cities had no plans to which the state highway planners could refer. Where local plans existed they were often overlooked but the over-all fault was lack of coordination. The 1962 Highway Act corrected this fault by stating that after July 1, 1965, no Federal highway funds will be advanced to cities unless the highway plans are tied into "planning processes"—viable planning operations. The Housing Act of 1961 extended the use of 701 funds to transportation planning. The 701 planning funds and highway planning funds can now be used in joint programs.

Other Programs

FHA home mortgage insurance programs, PHA low-income housing, the BPR road-building program—these are but a few of the programs through which government, acting on all levels, helps build the community. To these programs must be added a host of others: the Hill-Burton Act which extends aid to hospitals; the works of the Corps of Engineers in flood control, navigation and harbor installations; the Department of the Interior's park systems; and the Federal Aviation Administration which aids airport construction. At state and local level we forged programs for school construction through school districts, hospital systems, public housing, recreational districts, and city and state university and college construction.

The 1961 Housing Act

The cities that engaged in urban renewal programs were testing the elements of the 1954 Housing Act. In 1961 another Housing Act was passed to make needed improvements based on the experience gained.

The 1949 Act had stressed spot redevelopment. The 1954 Act had enlarged the concept of redevelopment to renewal, a more comprehensive approach stressing the prevention of blighting conditions that make clearance and redevelopment necessary. The 1961 Act enlarged the attitude even further—from correction and prevention to forward-looking planning.

Among the improvements in the 1961 Act were more liberal loan conditions for homebuilding and home repairs, mortgage arrangements for moderate-income families and families displaced by renewal, further programs for experimental housing, housing for the elderly, nursing homes and condominiums. More urban renewal funds were authorized; 701 planning funds were enlarged in scope and purpose—with highway planning, for example, as pointed out above. Small business loans were made available through the Small Business Administration (SBA) to displaced businessmen. HHFA provided more technical assistance and planning grants for public works were improved.

Important new features were grants for open-space acquisition and mass transit. The Federal government would contribute 20 per cent of the cost of acquisition for parcels of open space—30 per cent if the open spaces were part of an over-all area plan. Funds for test demonstrations in mass transit were made available. For example, a commuter railroad could reduce fares to see the effects on patronage. Two-thirds of the loss in revenue would be reimbursed. FHA housing programs by now had begun to address themselves to the problems of moderate-income families. Three-quarters of the urban renewal projects were residential. It was also evident that the Federal programs had generated a great amount of activity in the private economy. The programs were stimulants; the funds were seed money.

The 1961 Area Redevelopment Act

In 1961 the Area Redevelopment Act (ARA) came into being, designed to solve unemployment problems in economically depressed areas. It consisted of a whole series of programs—industrial loans, public facility loans, grants, technical assistance and job retraining. The programs of HHFA and BPR were incorporated as principal tools in the ARA program, consolidating much of what we had in operation.
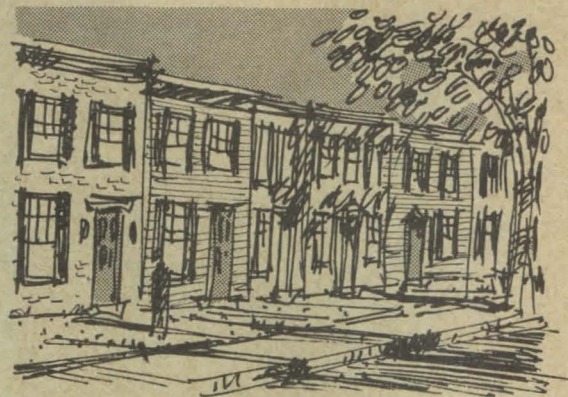
. . . historic architecture can be restored
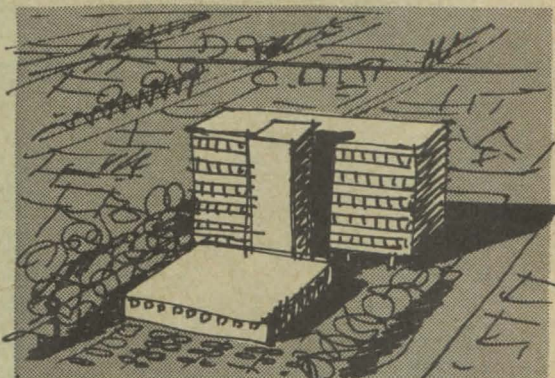
. . . the Hill-Burton Act provides funds for community hospitals
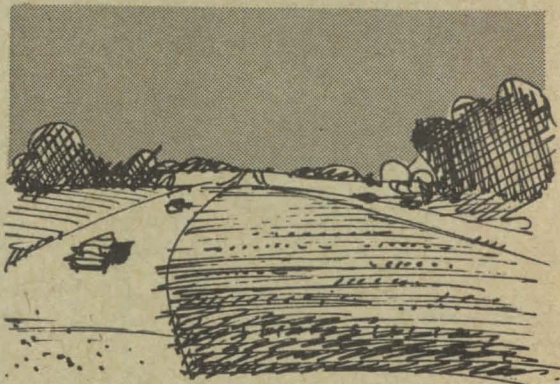
. . . the Interstate Highway system is moving rapidly toward completion
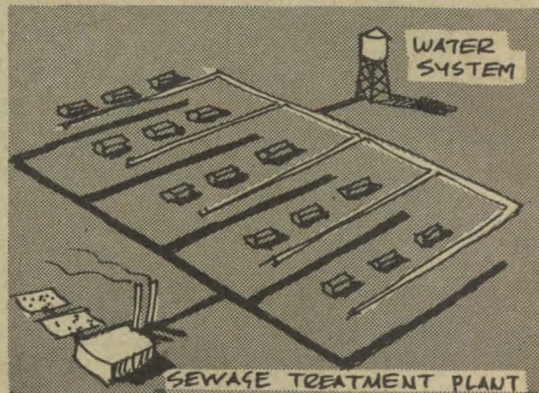
. . . communities can plan and build public facilities

... air rights projects can be developed
through cooperation of private enterprise
and local authorities, in effect creating new sites

——— EXISTING SERVICE
- - - NEW SERVICE

... funds are available for extension of
mass transit lines

... funds are available for acquiring
recreational open spaces

... programs are still needed for creating
new towns and communities well related to
the metropolis and places of work

The 1964 Mass Transit Act

In the spring of 1964 a major step was made toward revitalizing the mass transit systems of our cities. The Federal government allocated funds for transit agencies at the local level to improve public transit facilities. New tracks can now be laid for existing subway or commuter rail systems; new cars and buses can be purchased. Companies can plan their transit for the future, build new stations and replace obsolete equipment. Small and medium-sized cities, in particular, need this aid. Some have no public transit facilities at all. Although the sum of money authorized is relatively modest when compared to our highway expenditures, it begins to recognize a neglected aspect of transportation planning.

Further Ideas for Improving Programs

Several new ideas have been introduced in 1964 to improve upon our current programs and are now being considered in Congress. They represent the status of Congressional thinking and, let us hope, will find their way into programs of various sorts.

The 1964 Housing bill proposes improvements in housing programs, stressing low income, minority, elderly and rural people. Requests are being made for more urban renewal funds, greater financial help to persons displaced from their homes and for displaced small businessmen. Funds are recommended for a training program for municipal facility managers.

The most important measures are for means to allow communities to effectively plan further growth. A "new communities" program would establish financing programs for building satellite towns around existing urban hubs. Other programs would allow the acquisition of undeveloped land and the planning and placement of certain key public facilities to fix the main elements of future communities—main utilities, roads and open space. The underlying significance of the 1964 Act is its emphasis on metropolitan planning and development.

It is also proposed to establish a Department of "Housing and Community Development." This was earlier referred to as a "Department of Urban Affairs" and would give recognition to the actual role that all our programs play.

The Actual Programs

The detailed programs of local, state and Federal government would require treatments too extensive to deal with here. There are a number of government publications which describe them—Technical Bulletins, Urban Renewal Manual, Urban Renewal Notes, etc. In addition there are various publications of the American Society of Planning Officials (ASPO), the National Association of Housing & Redevelopment Officials (NAHRO), the American Institute of Planners (AIP), the American Council to Improve Our Neighborhoods (ACTION), the Urban Land Institute (ULI) and the National Housing Conference (NHC). These organizations have often served as the voice of the public in Congressional legislation. There are also numerous books and published studies sponsored by foundation grants to leading universities. Every architect committed to the design of the city owes it to himself to know of these activities.

However, we can outline these efforts by returning to the story of Center City and describing in general terms what happened there as a result of these programs.
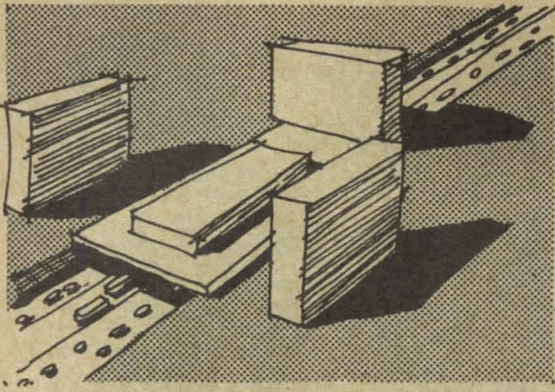
Center City embarked on a series of redevelopment projects (black areas)
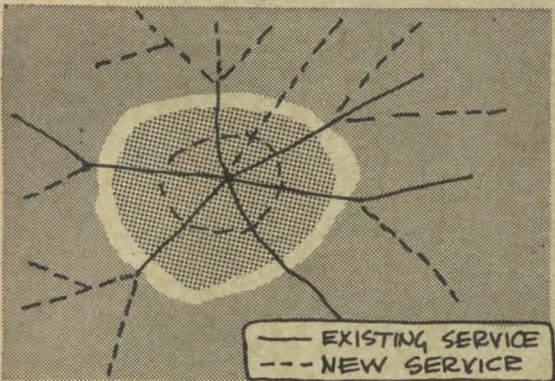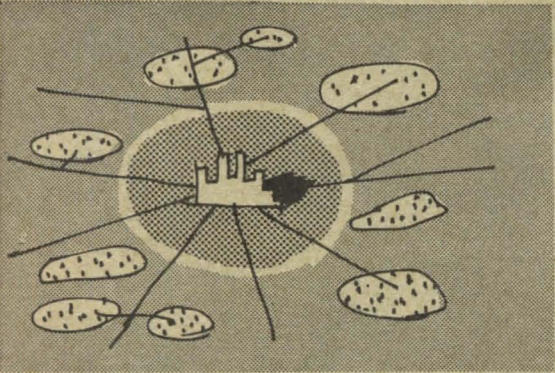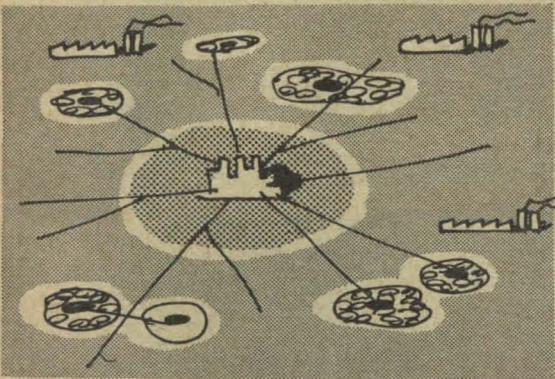
Center City Helps Itself

When the 1949 Housing Act was passed the state adopted enabling legislation. Center City established a Redevelopment Agency within its Housing Authority. That agency delineated slum clearance areas after careful study and consultation with the city's Planning Commission. Public housing projects were started and slum sections razed. A relocation branch was set up in the Housing Authority to help find new homes for displaced people. About a quarter of them went to the public housing projects. Over-all, 80 per cent of them were better housed than they were before the slum clearance projects began.

Center City's citizens were much alarmed by the bulldozing effect of land clearance. They agreed that the slums could not remain but were disturbed by the displacement of slum dwellers and the small businesses. When they saw the nature of the redevelopment—often rather luxurious buildings erected by large corporations—they sensed inequities in the program. The more perceptive of them were equally alarmed at the displacement problems caused by state highway construction which made no provision at all for displaced people.

In time a group was formed to study the problems of the downtown area. Its members consisted of bankers, store owners, realtors, newspaper owners and other businessmen. They examined the declining downtown sales picture and increasing urban expansion. Major department stores were losing customers and one of them closed after building two suburban branches. An arrangement was worked out with the parking "industry" whereby shoppers' parking fees were partially paid by the stores patronized. There was talk of a general downtown fix-up campaign.

Urban redevelopment legislation could not then cover areas other than residential. The downtown committee thought that it should. Certain vacant downtown properties could be developed as commercial and parking structures. It was impossible to buy many of these properties since they were in the hands of owners whose agreement to sell could not be easily obtained. Others had complex deed restrictions. Urban renewal was to help in such situations.

An economics expert was consulted to study the potential of the downtown area. His conclusion, based on study of the downtown in relation to the city and region, was that downtown had a major role in the expanding metropolis—depending on accessibility, diversity, facilities and attractiveness. His calculations took into account the growth of suburban commercial cores and shopping centers.

The local AIA chapter prepared a plan showing what this meant in terms of the region's network and what the downtown could become. The main shopping street could be a pedestrian mall with limited local traffic and parking garages flanking the commercial core. Surrounding the downtown could be new apartment houses, a riverfront park with a museum and an expanded college campus, to mention only the principal possibilities.
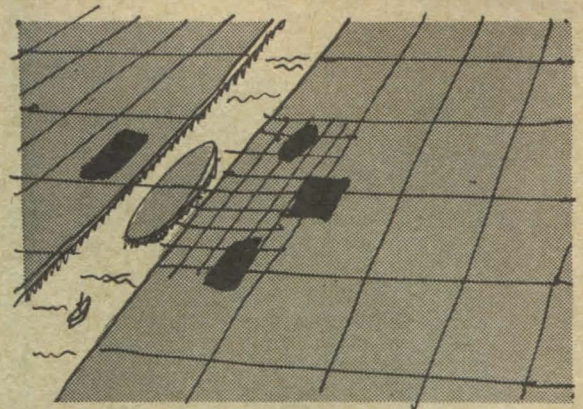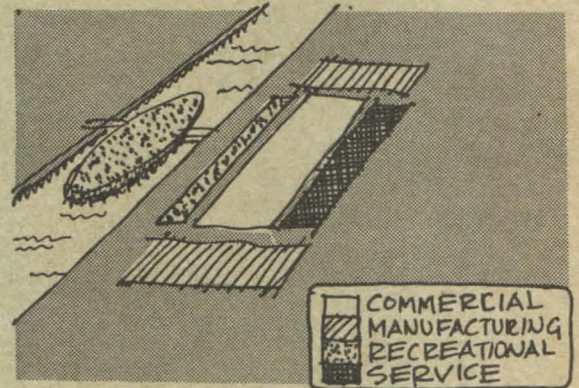
A downtown committee prepared a downtown plan
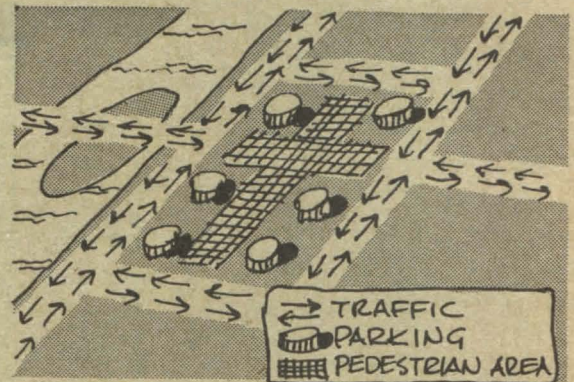
The downtown plan's circulation system tied into the metropolitan system and raised important questions in metropolitan planning
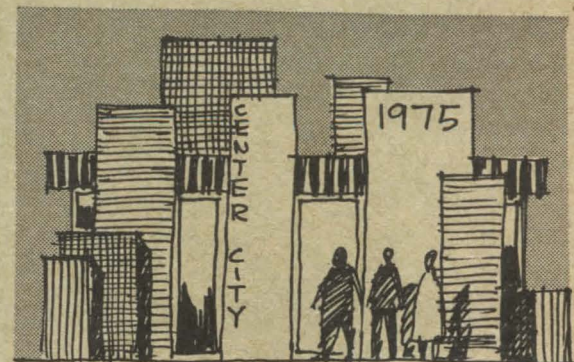
The AIA chapter designed a pavilion and exhibit in the heart of the city to display these planning proposals
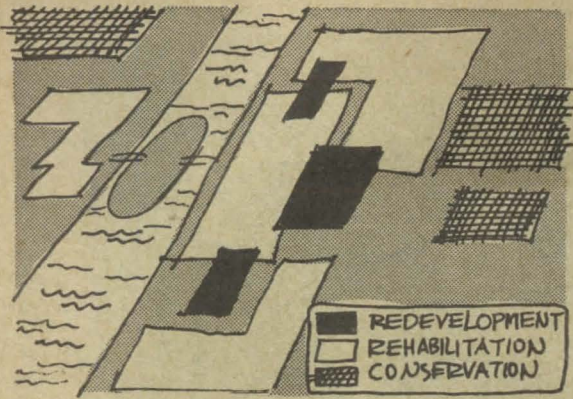
Center City prepared a Community Renewal Program (CRP) for general improvement

REDEVELOPMENT
REHABILITATION
CONSERVATION

REDEVELOPMENT
REHABILITATION
DO NOT TOUCH
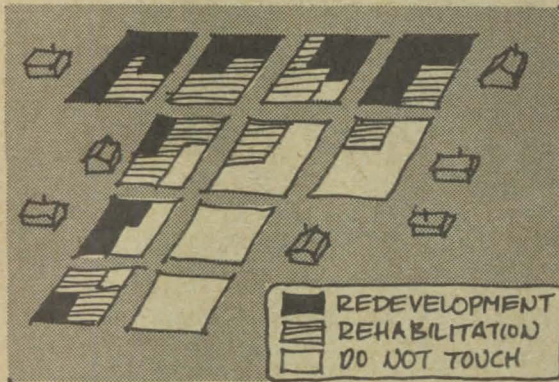
A General Neighborhood Renewal Program (GNRP) was composed of three elements

ADMINISTRATION
PLANNING
RELOCATION
CLEARANCE
ROADS
UTILITIES

1960 1961 1962 1963
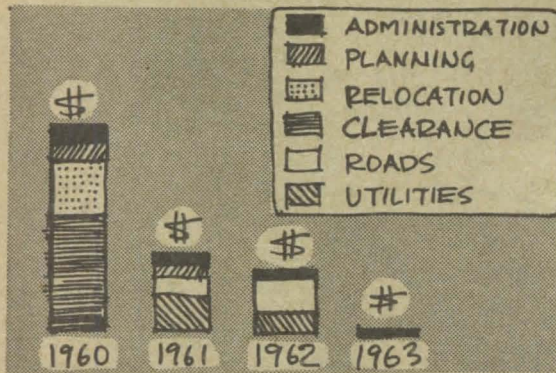
Capital budgeting for individual projects was adopted by Center City. Above is an example of municipal budgeting for a project
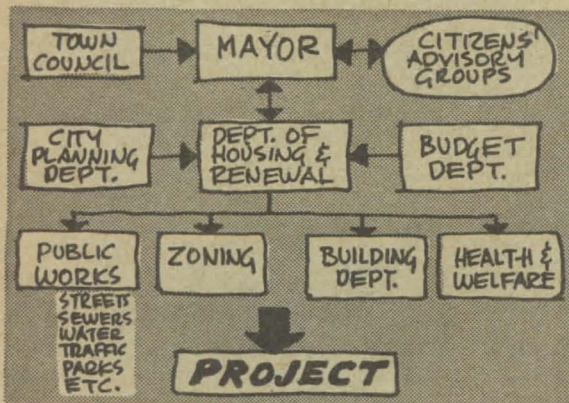
Center City's municipal organization for redevelopment followed these general lines

This plan provided a vision for Center City. The newspapers and local television gave considerable coverage to the plan but in actual fact it had no visible means of support. Although the City Traffic Department, the Parking Authority, and all the other agencies concerned supported the proposal, the machinery of the government was not tooled to carry the plan through except in certain minor details—a change in a one-way street, or the installation of pedestrian crossing signals.

It was this situation coupled with the growing concern for urban redevelopment that led to the formation of "Citizens for Center City, Inc.," a nonprofit private group that was free to inquire into a number of civic affairs. What was more, CCC Inc could prod legislature, could support measures to improve Center City and could act as watchdog, devil's advocate and *vox populi.* It was financed by private funds and subscriptions.

CCC Inc inaugurated its founding by holding a national conference on the American City. The conclusions of that conference were: 1) Center City needed a mayor dedicated to rebuilding the city, 2) Center City needed an up-to-date city plan and a strong city planning staff, 3) planning at metropolitan level was essential, 4) the needs of individual groups, organizations and institutions had to be assessed, and all groups who could contribute to building a better Center City had to be mobilized. The local AIA chapter was delighted with this, feeling it had played a large part in stimulating interest in a major way—as it definitely had.

Two immediate results were an increase in the city's budget for a city planning staff and the formation of a Metropolitan Council of Governments. A major early recommendation of the city planning studies was that all municipal expenditures should be reviewed by the City Planning Commission as a means of coordinating expenditures for improvements—capital budgeting thus came into being in Center City. The planning commission saw, through studies, numerous shortcomings in Center City's transit system and lack of coordination between state road building and city streets.

CCC Inc and the local AIA were able to point out these deficiencies and seldom failed to take an opportunity to voice their point of criticism.

In the face of this and other concerns the National Housing Act of 1954 became law. Its chief benefits to Center City were to direct its several programs into one conjoined effort to rebuild the worn parts of the city. An over-all Community Renewal Plan was started, and the areas of the city most in need of rehabilitation were discerned. The proposal to review municipal budgeting through the planning commission was adopted, for these expenditures could thus better be tied to redevelopment projects and consequently could be counted as part of the city's share in the cost of renewal.

Moreover, numerous neighborhood rehabilitation efforts were undertaken. CCC Inc worked to help develop neighborhood organizations to work with the redevelopment authority in drafting plans. The nearby college gained needed land through a redevelopment plan. Campus housing for faculty and students was built with the aid of HHFA's Community Facilities Administration.

A program of housing for elderly people was also started, again through Federal funds. One of the rundown areas slated for rehabilitation contained a number of fine old buildings dating from the city's early days. The local AIA chapter made a survey and selected those that should be saved. The architects went further in suggesting ways for new buildings to harmonize with the old.

When the Redevelopment Agency wished to hold a redevelopment competition based on design, it contacted the AIA chapter which, in turn, proposed an architectural jury of colleagues from other cities. When a state highway plan was released, revealing serious errors in road and ramp placement, numerous citizen groups rose up in protest and the plan was altered. The citizens were able to do this because they had become experienced in the organizational skill necessary to effective criticism.

Urban Renewal Notes, a bimonthly publication of URA, presented many of the ingenious applications of the new-found means. Grady Clay, speaking at the 1962 ASPO conference, summed up many of the lessons learned from over a decade of experiments. His advice was: avoid overly large projects; merge all projects with the cityscape; design projects to have a beneficial effect on their surroundings; design open spaces (the cheapest urban building material) very carefully; try new circulation concepts; design each particular area for the maximum diversity of use; incorporate old elements into projects; select project boundaries which would meld rather than separate urban tissues (project boundaries best run through the middle of a block rather than the center line of the street); and design richly in detail for the pedestrian's or even the child's scale.

Center City also learned from its own experience and that of other cities that redevelopment competitions could not be decided on the basis of the developer's offered price for land *and* design together. These had to be separated because a decision based on price invalidates a decision based on design—and some low-bid designs can return more to the city over the long run.

Zoning controversies added further to Center City's experience and judgment. Center City learned that the best argument against an inappropriate variance request was a sound plan. Zoning could become a helpful enforcement tool. In redevelopment projects zoning could be relaxed—its protective role was transferred to the redevelopment program. On the one hand, this gave the developer latitude; on the other, it protected the interests of the city.

Center City's architects gained firsthand knowledge of the HFA's mortgage insurance programs: Section 207 for multi-family rental housing; Section 213 for co-ops; Section 220 for urban renewal housing; Section 221 for low-cost relocation housing; Section 231 for housing the elderly; Section 233 for experimental housing; and Section 234 for condominiums.

The local AIA operated as advisors and architectural overseers. When it was proposed to replace some fine street lamps—highly sculptured cast-iron standards of the City Beautiful days—the local AIA rose up in protest. The lamps were saved. The local AIA was always helpful in preparing models and other visual exhibits, helping to choose architectural juries and setting up competitions. Individual members were employed to make design studies of special study areas. Most recently the AIA chapter proposed a total visual survey of Center City as the physical basis for all planning. Their real contribution, over-all, was to inject urban design thinking into all operations which affected the city's physique.

In time a demonstration grant was obtained to develop techniques for rehabilitating old neighborhoods through conservation and through open space improvements. Acquisition for the open space began shortly after 1961, when partial funds for it became available. A mass transit demonstration grant tested the effects of better bus service on commuter patronage. State highway
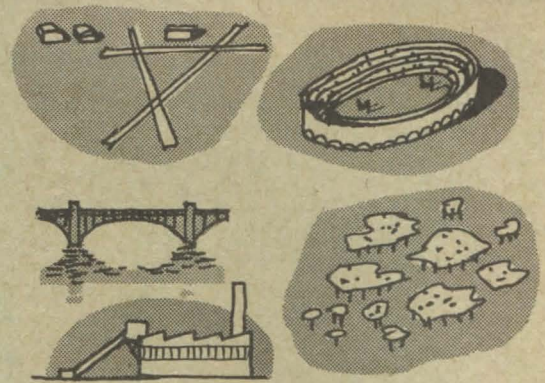
Center City constructed a number of public facilities—an airport, bridges, a municipal incinerator, an athletic stadium and parks
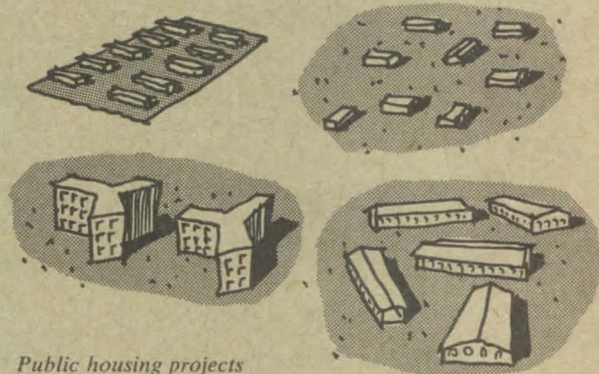
Public housing projects of various designs were built
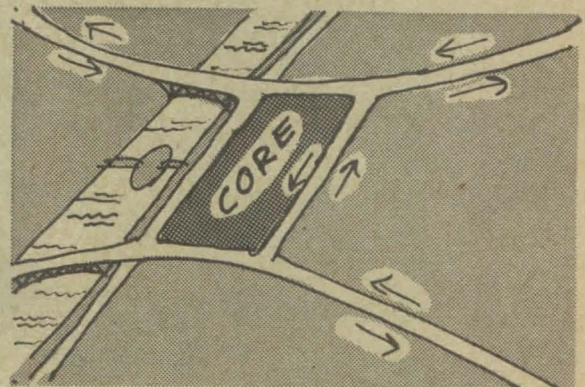
The downtown plan's circulation system was influential in locating urban expressways
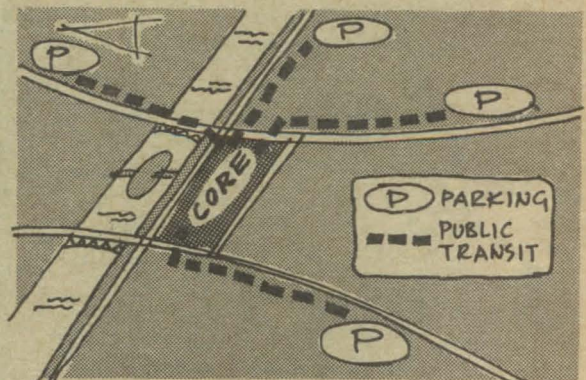
Municipal parking lots were built at the periphery of Center City to intercept commuter traffic
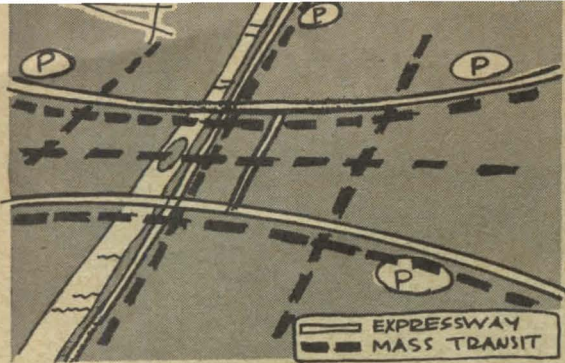
Center City must work toward a balanced transportation system— automobiles and public transit
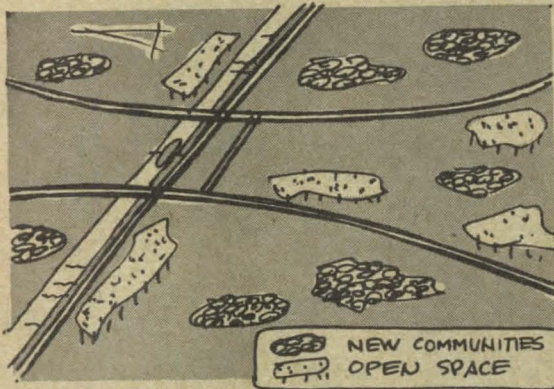
Center City must have means to control land use in the face of increased land demands. It must provide land for open space and well-planned new communities
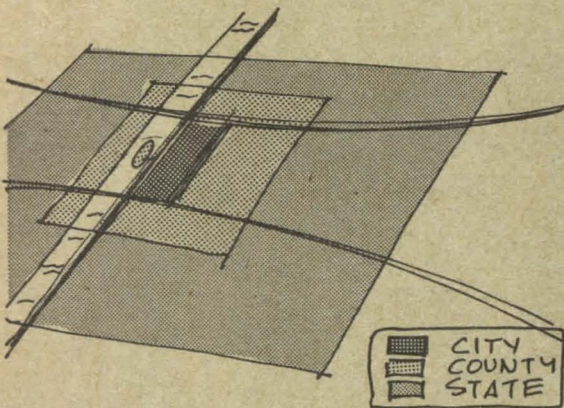
Center City and its surrounding communities must equip its numerous governments to meet the new problems of the region

Over-all Center City's accomplishments have been important first steps toward these ends— but much remains to be done

planning was related to local planning using BPR funds and HHFA planning funds. Center City began to plan the improvement of its transit lines and equipment in anticipation of the 1964 Mass Transit Act. It was wise to do so because the application for funds was ready for submission when the bill was enacted.

In this unfolding panorama of programs a new range of clients and "designers" was becoming evident. The local Housing Agency was in effect a client of local architects. In road building, contracted engineers were the designers for state and city road departments, their work subject to review. In redevelopment projects, developers contracted architects, the client in effect being the city's Redevelopment Agency.

Center City had firmly established the beginnings of a municipal program for reconstruction and enlargement. It had begun to inject good design into many of its programs. Even in so complex an area of design as highways, Center City's architects were speaking of alignment designed to reveal special vistas in careful sequence, to integrally fit the road to the city's topography. It is now the duty of Center City's architects to inject design into every act that shapes the city.

Conclusion

The real frontier of design for all our cities today is the metropolitan area, now the basic urban entity. On that frontier our Center Cities now labor, dealing with administrative complexes far more intricate than those of an individual city. Air pollution, a form of refuse, can only be disposed of on a metropolitan basis. It is also evident that the control of the metropolis is needed to protect its public and private investments.

There are also numerous technical matters to be comprehended and added to the general public's knowledge. It is relatively easy for the public to understand urban design when illustrated with models and drawings. It is relatively easy to present a municipal budget and a municipal program. But as yet the whole field of taxes and mortgage operations as they affect our cities are but crudely understood.

The lesson of our history is that the tools of urban design are increasingly the tools of government operating through appropriate local bodies. Because of circumstances in our history it was Federal and state government which gave us our current programs. But it is also the lesson of history that they were developed through local efforts.

Every program which affects the physique of the city is of concern to the architectural profession because it is one of the tools of urban design. We architects take rightful pride in the imaginative urban concepts we envision—the Radburn idea, the pedestrian way, the Greenbelt concept or the multilevel city. We must now be just as imaginative and perceptive in grasping the means to realize urban design which government offers us.

For more and more, it is through the programs of government that our concepts become the living city. ∎

Architecture and Emotionalism

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As a practicing architect and as a historian, Dr Herman has long been concerned with the lack of interdisciplinary understanding between the professions

FREQUENT attempts have been made to reduce the evaluation of architecture to one concept or formula, such as "functionalism," "spatial integration" or "structural honesty." These and other formulas only express half the problem. The real evaluation of a building depends on the emotional impact which it has upon the beholder.

Every building is erected with a specific purpose in mind. This purpose is an expression of the requirements of the time and place of erection which, of course, is only part of a building's function. Architecture has been used to express the interwoven relationships of political power, religious belief and social organization. A building is a psychological statement illustrating the culture that created it.

In the past it was relatively easy to achieve explicit psychological statements in architecture. In earlier societies power relationships within a social group were sharply defined and based on the use of physical and spiritual force for their preservation. Everyone knew his place within the society, and the buildings of the time simply reinforced the class structure by giving it a three-dimensional representation.

Many of the difficulties encountered by today's architect spring from the fact that the social divisions which existed in the past have become blurred or have ceased to exist. In the past the architect created for the individual; today he has to create for the masses. We are living today in what has been defined by some as a syndicalist society. In such a body the centers of powers are the great corporations, the labor unions and the administrative (governmental) bureaucracy. These organizations are unable, psychologically, to evoke the highly individualized emotional response that church, king and noble commanded in the past. The Pyramids, St Peter's, Versailles evoked responses in the beholder. They were symbols, and the beholder could and did feel "There goes my king—this is my church—Pharao will fight the forces of darkness for me." By contrast, how and why should one become attached to a corporate office building or factory? To overcome this, architects today increasingly resort to one of two alternatives. They create a glorified advertisement for a firm, "The corporate image in concrete, aluminum and tinted glass," or else attempt a visual tour de force which tries to hide its lack of emotional significance behind a brilliant surface.

It appears that we are forgetting that architecture expresses the ideals of the society that creates it. This raises the embarrassing possibility that the twentieth century may not have any psychological values to express architecturally other than materialism and naked power. For the former, the superficial glitter may suffice; for the latter, the old clichés of Imperial Rome seem adequate.

This possibility makes it necessary to consider the various emotional and psychological uses to which architecture has been put in the past.

Using buildings to express an individual's social position is the architectural equivalent of "conspicuous consumption." The millionaires' town houses, the French chateau on Fifth Avenue or in North Carolina announce the owner's wealth. Money equaled power in the US during the nineteenth and beginning of the twentieth century. Owning such an edifice gave proof visibly of the owner's social, financial and power position. One could, as Sullivan did, point to the incongruity of such buildings but one could not question the owner's position.

The linkage of power status and architecture is nowhere more evident than in the medieval castle. It was a functional military edifice and the visible symbol of its owner's might. It represented to the beholder the lord's authority while confirming the lord's independence from other forces. It is no accident that the castle of the noble and its military and psychological significance made it one of the targets of attack by the rising royal powers. The symbolic role of the castle as an expression of authority was to survive for centuries in the popular mind. This was highlighted on July 14, 1789, when the people of Paris stormed the Bastille.

One of the outstanding attempts to express a specific human emotion is found in religious architecture. One of these is the expression of the religious fervor; another is the social factor with the church serving as the community center.

The idea that a building can be used to stimulate religious sentiments and awe in its beholder is an old one. The caves of our stone age ancestors with their paintings and natural configuration as seen by flickering torch light must have been awe inspiring. The Romanesque churches were an apt expression of the military power of the feudal period where the higher clergy, often as not, carried arms. It, like the fortress of the noble, dominated the town and stood as the expression of the power of the church over the lives of the community.

That traditions die hard is illustrated by the Gothic cathedral, the building of which continued when the decline of the church as an institution in the fields of politics had already set in. These later structures retained all the outward trappings but the inner meanings had departed. Ultimately, the cathedrals were carried to completion—if they were ever finished—

not by the church, but by the national government. The lay powers discovered that the cathedral was a handy edifice on which to hang national pride, honor and prestige.

The United States has felt the need for the construction of a National Cathedral in Washington, though the decentralized and diversified form of the US religious and political community has slowed the construction of such a shrine. Totalitarian societies who pride themselves on their lack of religion have substituted for the cathedral different buildings, such as universities or sports stadiums.

The identification of the state with some form of architecture is with us in many forms today. Large works sponsored by the government have become a point of national pride and a means of demonstrating the might of the state. The Aswan High Dam and its construction have become identified by Egyptians with independence and freedom from foreign control.

Governments have used architecture to further their own authority. Imperial Rome and Papal Rome both used architecture to reinforce and to proclaim their status as the center of the world systems that they controlled. Both were designed to impress the visiting yokel with the splendor and power of the ruling center. The use of neo-Roman architecture by Hitler and Mussolini, as well as by Napoleon, is cast from the same mold. In a different vein, Washington was created out of the wilderness, and its buildings were to symbolize the new American Republic. Today Brasilia seeks to achieve the same end. The symbolic value inherent in the Kremlin or 10 Downing Street needs no elaboration.

Today we are witnessing an attempt to capture man's loyalty by architectural expression on the international level as with the Palace of the League at Geneva or the United Nations Building in New York. The League's buildings became identified with its failure. The symbol had become tarnished, and the new could not be identified with the old. Thus, the United Nations was given a new home. There is a conscientious effort being made to make the United Nations Building into an international edifice. The various member states have contributed materials, rooms, furnishings and statuary. The building itself appears on the posters and stamps of the organization. One interesting comment made about the United Nations Building which touches upon its symbolic role is that it reminds one of a "loudspeaker calling out to humanity."

That architecture can express status and serve as advertising is one of the more spectacular, if not exactly original, discoveries of corporate enterprise. The corporate skyscraper has the merit of providing space for the home office while serving as a visible demonstration of the corporation's wealth and, if possible, of its products. In some cases, the analogy with the political power of the past has been carried to the point of some people calling the GM Center the Versailles of the twentieth century. This overstates the case. Corporations probably find architectural expression difficult once they progress beyond their immediate space requirements and beyond the advertising value of the building. The problem lies in the difference in feeling that an individual had in seventeenth century France to Louis XIV's political power and the feeling he has in the twentieth century to a corporation's product.

The difference between the architectural corporate image and the architectural image of the government or the church is the difference between the external gloss and the inner meaning. The religious or political architectural symbol expresses an existing pattern of power relationship backed by material and spiritual sanctions. The corporation, in contrast, is a depersonalized artificial entity created by society for very limited business purposes. This is reflected in its buildings. Corporate architecture is nine to five o'clock architecture. It supplies a convenient beehive for business activity, but it does not color man's emotional outlook. Once the office or the factory worker goes home, he promptly forgets his place of work. Where such buildings have a definite impact on the beholder, as is the case of Rockefeller Center, the impact is derived from the architectural elements themselves and not from the social-political position of the owner.

Great architecture can be defined as that architecture which still stirs the beholder's emotion even after the political, religious and economic forces which created it no longer exist. This leaves the architect in a difficult position. Ruling out the question of whether a building is functional and structurally sound, an architect finds that he has to create on two levels. He is caught in the age-old dilemma of having to please the immediate client while trying to create for posterity. If the building is to be immediately successful, it has to be charged with the expected status and emotional symbols. For a corporation, this means the creation of an architectural image for an ephemeral product or for a passing fad. The corporation itself is also apt to disappear but, unfortunately, its building is far more permanent. Unless it is to become a meaningless pile, it will be ultimately dependent for its public acceptance on an entirely different set of factors from those in operation at its birth. It will have to satisfy basic human esthetics and will have to stand on its own artistic merits and not on its value as an advertising symbol.

Matters are further complicated for the architect in that forecasting future taste is risky if not impossible while his clients are all too often unwilling to pay for the esthetic feeling of unborn generations. One popular way out is to build with the idea of planned obsolescence. One simply tears everything down after twenty to thirty years and builds something new. Change becomes equated with artistic merit. This can create a spiritual vacuum in which humanity will lose its link with the past. This represents a real challenge for the architect. On this basis, architects are going to have to develop a far deeper understanding for the historical, social and psychological forces of the society in which they live. They are the individuals who give a period its material face, making its values visible for the beholder. Architecture sets the stage for society's activities, but in the twentieth century this stage is still largely blank. Architects will have to help fill it. ∎

A Guide for Planning Church Buildings for the Evangelical United Brethren Church

KENNETH E. RICHARDSON AIA

The fifteenth in a series of reports prepared by the AIA Committee on Religious Buildings intended to serve as guides for the architect faced with planning a building for a religious faith other than his own

THE CHURCH of the United Brethren in Christ and the Evangelical Church shared a common historical, cultural and religious background. Both denominations were American in origin and had their beginnings in the spiritual revival which took place among colonists after the middle of the eighteenth century.

Late in the eighteenth century, William Otterbein and Martin Boehm of Pennsylvania and George Guething of Maryland began to organize religious societies among German immigrants in those two states. Within a few years there were enough groups to warrant formation of a policy-making organization. The first "conference" was held in Baltimore in 1789, at which some preliminary efforts were made to establish a cohesive association, but it was not until September 25, 1800, in Frederick County, Maryland, that the decision was made to unite all groups into one society with the name of United Brethren in Christ. Otterbein and Boehm were elected superintendents, or bishops, each having individual liberty to determine various ritualistic proceedings.

The lack of consistent procedures led to the adoption of a "Book of Discipline" at a conference held near Mount Pleasant, Pennsylvania, June 6, 1815.

In 1800 in three Pennsylvania counties (Berks, Bucks and Northampton), Jacob Albright organized three classes among certain persons who "had become deeply convinced of their sinful state. . ." and conducted Sunday and Wednesday religious services. Three years later, November 3, 1803, the first council of the denomination was held, with seventeen charter members. The first conference was held in 1807. During these early years they often were referred to as "the Albrights," but in 1816 formally adopted the name the Evangelical Association.

After almost a century of denominational life, differences arose which split them into two groups in 1892. The seceders called themselves the United Evangelical Church. However, by 1907 a movement for reconciliation began which culminated on October 14, 1922, in reunion under the name of the Evangelical Church.

Throughout their courses of development the Evangelical Church and the United Brethren in Christ maintained intermittent communication which resulted in preliminary meetings to discuss formal union at Atlanta in December 1924. Not until November 16, 1946, however, were all differences resolved and the merger consummated under the name of the Evangelical United Brethren Church. Subsequently their leaders drafted a Book of Discipline which contains the constitutional law of the denomination, its organizational government and rituals.

Today total membership of the Church is nearly 800,000. Of this number approximately 40,000 are overseas, chiefly in Europe. Nine-tenths of the 760,000 members in North America live in the northeast quarter of the United States. The areas of greatest concentration are in Pennsylvania, Ohio, Indiana and Illinois; substantial numbers are in Virginia, West Virginia, Michigan, Wisconsin, Minnesota, the Dakotas, Iowa, Kansas and Nebraska. Ten thousand are in California; 11,500 in Oregon and Washington combined. There are about 14,000 members in Canadian provinces. The Church is carrying on missionary work in Asia, Africa, South America and several islands in the Caribbean.

The majority of congregations do not number more that 300; only a few exceed 1,000. About half the members live in town and country areas.

Basic Beliefs

The Discipline of the Evangelical United Brethren Church contains detailed statements on their Confession of Faith. The following are excerpts:

Article 1—God. 1) We believe in the one true, holy and living God, Eternal Spirit, who is Creator, Sovereign and Preserver of all things visible and invisible. He is infinite in power, wisdom, justice, goodness and love, and rules with gracious regard for the well-being and salvation of men, to the glory of his name. We believe the one God reveals himself as the Trinity: Father, Son and Holy Spirit,

distinct but inseparable, eternally one in essence and power.

Article II—Jesus Christ. 2) We believe in Jesus Christ, truly God and truly man, in whom the divine and human natures are perfectly and inseparably united. He is the eternal Word made flesh, the only begotten Son of the Father, born of the Virgin Mary by the power of the Holy Spirit. As ministering Servant he lived, suffered and died on the cross. He was buried, rose from the dead and ascended into heaven to be with the Father, from whence he shall return. He is eternal Savior and Mediator, who intercedes for us, and by him all men will be judged.

Article VI—The Sacraments. 6) We believe the sacraments, ordained by Christ, are symbols and pledges of the Christian's profession and of God's love toward us. They are means of grace by which God works invisibly in us, quickening, strengthening and confirming our faith in him. Two sacraments are ordained by Christ our Lord, namely, Baptism and the Lord's Supper.

We believe Baptism signifies entrance into the household of faith, and is a symbol of repentance and inner cleansing from sin, a representation of the new birth in Christ Jesus and a mark of Christian discipleship.

We believe children are under the atonement of Christ and as heirs of the Kingdom of God are acceptable subjects for Christian baptism. Children of believing parents through baptism become the special responsibility of the Church. They should be nurtured and led to personal acceptance of Christ, and by profession of faith confirm their baptism.

We believe the Lord's Supper is a representation of our redemption, a memorial of the sufferings and death of Christ, and a token of love and union which Christians have with Christ and with one another. Those who rightly, worthily and in faith eat the broken bread and drink the blessed cup partake of the body and blood of Christ in a spiritual manner until he comes.

Article VII—Sin and Free Will. 7) We believe man is fallen from righteousness and, apart from the grace of our Lord Jesus Christ, is destitute of holiness and inclined to evil. Except a man be born again, he cannot see the Kingdom of God. In his own strength, without divine grace, man cannot do good works pleasing and acceptable to God. We believe, however, man influenced and empowered by the Holy Spirit is responsible in freedom to exercise his will for good.

Article IX—Justification and Regeneration. 9) We believe we are never accounted righteous before God through our works or merit, but that penitent sinners are justified or accounted righteous before God only by faith in our Lord Jesus Christ.

We believe regeneration is the renewal of man in righteousness through Jesus Christ, by the power of the Holy Spirit, whereby we are made partakers of the divine nature and experience newness of life. By this new birth the believer becomes reconciled to God and is enabled to serve him with the will and the affections.

We believe, although we have experienced regeneration, it is possible to depart from grace and fall into sin; and we may even then, by the grace of God, be renewed in righteousness.

Article X—Good Works. 10) We believe good works are the necessary fruits of faith and follow regeneration but they do not have the virtue to remove our sins or to avert divine judgment. We believe good works, pleasing and acceptable to God in Christ, spring from a true and living faith, for through and by them faith is made evident.

Article XIII—Public Worship. 13) We believe divine worship is the duty and privilege of man who, in the presence of God, bows in adoration, humility and dedication. We believe divine worship is essential to the life of the Church, and that the assembling of the people of God for such worship is necessary to Christian fellowship and spiritual growth.

We believe the order of public worship need not be the same in all places but may be modified by the Church according to circumstances and the needs of men. It should be in a language and form understood by the people, consistent with the Holy Scriptures to the edification of all, and in accordance with the order and Discipline of the Church.

Church Government and Sequence of Authority

The Church government is segregated into three spheres of jurisdiction, each similarly organized.

The smallest unit is the local church which consists of an individual congregation under the immediate direction of the minister, who is the ranking officer. Certain members of each local church are selected to supervise various activities. They include lay leaders of special groups (the Sunday school, Evangelical United Brethren Men, Women's Society of World Service and age-group fellowships), a financial secretary, a church treasurer, trustees and Church Local Conference.

Local church organization usually is referred to as a "charge." A charge is a field of church work consisting of a single local church or a number of local churches. A self-supporting charge consisting of one local church is a station; a self-supporting charge consisting of two or more local churches is a circuit. A charge that receives aid in the form of missionary appropriations from the Annual Conference or from the Board of Missions is a mission.

Policy matters of the Church are determined at conferences graded as follows:

1) The Local Conference held on each charge

2) The Annual Conference held in each annual conference territory

3) The General Conference held quadrennially for the entire Church.

Local Conferences meet at such times as are set by the local church or the conference superintendent; the others meet as indicated. All are organized along similar lines of a chairman supported by group and departmental officers. Overseas Conferences, where organized, supervise foreign activities. The General Conference, however, is the highest body of the Evangelical United Brethren Church.

Actual "temporal economy" functions of the general Church are handled by the General Council of Administration, which consists of a number of active bishops, ministers and laymen, plus certain officers of the boards and agencies. One of these is the Division of Home Missions and Church Extension. It is the function of this Division of the Board of Missions to assist, in every way possible, in the organization of new congregations, in cooperation with the Boards of Missions of the Annual Conferences; to provide financial aid through loans and grants; and to cultivate improvement of church architecture throughout the church. Staff members of the Division are available for consultation on building procedures, upon request by the local congregation and officers of the Annual Conference involved.

Any congregation desiring to build or remodel a church building must obtain the consent of the Local Conference which appoints a local building committee. Early in the planning process that committee must secure guidance from the conference Board of Missions, which reviews plans and makes recommendations. Final approval of the project rests with the Annual Conference. Actual building is under the diection of the local building committee, whose ranking officer is the elected chairman.

The Department of Church Architecture of the Division of Home Missions and Church Extension, 601 W Riverview Avenue, Dayton, Ohio 45406, checks all plans referred to it and advises local committees in detail. It also publishes several booklets designed to assist those committees: "When We Build," "The Chancel of Our Church" and "Steps in Opening a New Mission Church." The Department has elaborate guides for the study of a local church and stresses the importance of commissioning local architects.

Limited loans and grants are available from the Division of Home Missions and Church Extension to help local congregations under certain circumstances.

As of 1964 there are thirty-one Annual Conference areas and two Mission Conferences in the US and Canada, and five Conference areas elsewhere.

Buildings

The Church has published no mandatory planning requirements concerning a church or parsonage. During the last twenty-five years, most churches have been designed with an "open chancel" having a combination altar-communion table. Formerly most churches distributed sacramental elements at the chancel kneeling rail. The current trend is toward serving the communicant in his pew, largely to conserve time. The method of baptism is determined by the person to be baptized; usually it is by "sprinkling." Customarily the choir is located in or near the chancel, although some congregations have experimented with other placements.

Most congregations have adopted the practice of robing the choir, and most pastors wear pulpit robes. A choir robing room and small vestry are therefore necessary.

Proper arrangements for Sunday school and for fellowship purposes are considered second only to those of the church itself. Usually educational facilities are located so that there is little confusion around the chancel end of the nave before and after services. This means that they are related to the narthex for good circulation. The Church recommends large classrooms for the Sunday school, with no room smaller than 12 x 15 feet.

Administrative offices should include space for general church requirements (church secretarial office, mimeograph work, etc.), a Sunday school office and a study for the pastor. A sacristy should be considered for the preparation of communion emblems and storage of communion vessels.

There is no mandatory schedule of hours when church buildings are in use; the architect should consult with each congregation. Only a few churches have afternoon services; only 20 per cent have regular evening services or mid-week services. However, most churches have a variety of activities distributed throughout the week, especially during the winter months: choir rehearsal, meetings of the Church Local Conference and Sunday school workers, Women's Society of World Service, Evangelical United Brethren Men, Scout troops, etc. Only a very few congregations have gymnasiums for a regular recreational program. The Church suggests that building sites have a minimum usable area of two acres, with more for larger congregations.

Glossary

Chancel: That part of the congregational worship area defined by platform raised three or four steps above the nave, with or without a simple rail. It contains the altar-communion table (usually combined into one piece of furniture), the pulpit and frequently the baptismal font (or other baptism facilities). The choir may or may not be in the chancel area. A lectern may or may not be included as part of the chancel furniture at the discretion of the local congregation.

Nave: That part of the worship area devoted to seating the congregation. There are no kneeling benches attached to the pews.

Narthex: Vestibule leading to the nave from the main entrance doors to the church, frequently also being the focal point of circulation from Sunday school rooms, social and related facilities and parking areas.

Fellowship hall: Large room for social functions, including meetings, dinners, plays, etc. Extent of kitchen equipment is determined by the individual congregation's requirements. It should be designed so that it is convenient to exterior entrance (and parking), the church proper and the Sunday school, each independent of the other.

Sacristy: Small room containing sink with hot and cold water, work counter and cupboards (which can be locked) to contain communion vessels. It is used for preparation of the sacramental emblems and probably the preparation of flower arrangements.

Vestry: A small room adjacent to the chancel containing a closet for pastoral robes. The vestry sometimes serves as a private meditation area for the pastor just prior to the main church service. ∎

LIBRARY NOTES

Institute on Library Equipment

During the last weekend of June, some five hundred persons, mainly librarians, but including architects and others, gathered in St Louis for an Institute on Library Equipment, prior to the annual convention of the American Library Association. Some notes might be of interest.

Walter A. Netsch Jr, AIA, of Skidmore, Owings & Merrill, set the stage for "Informal Furnishings for the Library.'" He noted a trend toward informal areas which do, however, offer problems. One must guard against extremes of talking; he cautioned against use of sofas, often not used to capacity.

A panel discussion followed on "Design and Construction of Informal Furniture." James Lucas of Herman Miller pointed out that interior design is a captive art, influenced by the building's architecture, and that the two must be compatible. Vincent Cafiero of Knoll noted that too often furniture was considered as a last resort. He advocated coordinated planning and allowance for future change. Jens Risom of Jens Risom Design wanted clients to be aware of "total design." He felt design policy was better determined by a team than individual specialists and suggested the architect should be in charge. He likes wood. Martin Van Buren raised the need for comfort and said there had been little research or proven technical data. Mr Risom, in commenting during the discussion that perhaps the search for indestructibility was being overdone, prompted a sympathetic response when he suggested it might be desirable to teach children to take care of furniture.

The first evening the topic was "Lighting the Library." Dr H. Richard Blackwell discussed "Standards for Illumination." His presentation of basic facts about the eye and the process of seeing was most effective. He noted that while inadequate light would not damage the eye organically, it could hinder its efficient functioning, and that some people believe that continued reading under bad light can cause the learning of bad eye movements. He referred to his report of 1959, which had considered the difference in light necessary for different tasks to be accomplished with equal ease of vision. In further studies under actual environmental conditions, he found that the more important factor in lighting is quality rather than quantity. He gave results of experiments indicating that the required footcandles for a specific pencil task could vary from 58 to 253 footcandles, dependent upon light source. He suggested use of polarized light and as large a ceiling light source as possible—either indirect or luminous. He thought 70 footcandles were satisfactory for average library use, but personally would prefer 120.

Brock Arms AIA, of Perkins & Will, illustrated with slides "Designs for Lighting." He noted that a building should not have the same lighting throughout, and that lighting can have an esthetic appeal, as shown in good and bad examples.

The Saturday morning session was devoted to listening facilities in the library. Dr C. Walter Stone of the Graduate Library School, University of Pittsburgh, stressed need of a systems approach in planning an audio-visual section and gave hints on buying equipment: avoid multipurpose units; be sure of system compatibility; allow for adequate power sources; pay enough for high quality, but then buy service. Dr Philip Lewis noted new equipment currently available or in the offing, such as sound slides. Stephen Ford described an audio-visual system being installed in Grand Valley State College, with rather unique study carrells.

Wendell W. Simons discussed the evaluation of four modes of operation of record players from the viewpoints of economy and user preference. These were with earphones or loudspeakers; individual or staff control. Over-all he felt loudspeakers with staff control were best for mass assignment; and loudspeakers with individual control best for individual study and recreation. He suggested the same kind of analysis should be done for other types of equipment.

In the afternoon session Keyes D. Metcalf reviewed briefly various methods for mechanical distribution of books in the library. He extended this to include individuals, and his items ranged from dumb waiters, through elevators, to escalators, conveyor belts and pneumatic tubes. He thought a single service elevator should be near circulation desk to provide for return of books to stacks.

What promised to be the most interesting session was that of the last evening when representatives of the American Carpet Institute and the Armstrong Cork Co. both spoke on "Flooring Materials for Libraries," with a panel of librarians as follow-up. The carpet spokesman, Joe Garrett, based his remarks primarily on the acoustic qualities of carpet, noting that it might even in some cases be possible to omit acoustical treatment of a ceiling, thus permitting use of a completely illuminated ceiling. He showed several examples of installations and noted the floor use. One rather startling fact that he reported was that in a hospital study fewer microorganisms were found in a carpeted area than in a non-carpeted area.

The resilient flooring speaker, George F. Johnston, made his plea primarily on the need of considering six different factors and deciding which product was best suited within economic limitations. The four librarians were generally agreed in their praise of carpet, which left a somewhat overbalanced impression. The oldest installation was 1959 in the University of South Carolina Undergraduate Library. The one point that came out in response to questioning was that no one knew how long the carpeting would last—one library anticipated five to seven years in heavy traffic area; ten in less. The tendency seems to be to place all furniture on carpet, including stacks. This suggests a real problem when replacement day comes—moving the stacks.

Visits to the recently completed Washington University and St Louis University Libraries provided an opportunity of seeing equipment in place. G.E.P.
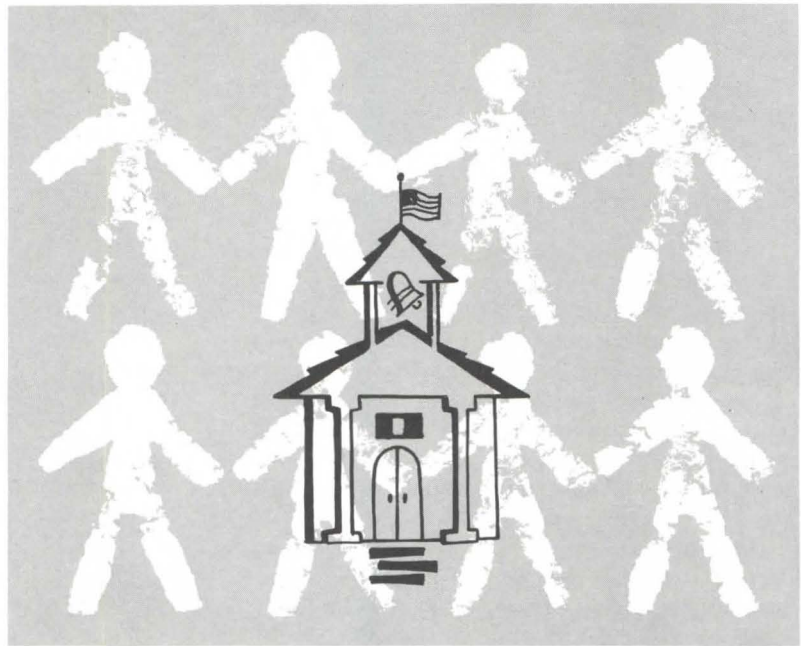
A I A School Plant Studies

Why Standard Plans Don't Work

A study by the AIA Committee on School and College Architecture

*"Stock plans represent
the lazy, inefficient and expensive way
to provide school housing"*

CHARLES D. GIBSON

Why Standard Plans Don't Work

"THAT stock plans for school construction have not worked satisfactorily, where tried throughout the nation over the years, is well documented. . . . But advocacy of such plans for schools continues in many quarters."

Those words appeared in an early AIA School Plant Study, written over nine years ago. They might have been written today. The frequent resurgence of the use of standard plans (often called stock plans) for schools has a nightmarish quality for architects who work closely with school boards and who have proved again and again the many reasons why standard plans are *not* economical, *not* flexible, *not* readily adaptable to variations in site and changes in curriculum and teaching methods. Stock plans are only "stock" for a short time.

In 1951, the Committee on School Buildings of the AIA polled departments of education of the then forty-eight states, to determine each state's position on use of standard plans. Ten states then had limited stock plans available; twenty-three did not use them and never had; the remaining fifteen had once used them and had abandoned them. The sinister thing about this tabulation is that several of the very states which had abandoned the use of standard plans, for reasons about which their spokesmen were very vocal, have since at least flirted with reviving the idea.

In reply to the Committee's 1951 questionnaire, a representative of the New York Department of Education wired, "Plans and specifications for one- or two-teacher schools which became outmoded and under district reorganization . . . no demand for them. Larger districts are more able to furnish architectural services. Plans should be adapted to individual district needs and desires."

It is difficult to reconcile such statements with the following, quoted from a brochure issued last year by the New York State Department of Education and containing an all-new set of standard plans available to New York districts: "The broad purposes of the program are to reduce total construction costs, including design work, by providing the local school boards and school officials with ready-made plans which embody sound construction principles at lowest cost, consistent with attaining desirable educational objectives under physically healthful conditions."

New Jersey replied to the Committee's 1951 inquiry: "Stock plans have never been used—State Board of Education does not recommend stock plans." Yet recently, a bill was introduced in the state assembly, which would require the Commissioner of Education to have prepared standard plans and specifications for school buildings of various types and sizes, for the use of districts within the state.

Referring editorially to the New York standard plans, *Forum* said last November: "The case against the stock plan idea is well established, but it is worth restating. . . . Charles D. Gibson, Chief of the California Bureau of School Planning, put it this way at a 1960 *Forum* roundtable: 'Stock plans represent the lazy, inefficient and expensive way to provide school housing. The facts are . . . plain. . . . It has never worked in the fashion in which we have tried to make it work. It is not less expensive. Nobody has ever recovered his original investment in the preparation of these things—*nobody.*'

"Other states have had the same experience. . . . Those few who still offer [standard plans] report that they mostly sit and gather dust on the shelf. . . . The danger is not that the nine schools will pop up all over New York. The danger is that they will become what the state likes to call them—'standard schools.' Already opponents of a bond issue for a fine new high school in one New York community are pointing to the state's plans and the state's figures and charging that the school board is wasting money.

"These are not 'standard schools,' they are minimum schools. They were designed on a minimum budget to an amorphous physical and educational program that had to represent the lowest common denominator among the aspirations of the state's school districts."

(The state architect hastened to protest, in a letter to *Forum's* editors, that the New York standard plans do *not* represent "minimum schools," and added that the plans provide work for local architects in "site adaptation, any desired modification or expansion, bidding, checking of shop drawings and supervision of construction of any project undertaken by a school board.")

As *Forum's* editors pointed out, the case against standard plans must be restated perennially, and architects must take on the recurring task of educating the educators to the nonwisdom of electing to build paper-doll schools from government-furnished plans. The AIA Committee on School and College Architecture feels that this task might be made easier by the compilation of a portfolio of information, documenting past attempts and the results. This article is seen as a beginning toward such an information tool. CSCA will endeavor to become a clearinghouse for information on the subject; to this end, the Committee urges every architect to communicate any pertinent information on the subject which may help in the education of school administrators and the well-meaning representatives of the people. By bringing to light all errors of judgment, CSCA hopes to be able to serve both the best interests of all school districts in the country and those of the profession.

The following points, forcibly brought to the attention of local school districts, should certainly bring about some soul-searching on the subject.

• *Standard plans, to effect even seeming economies, must be reused repeatedly.* Once a standard plan has been prepared and disseminated by the state, few if any revisions are ever made. The plans are static; this effectively freezes progress by making it difficult to incorporate changes in the educational program. If a local board wishes to modify a standard plan to incorporate such changes, an architect must be called in to revamp an obsolete plan, instead of designing a school to accommodate the program.

John L. Cameron, HON AIA, Chief of the School Housing Section of the US Office of Education, recently wrote in the *Indiana Architect:* "The planning of each school building project is a different problem. Orientations are different, site topographies and shapes are different; access roads and streets are different; the availability and location of utilities are different. *Most important, a school building should be designed to accommodate the educational program a particular community has determined it needs and wants.* The building should also be a source of pride to the community."

• *Standard plans cannot make optimum use of a school site.* The New Jersey Society of Architects recently made this point with considerable force, in a letter protesting the standard-plans bill mentioned earlier in this article. Their letter stated: "It is not possible to reuse drawings and specifications for a second time without adapting them to the topography and other physical conditions. More often than not, the cost of such adaptations more than offsets the fee required to design a particular building for a specific site."

A spokesman for the Tennessee State Board of Education put it even more succinctly, in reply to the 1951 Committee inquiry: "Too many strange ducks resulted from adapting stock plans to the varied site conditions throughout Tennessee."

This problem, of course, can arise any time plans are reused, whether or not they are "stock." The story is still being told—with the names deleted to protect the innocent and otherwise—of the assistant superintendent who insisted that plans for a just-completed high school would fit another site for a second high school. "I understand all about contours," he said—"See, you just turn it like this; and I've already had tests made."

The architects, a well-known firm, had to admit that the building would go on the lot, apparently without too much adjustment of site-grades. They protested—from their experience, they knew it would be a dubious economy—but the assistant superintendent prevailed.

Whatever the tests were, they had failed to reveal extremely difficult subsoil conditions. Just where excavation was necessary to fit the old plan to the new site, there was rock, and lots of it. Adjustments to save some rock excavation required fill elsewhere. There was a bad relationship to existing utility lines and access streets because of entrances and equipment locations on the old plan. As the job was studied, it become apparent to the architect that no one in his right mind would put *that* building on *that* site. Nevertheless, there it went.

Meanwhile, as conferences with teachers progressed, there were a number of conversations that began, "Well, that's how it was in the other school, but we'd rather have it *this* way."

Construction progressed, in a rising market for building materials, but the old specifications and details were to be used, instead of choices based on current conditions. The sad culmination of the whole affair was that the second school, started one year after the first, cost $300,000 more, and the assistant superintendent was encouraged to find himself a niche somewhere else.

• *An architect's job is not finished when drawings and specifications are completed.* Architectural services include supervision of the work in progress. To quote again from Mr Cameron, "Adequate supervision of a building while it is under construction is of vital importance, and it should be [supervised] by the individual or firm who was responsible for its design. This would be impractical if stock plans were used."

• *By forcing many component manufacturers out of the bidding (due to standardization of design and specifications) standard plans are obviously likely to increase costs enormously by limiting competition.*

• *Freezing of materials and construction methods precludes incorporation of new and improved products and construction techniques. Standard plans halt*

progress. If progress is to be made, it can be accomplished only as a result of calculated experimentation to develop newer and less expensive methods of construction. Just consider the range of products and techniques developed in the decade 1950-1960. Plastic wall coverings, vinyl floor coverings, aluminum roof coatings, acrylic paints, dozens of other products virtually unknown in 1950 were in competitive production and general use ten years later. Conversely, some materials in wide use in 1950 had been discarded by the early '60s, either because of disappointing performance or because more economical solutions had been developed.

• *The question of liability becomes extremely cloudy when local architects are called upon to modify standard plans or adapt them to the site.* This confusion is apparent in a letter, written by a New York State official to an architect who had requested clarification of the liability involved. The reply stated, in part, "I am not entirely clear as to your premise, because the state stock plans bear the seal of the state architects. It is my understanding that as to those plans and everything that is done therewith, if there is any responsibility it would be the responsibility of the state. However, if alterations are made in the plans, then the alterations would need to have the seal of the architect responsible for them. He and not the state would be responsible for *anything dependent upon such alterations.* Of course, if the alterations are of such magnitude that the stock plans are changed fundamentally, then the plans would need to bear the seal of the architect responsible for the redrawing of the plans and, of course, the question of liability would follow."

• *While the few states which still favor the use of standard plans usually advocate their use only in very small districts, for one-, two- or four-classroom schools, the national trend is toward consolidation—* and therefore, toward larger plants and a greater investment per plant. This points up an increasing need for architectural services on an individual basis to insure the most school for the building dollar.

Economies in school construction are possible. One innovative approach to a means of getting better facilities is described in another article in this issue ("SCSD—Better Schools for the Money"). Architects can frequently save money on sites, by designing a building which will adapt well to a difficult— and less expensive—piece of real estate. The educational program can be revamped and savings can be realized by determining in advance the area and equipment needs of various rooms, rather than by accepting a standard which may cramp one class while another wastes its excess of space.

• *Standard plans may include facilities which are not needed or desired by one community, at the expense of facilities which that community urgently needs and wants.* A high school with a particularly fine speech and drama department, for example, may want a little theater in which its players can give several performances on an intimate scale and thus perfect their technique. But if the assembly space provided in the standard plan consists of an enormous gymna-cafe-torium, tough luck! Unless, of course, the local

board wants to have the stock plan redesigned, at additional expense.

An adequate curriculum must fit the needs of the students it serves. In some areas, a high percentage of high school graduates continue their education. They need lots of classrooms, laboratories, etc. In other areas, because of the large number of terminal students, great portions of the building must be devoted to the vocational program. The building must fit the curriculum, and each school district proudly maintains its own curriculum to serve its children.

Perhaps we should recognize the good things we have done as architects and educators. Today's school buildings are far superior to those built ten or fifteen years ago. Even though they are designed to meet a far more demanding program, as a building type they have not increased in cost nearly as much as have almost all other buildings, over the same period.

This happy state of affairs couldn't have happened with standard plans. Many architects and educators, working toward the goal of good school architecture, provide a far better solution than passing out plans like issues of today's newspaper.

We are living in a dynamic age. In order for our children to be ready to face the demands of such an age, they must have the best possible education. And in fast moving times, education cannot remain static. Curriculum, teaching techniques, teaching equipment and *buildings* must be the very best available. Standard plans simply are not up to the task!

One of the documents mentioned in the following brief bibliography deserves more than passing attention from architects faced with the educational task of setting the facts straight about stock plans. It is a small pamphlet, published in 1959 by the Central New York Chapter AIA, and entitled "Will Stock Plans Give Better Schools at Less Cost?" We have drawn heavily on the questions and answers in this pamplet in preparation of this article; we feel that the remarks on the lack of flexibility inherent in standard plans is worth quoting verbatim. "Stock plans may include facilities not needed by a community and deny facilities which the community urgently needs in its school. Facilities not needed waste money. Facilities needed, but not provided, waste the talents of the young people of America."

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SCSD—
Better Schools
for
the Money

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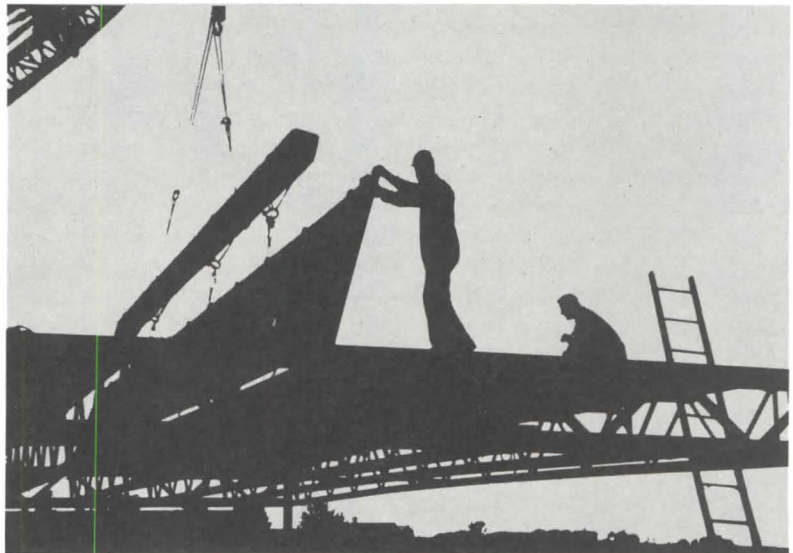
*School Construction Systems Development, a research
project under way in California under sponsorship of
Educational Facilities Laboratories, Inc, may provide school
districts with an effective alternative to standard plans,
lease-back arrangements, etc. This text was taken from a talk
to the AIA Committee on School and College Architecture*

SCSD—
Better Schools
for
the Money

REYNER BANHAM, in his book "Theory and Design in the First Machine Age," makes the statement: "It may well be that what we have hitherto understood as architecture, and what we are beginning to understand of technology, are incompatible disciplines. The architect who proposes to run with technology knows now that he will be in fast company, and that in order to keep up he may have to discard his whole cultural load, including the professional garments by which he is recognized as an architect. If, on the other hand, he decides not to do this, he may find that a technological culture has decided to go on without him."

I, for one, do not believe for a moment that these alternatives of "running with" (in reality, tagging along behind) technology, or being left out of the design picture, are true alternatives. I feel that architects and clients can and must work together to set the criteria, the standards and the pace, and then make industry understand that it must respond to our requirements.

For many reasons, the building industry tends to be technologically backward. This is not necessarily the fault of any one segment of the industry; building codes, jurisdictional disputes, and approaches of various contractor and subcontractor groups, and sometimes ultra-conservatism on the part of architects and engineers all contribute to the technology lag. Someone has to assure industry of a sizable market and a potential profit before it will gamble on a new product.

The bidding process itself tends to make it difficult to put new developments into use. With competitive bids, a new idea has to wait until at least two people are making the product. Even then, a contractor faced with installing a product for the first time will tend to inflate his cost, and this is legitimate, because there are certain unknowns that can raise the cost.

Although the school building field, the area of particular interest of our project, is the second largest in the country (second only to housing), an individual school is not a particularly large product. It might not be too difficult to stimulate research and development on components for, say, a tremendous housing project, or a $40 million office building—but a single school just is not a sufficient market to provide the incentive for a lot of research by the building industry.

As a result, we often find ourselves using hand-me-downs in new school buildings.

One of the things, therefore, that we hope to do in the SCSD project is to develop a sufficient market to capture the interest of manufacturers and motivate them to develop the projects desired by a *group* of school districts and their architects.

We are working under a grant from Educational Facilities Laboratories, Inc, with thirteen school districts in California, from Sacramento to San Diego. Ten architectural firms are involved in the project, ranging from a four-man office in one case, to extremely large firms.

Our project appears to offer a very good opportunity, by taking bids on twenty-two schools at one time, to present a large enough market to induce manufacturers to make products to meet the specifications of the educator or client-architect combination. In this way we hope that we will be able to meet certain needs expressed by the educators in the programming phase of the work, within the budget and current building costs. Left to their own devices, manufacturers too often end up designing building products to suit themselves and their equipment and processes. The people involved in the SCSD project feel that the architects and their clients should be in the driver's seat, and that this project will help restore the leadership where it belongs.

Perhaps the best way to describe the project and our results to date is to outline project objectives and then attempt to point out how each of the successful bidders went about meeting the criteria dictated by those objectives.

The project staff worked with the group of thirteen districts and their architects to develop performance specifications and take bids. The manufacturers had to bid on performance specifications (and the bid price is the installed price). Different manufacturers would, we
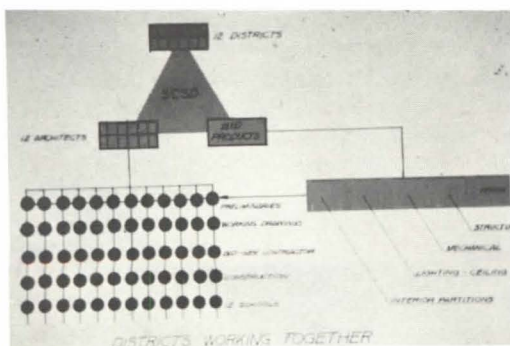
Organization of the project

knew, take different routes to meet the performance criteria, but performance would provide a basis for competitive bidding. Manufacturers would have to work with appropriate contractors or subcontractors in the process of doing the work.

The basic idea here is to develop new products. Once they are developed and used in a sufficient number of schools, if they are useful and the approach is successful, they can then be used thereafter on an individual basis by any architect. When they are found to be obsolete in terms of meeting needs, then new development work is needed.

We developed performance specifications for the structural system, the airconditioning, lighting-ceiling and interior partitions. These components account for about 50 per cent of the cost of the total school. The exterior wall system, for instance, is not part of the project. The need for varying types of wall materials and different kinds of fenestration required such a variety that we concluded that exterior walls should be left outside the system.

Likewise, floor coverings and interior furnishings have been omitted, as well as the rough slab, excavation, foundation work, plumbing and base electrical.

Flexibility

At the early planning stage, we met often with representatives of the school districts to try to determine what our group of thirteen districts wants, and might want in the future, in terms of an educational program. As might be imagined, we found a tremendous need for design flexibility, not only flexibility to meet the differing needs of different types of schools, but to meet changing needs in time—a given school's educational program may impose entirely different requirements in ten or even five years.

Eventually draft educational specifications were drawn up and circulated for comment; revisions were made, until eventually everyone felt that the system allowed for the kinds of flexibility that would meet the need, both current and future, of the districts.

Working with the architects, we established a 2-ft vertical module and a 5-ft horizontal module, as best-suited to the needs of the system. Within the limits of this modular framework, a whole series of permutations in ways the buildings could be massed were developed. (The 2-ft vertical module also made it possible to adapt to changes in level at the building site, in 2-ft increments.)

Compatibility

At about this point, we realized that we should not be dealing with the independent parts in each area, and then be faced with the problem of working out some sort of "mortar" that would bond these independent developments into a compatible system. We began to try to set the specifications on a *composite system*, and at the end point we were actually taking bids based on the low *composite* bid for the structural system, the lighting-ceiling system, and the airconditioning and heating system. When the specifications were actually prepared, it was the low *composite* bid that was the successful bid—which obviously put a high premium on compatibility with the other components.

Design Freedom

As already mentioned, we did not include the exterior walls as part of the system. The primary reason for this was, of course, to give the architects a free hand as far as possible in terms of the esthetics of the situation. The system also provided for a number of different design approaches. We had to have the potential of a "clipped" building, or one with overhangs or arcades; of having the structure either concealed or expressed. Our objective here was a system that would allow as much design freedom as possible for the individual architect.

This design freedom extended beyond esthetic considerations. As stated earlier, we are working on a 5-ft horizontal module. Some architects felt that a 60-ft span for regular academic areas, and a 90-ft
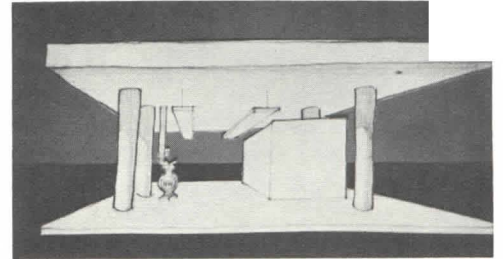
This cartoon shows components included in the system

Fig. 1. Two different ways to arrange space to form an English Department.

English Department in 1965

Fig. 2. An example of changing use of space in the evolution of a department.
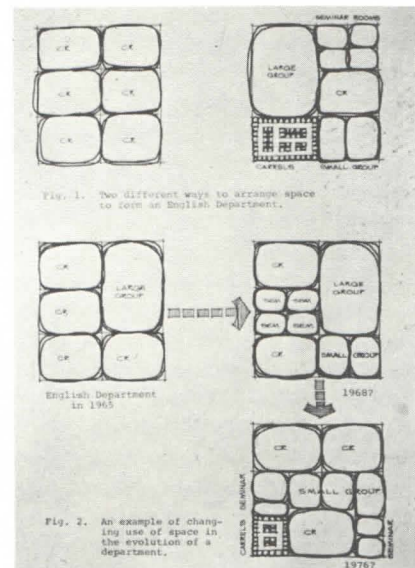
Flexibility is a necessity—both now and in the future

no overhang   overhang   arcade
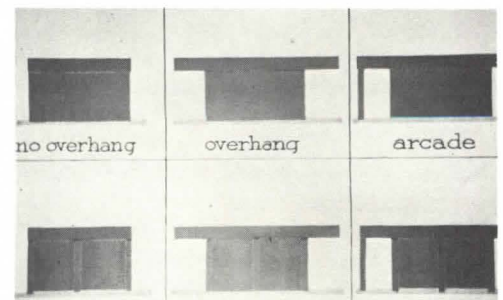
System allows the architect design freedom
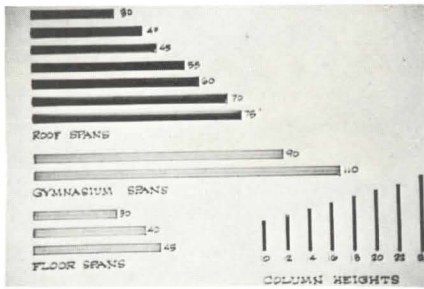
Range of spans available
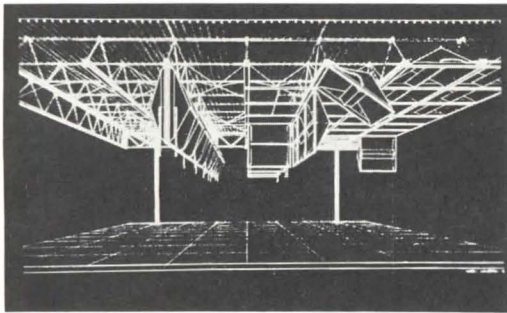
The structural system
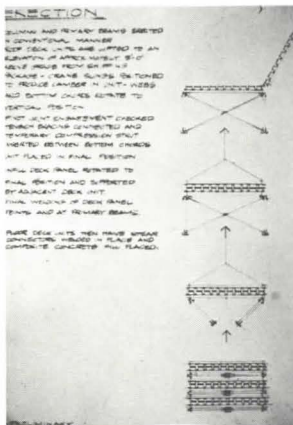
Members packed for shipping (bottom); and being dropped into place

typical semi-indirect lighting system

typical luminous ceiling lighting system
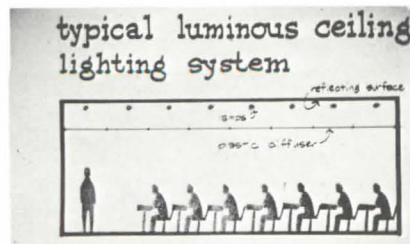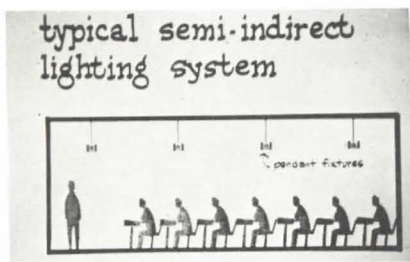
Two possible lighting systems

or 110-ft span for a gymnasium, would be sufficient; others wanted another series of beam sizes. Thus we began to build up a keyboard which probably none of the architects would use in its entirety, but we anticipate considerable overlapping in use of different elements.

The educators expressed a need for spaces approximately eight classrooms in size, which would be column-free or shear-wall free—free of any element that might inhibit the movement of partitions. This immediately indicated longer spans than are traditional. Our average span is 60 ft, and there are as many longer spans as shorter ones.

This flexibility and freedom dictated fire requirements. Even if all classrooms face the exterior of the building initially, interior enclosed spaces may be created by movement of partitions, thus setting a mandatory one-hour fire requirement.

The compatibility requirement evolved into a need for a total tolerance system, so that all the parts—structure, ceiling, partitions—would fit together at the building site.

The Structural System

Thus the system began to take shape. Successful bidder on the structural system was the Inland Steel Products Company, and as in the case of practically all the bidders, architects and engineers (in this case Robertson Ward AIA and Ken Nasland) were hired to do the actual design work on the project.

The structure consists of a deck system, with the deck serving as the top chord of the truss, and the bottom flange of the truss designed as an electrical raceway.

The members are packed for shipping into a package a maximum of 75-ft long. At the site they are raised into place; the trusses are hinged and drop down; they are braced, and then the top deck, which is also hinged, is flopped over onto the next member.

In addition to the shipping advantage, the hinged joints provide for initial programming of camber and alignment; they are later welded for structural stability.

Lighting-Ceiling System

For the lighting system, we are accepting and actually going beyond the scissors-curve criteria developed by the Illuminating Engineering Society and the AIA. The criteria used here are those desired by the school districts with which we were working and their architects and consultants.

We set a footcandle level of 70; for what the eye could see in an area of direct glare, we accepted a maximum of 350 footlamberts. For reflected glare and veiling reflectance, the criterion is a 500-footlambert maximum. This does not mean that the architects *must* accept these criteria in designing buildings. There are certain academic areas where these criteria are appropriate, and others where strong contrast or other lighting conditions might be desirable. But by insuring that the system provides a capability for meeting these criteria, we can provide them when and if they are wanted.

To provide the 70 footcandles and still not exceed the maximum brightness, it was obviously necessary that light be spread out over very large areas of the ceiling; something on the order of half the ceiling-area would have to be a light-emitting source. We also required sufficient flexibility that the entire lighting-ceiling system could be reorganized when partitions were moved.

The architects wanted to be able to use either direct lighting, semi-indirect, or a luminous ceiling. Of these, the semi-indirect is probably the most typical now used in the school districts participating in the project. Low brightness is attained by bouncing the light off the ceiling in order to obtain a large-area source of illumination.

However, none of the architects on the project wanted any system wherein the fixtures would form a visual ceiling a foot or two below the actual ceiling. This type of configuration was not acceptable to the architects on an esthetic basis and had some maintenance problems.

The system which evolved to satisfy requirements for the three types of lighting desired was a system of light coffers attached by rigid connections to the structural panel points. Either these coffers or flat panels could be located within the framework of the 5 x 5-ft module. The flat panels can be used where no fixtures are to be located in that particular module. The flat panels can also be used where interior partitions go off module, to prevent sound transmission over the partition in the coffer space. Smaller flat panels (nominal size 20 x 60 in.) are also available, so that the module can be broken up into thirds.

The lighting fixture consists of two 40-watt 4-ft fluorescent tubes, a member to hold the tubes in place, with the ballast at the center. Lenses are provided for direct lighting; diffusers, which reflect most of the light upwards, for the semi-indirect; and larger vinyl diffusers for luminous ceilings.

Every module provides 85 footcandles. Since the flexibility requirement meant that partitions would often go off-module, it was necessary that our 70-footcandle requirement be met with coffers in only 80 to 85 per cent of the 5 x 5-ft modules. (With the luminous ceiling configuration, it is possible to increase intensity to as much as 210 footcandles, if such amounts of light are desired in certain limited areas.)

Thus the system provides a vocabulary of lighting configurations from a very small number of basic elements. The lighting fixture is standard throughout. With a coffer, a full flat panel and a one-third size flat panel; a diffuser, a lens and a larger diffuser, a tremendous variety of visual combinations becomes possible.

Air supply diffusers, air returns and fire dampers are also included in the ceiling system. A mineral fiber batt covers all of the coffers, to meet the one-hour fire requirement.
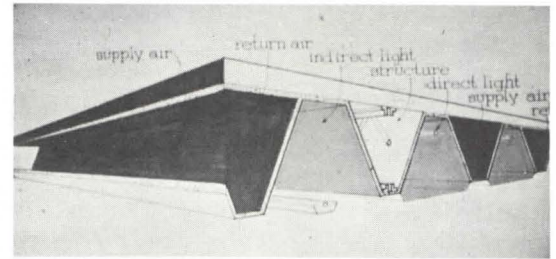
Heating-Ventilating-Airconditioning

We established a service module of approximately 3600 sq ft, or four classrooms, in area, in setting up our criteria. Again thinking of flexibility, and planning for a future time when a tremendous amount of heat-producing equipment will be making its way into the schools (ETV, teaching machines, etc), we saw a necessity for control zones within the service module. The control modules are 450 sq ft in size, so that we have eight control modules in each service module. Hot and cold air are supplied simultaneously within any service module, to allow for heating in one control zone and cooling in another at the same time.

Then there was the problem of where to locate air supply and return. We could not allow anyone to think of the corridor as a possible return—flexibility again. The corridor may be here today, but it is likely to be somewhere else—or nonexistent—tomorrow. As the illustrations show, we have a 3-ft dimension between roof and ceiling (or in the case of two-story construction, between ceiling and upper floor) in which must be contained all the facilities, structure, airconditioning, lighting, etc.

How Lennox—the successful bidder on the airconditioning-heating system—chose to work within this limitation is shown at right.

We made the assumption that mechanical cooling would be used in about 56 per cent of the school. Types of spaces where mechanical cooling are most likely to be used include general academic areas, administrative spaces, science, music and multipurpose areas. Physical education, food service and storage and mechanical areas would probably not require cooling.

We also incorporated into the bid conditions a five-year full-maintenance contract. Thus if the airconditioning breaks down, it is the responsibility of the manufacturer to have it working within 24 hours. We felt that was one way we could assure ourselves of getting a good system, since the people who make and install will have to maintain it. (This was done only in the case of the airconditioning system, an area in which some of the districts have had unfortunate experiences with breakdowns.)

Ceiling coffers contain lighting, airconditioning equipment
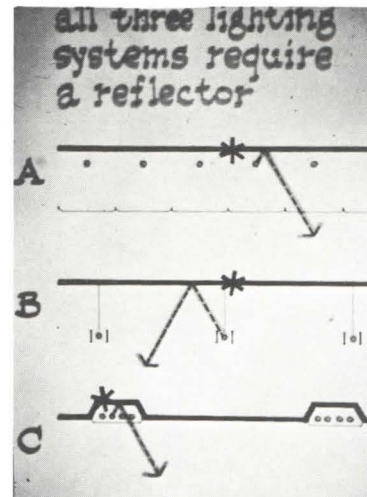
A) luminous ceiling; B) semi-indirect; C) direct lighting
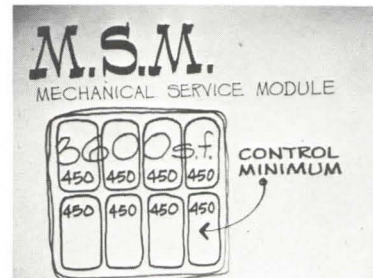
Individual control of heating and cooling in each 450-sf zone
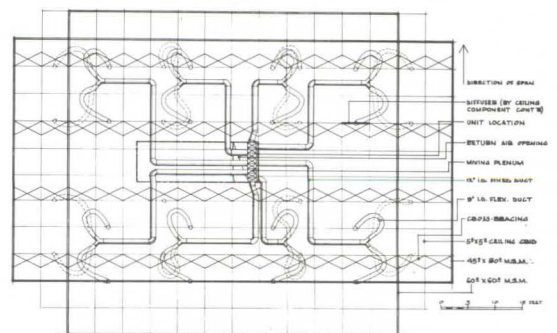
Metal ducts end in "Y" to which flexible fiberglass duct is attached, so air supply from diffuser can be located at various points
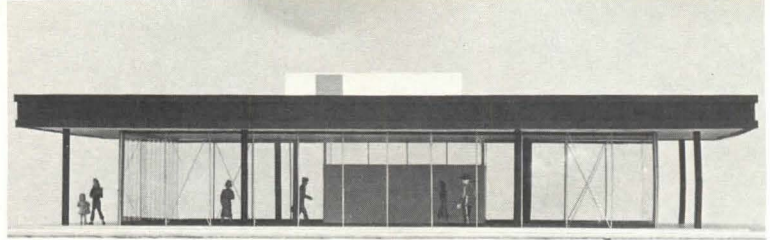
Model of mockup structure

Interior Partitions

The interior walls, naturally, are demountable in the interest of the flexibility that everyone is so concerned with. (We will also have movable partitions, both rigid and accordion-type, as well as the demountable partitions.) Hauserman was the successful bidder on the demountable partitions. We have a stud structural system which permits the panels to be removed. And the surface material of the panels can be varied, so that we can use bright-colored vinyl facing on the steel panels (which come prime-coated), or chalkboard, or tackboard, depending on the requirements of the area.

A special tool is required to pry the panels out, working from the bottom to the top. I mention this because one of the educators on the project got to wondering nervously whether as he walked down the corridor of the school, the students might be able to move the panels and box him in. We don't think that can happen.

Western Sky Industries and Hough Manufacturing Company were the successful bidders on the movable partitions of the rigid and accordion-type respectively. These partitions are housed in their own structural frames, which are themselves demountable.

A mockup structure incorporating all of the components of the system is nearing completion on the Stanford campus at Palo Alto right now. In this building, we will submit the components to all the tests that were specified by ourselves and the school districts and architects, to make sure that the criteria are met and the districts will be getting their money's worth.

We feel that by getting separate bids for the various components, no one manufacturer is controlling the situation—which is as it should be. In each area, there are competitors who have submitted excellent systems and are ready to compete again. So each manufacturer wants to remain flexible enough to be able to provide compatibility with the competition's products, not just those of the companies which were successful in this first round of bidding.
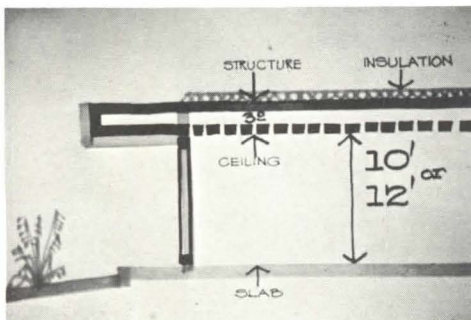
Three-foot space must accommodate lighting and airconditioning

Better Schools, Not Cheaper Schools

Although we have tried to discourage premature publicity on the project, there has nevertheless been considerable attention paid to it in the press. Most of the coverage has been excellent. But some of the articles which have been published have tended to give an unfortunate impression, that this is a magic-wand way of saving money on school construction. One article made the statement, "First bids on school components indicate a saving for taxpayers; bids received so far are 18.4 per cent below conventional systems."

I have sat in conferences with the educators on the project, and I would guess that costs on most of these schools will come up to the state-aid formula. Some districts will take the savings realized on the system components and try to turn them into dollar savings, but most will use the savings to buy carrels for the library, carpeting, better casework, better science equipment—things that will result in a better school. And then people will say to us, "Where is the 18.4 per cent saving that this system of yours was supposed to get us?"

So let me stress once again—we are not promising to build schools for less money. We are not even trying to produce *more* school—that is, greater area—for the same money. What we are trying to do with SCSD is to set up the machinery, the procedures, whereby school districts can get *better* schools for their building dollar, by enlisting the cooperation of the building industry and providing a sufficient volume to make this cooperation worthwhile. ∎

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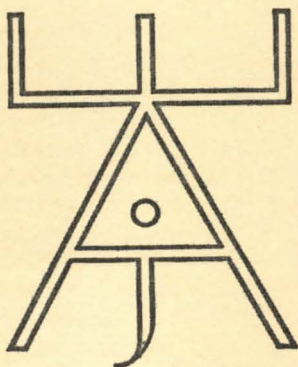
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Creativity in Architectural Design:
the ACSA Committee Reports

One of the most active of the ACSA committees in the year 1963-64 was the Committee on Creativity in Architectural Design, consisting of Bruno Leon of the University of Detroit (Chairman), Walter Creese, Imre Halasz, Vincent Kling, Don Masterton, Hoyt Sherman and Duncan Stuart. The following is a shortened version of the Committee's report, which was written by Professor Leon and presented by him at the ACSA annual meeting at St Louis in June.

The Committee engaged in some correspondence on the subject of creativity during the year, but it soon became clear that this method would not lead to fruitful results. The lack of consistency, the inevitable misunderstanding of positions and the like necessitated a face-to-face meeting. This meeting took place in Chicago at the Illinois Institute of Technology from May 7 to 10, through the courtesy of Professor George Danforth.

The tentative program outlined in this report is the result of these activities and constitutes a generalized framework within which the Committee plans to con-

tinue its investigations next year. The conclusions reached to this point are not considered firm, although the consensus of the Committee is favorably inclined toward the idea of validity for these criteria.

The Committee felt impelled not to rely upon trite "myths" or pseudo-romantic notions concerning our assignment. Rather, our thoughts and discussions were compared with the findings of psychologists and other investigators to determine whether the experience of the Committee members could be confirmed in any sensible manner.

Basically, the three questions posed for discussion were as follows:

a) What are the characteristics of creative people?
b) What criteria can be used to discriminate the creative act?
c) What can be done within the educational process to stimulate creativity?

These questions are similar to those posed by this Committee in the past, but the manner of attack we feel is somewhat different. There seemed to be a rather interesting initial scepticism as to whether any-

thing could be achieved in this area on the part of some of the members. As a result of the meeting in Chicago, much of this scepticism was evidently allayed, and the activities next year should become increasingly fruitful.

Characteristics of the Creative Person

The list below, which was drawn up by Professor Don Masterton, outlines various characteristics which are confirmed by the findings of psychologists and others, as well as by the experience of the Committee members. They have significant implications for our topic and are therefore discussed at some length. The list is as follows:

a) Social isolates
b) Idea- and thing-oriented
c) Intelligence level around IQ 134
d) Stimulation by common environmental cues and for long periods of time
e) Divergent thinking
f) Free-floating anxiety
g) High adaptability
h) Origin of personality in social hostility

Some explanation of the meaning and implications of these is necessary.

The term "social isolates" means that creative individuals do not require the trappings of social conformity in order to operate effectively. We must be careful to point out that this does not automatically imply the "romantic" image popularly held, although this image is not necessarily eliminated either.

It seems clear from all evidences that ideas or things are the central concern of creative individuals. This necessarily led to asking whether the criteria of good or bad can be used as a determinant of creative behavior. It is the consensus of the Committee that this *cannot* be used as a discriminator. Creative behavior can be directed either for or against the accepted moral or human code. This has been demonstrated throughout history.

Figure 1

F: PARTLY   I: ISOLATION   P: PEER   V: VOCATION
H: HETEROSEXUAL M: MODEL   S: SOCIAL
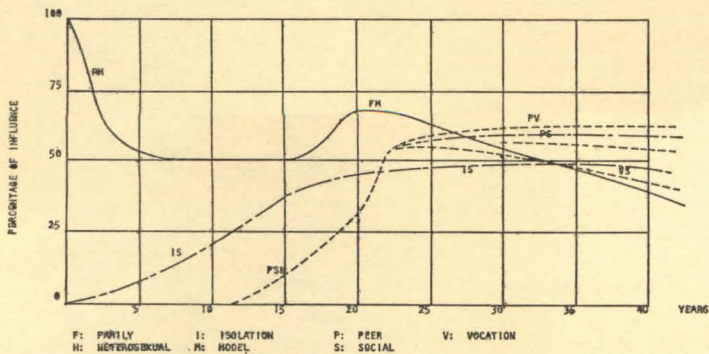
In terms of intelligence the creative group seems to level out around IQ 134. There is a great deal of confusion regarding the correlation of intelligence to creativity. The best explanation seems to be that existing tests for intelligence do not measure certain factors of human perceptivity that creative people have in greater degree or use more effectively. From the results of the typical intelligence tests, such as the Stanford-Binet, it would seem that intelligence level correlates poorly with creative level. In other words, measured intelligence is unimportant for creativity. Motivational variables seem to be much more important.

Another interesting characteristic is that stimulation for the creative individual seems to develop from common environmental cues rather than the extraordinary, and that this stimulation can last for long periods of time. There is an analogy which was used constantly in the discussions, namely, that of the figure-ground relationship. The interest in the ground seems prominent in creative individuals, and the common environmental cues fall in this category.

The divergent-thinking characteristic is related to independent action and shows a marked tolerance of ambiguity, irregularity and disorder in creative individuals. Various outgrowths of this and related characteristics seem to be that the creative person is usually an effective leader who takes an ascendant role in his relations to others. Furthermore, he seems to be persuasive, expressive and ebullient as well as free from pretense.

The "free-floating" anxiety aspect is of paramount concern and seems to relate closely to the nature of the creative process. Anxiety, being an emotion that resembles fear, although more diffuse and vague, is commonly aroused by situations that are ambiguous. The behavior prompted by this emotion seems to have a degree of irrationality because the situation stimulating it is so abstract or ambiguous that there is difficulty in knowing exactly what to react to or do to resolve the situation. Since the creative process, by inherent nature, presents this situation continually, the existence of this characteristic in creative people is no surprise.

The adaptability of the creative individual is related to the above anxiety trait. Dealing continuously with situations which are ambiguous, variable and unpredictable, it is essential for effective action and/or survival of personal integrity *for the creative person* to be adaptable.

The fact that the origin of personality in creative individuals seems to be social hostility is another trait that should come as no surprise. One should be careful here, however, to distinguish between the fact that this is a natural result of the manner in which a creative person operates rather than a preconceived premise for his behavior. Since the relationships the creative person establishes are the result of independ-

ent thinking, it is almost automatic that they should counter the norms established for social behavior.

The accompanying chart (figure 1) illustrates influences upon individuals during a typical lifespan. These are no different for a creative person, and the chart indicates some considerations that should be recognized, particularly during the ages of 17 to 26 while the university educational process is occurring. It is obvious that the family model, the peer group and vocational models are of critical importance. On the whole, the interesting observations one could make from this is that the provision of the largest variety of choice in teachers should be given the students in order that the vocational model choice may be more valid. It is also evident that since the influence of the peer group is high, the tendency to social patterns is high. This is generally confirmed by findings in student retention levels and behavior patterns. During the early years it is almost useless to predicate an educational process upon acquisition of facts, questionable as this is at any time. The overwhelming opportunity at this point is for motivating the student. Therefore, it would seem only sensible that the finest teachers be used in the early years of the curriculum.

Characteristics of the Creative Act

The question of the nature of the creative act was one of the most difficult raised during the year. At our meeting in Chicago we used an assumption for the convenience of our discussion, and although it was of great value as a premise, the Committee as a whole would scarcely agree with the total validity of this assumption. We assumed that every act was creative. The value varies from nearly zero to high value, but nevertheless, under our premise, it was possible to construct a model of creative behavior. For the moment, it may be of value to discuss the various ways in which we attempted to define the creative act. Generally speaking, the two basic methods attempted were related to emphasis on products and on process. It would be fair to say that of those present at our meeting, only one person held that the product should be the measure of creativity. Therefore, we operated upon the basis that "process" was the best discriminator and that in this process there are several stages which can be outlined. They are *preparation, incubation, illumination* and *verification*. These stages will be illustrated when we develop the perceptual model of creativity, but they are essentially self-explanatory.

One further aspect in this area was discussed and this related to levels of creativity. These, in ascending order of value, were categorized as discovery, invention and creation. The distinguishing characteristics of these levels was that, of the three, only the last is personality related in the strictest sense. In other words, both discovery and invention would, at some time or other, occur independently of the particular person involved; on the other hand, there would have been no Hamlet had not William Shakespeare existed. Discovery is defined as the introduction of some new element of meaning or some new

order of significance, while invention is the process of providing further development to an established body of meaning by initiating some advance in its use.

Perceptual Model of Creativity

A very interesting discussion centered around some charts, presented by Professor Hoyt Sherman, which attempted to create a perceptual model of creativity. The following diagrams and descriptions relate to this presentation.

The first diagram (figure 2) relates to the distinguishing characteristics of the creative act. In a gen-

Figure 2
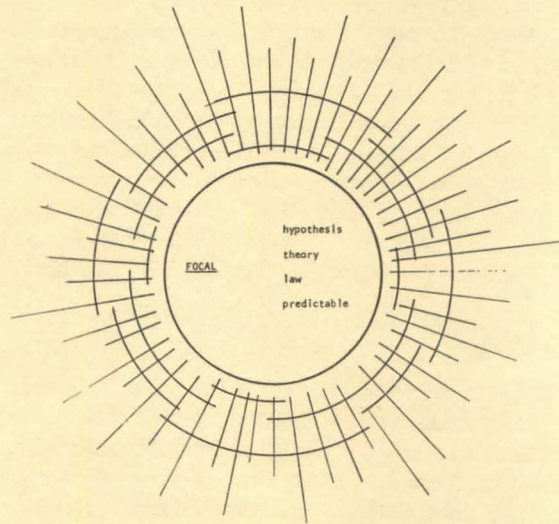
eral way this relates to the psychological areas of perception and judgment. For perception, or the becoming aware of something, the word tacit can be used, and for the word judgment, or the coming to a conclusion about something, the word focal can be used. It might be pointed out here that creative individuals show a preference for perception. Further, between sense perception and intuitive perception the preference of creative individuals falls on the side of intuitive perception. It is in this aspect that the "tacit" symbol is more directly appropriate, while it

Figure 3
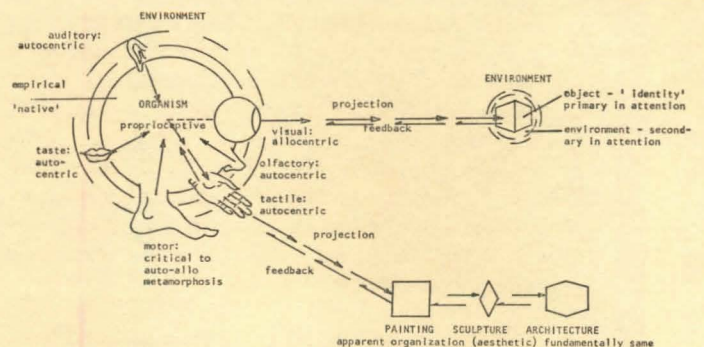
also ties in with the tolerance of an ambiguous situation for which the creative person is known.

The second diagram (figure 3) illustrates the interaction between the organism and the environment, the processes involved and their characteristics. In further describing this perceptual model of creativity as an organism, one notes that current biological theory pictures the *whole organism* not as a mere aggregate but as an *architecture*. Form, in keeping with this, is simply the external and visible expression of the *organizing activity of protoplasm*. Furthermore, the nervous system is morphogenetic. It organizes its chaotic data into *forms, patterns and wholes*.

Much further development of the basic theme was achieved, but without the details in clear focus more information would be confusing and is therefore not presented herewith. It is hoped that the Committee's work during the coming year will lead to further clarification of this excellent model of creativity.

Conclusions

The Committee feels that it cannot at this time definitely state that it believes certain procedures will be certain to aid in the development of creativity. However, there are many areas of tentative agreement, in general terms, and the Chairman assumes the responsibility of relating these, keeping in mind the condition stated above.

It seems quite reasonable to assume that the education the person receives prior to entering the university level has a great deal to do with his creative behavior. The fact that most "education" is based upon memorizing rather than upon inventive, creative or innovative behavior is not conducive to stimulating creativity. Edgar Dale, writing in the *News Letter* of the Bureau of Educational Research and Service of Ohio State University, summarizes this thought:

. . . we need varied learning outcomes for students and varying time requirements for individual students. Individualized, self-instructional materials will be of great value at this point. The student must have enough time to learn certain *principles in depth,* to internalize them, and thus to take full advantage of the *possibilities of transfer.*

The Chairman feels quite strongly that, on the basis of all factors, it is clear that curricula should be student-oriented rather than subject-oriented. Unfortunately, the general situation is that this is not so.

In view of the fact that, in general, students in the fine arts represent the highest intelligence group at universities, it seems anomalous that their service courses (so called) are usually watered down. The motivation so necessary for creative people is thus eliminated, with results that are well known. In the first place, such individuals are significantly less inclined to strive to achieve in settings where conformity is required and rewarded; secondly, where their imagination is not excited they are quite willing to do little or no work despite their ability.

Graduate Programs

2: The University of Pennsylvania
by G. Holmes Perkins, University of Pennsylvania

Continuing the series of articles on graduate programs in American schools of architecture that began with a contribution from the University of California in the September 1963 issue, G. Holmes Perkins discusses the changing conditions in architectural practice which make for a lengthening of the architect's education at the undergraduate level and in graduate study a diversity of specializations undreamed of a few years ago; he then goes on to describe the measures with which the University of Pennsylvania is seeking to meet the challenge of the future. Professor Perkins, besides being Dean of the Graduate School of Fine Arts at Pennsylvania, is Chairman of the Philadelphia City Planning Commission and Chancellor of the College of Fellows, The American Institute of Architects.

Although architecture is among the oldest and most honorable of the professions, the character of its basic services to private and public clients has not radically changed. Until two or three generations ago it was possible for the individual architect to command a sufficiently broad professional knowledge to allow him with a clear conscience to give his client reliable and competent advice on all phases of building. Today no architect in his right mind would claim such omniscience. This is not to suggest that the basic services have changed but rather that the comfortable day of the "gentleman-architect" in the image of Jefferson is past. The architect can no longer hope to rely on the general knowledge provided by a liberal education which, in the words of President Lowell of Harvard, allowed the "educated man to make sound decisions based upon inadequate evidence." Yet until very recently this was the attitude of the profession. But those were simpler times; today the great laboratories of universities and of industry are spewing forth so vast a stream of new materials, techniques and

ideas that the solitary architect unaided can no longer acquire all the skills now needed to produce a modern building.

Some fifty or more years ago the medical profession had reached a point comparable to that of the architect today. Now, fifty years later, the complex, frightening, yet comforting services of the modern hospital are available to assist in diagnosis and treatment. There is some evidence that this analogy has relevance to the problem of the profession and the education of the architect. Two basic changes occurred. The first of these was the development of organized research in the great medical institutions of the world, spearheaded in many cases by non-medical men drawn from biology or physics who entered the medical arena as partners of the doctors. This new alliance created new careers for the scientist undreamed of in the early years of the nineteenth century and opened new laboratories to these researchers. The interdependence of research and practice became firmly established in this country at the start of this century through the pioneering efforts of Osler and the support of the great medical foundations. In the wake of this great increase in medical knowledge, the general practitioner began to disappear. In his place there emerged the specialist, group practices, vast hospitals and institutions which could provide comprehensive services under a single roof. This medical history bears a striking resemblance to the future we foresee for the architect. Though we may view this prospect with some trepidation, I would suggest that the architect is about to be forced to follow just such a course. The inevitable conclusion is that it becomes our duty to prepare the future architects to steer their own course and not be swept rudderless downstream to inevitable disaster.

The Future Architect

The growing complexity of our urban society and the revolution in technology will force changes in both undergraduate and graduate architectural education. It is my conviction that as time goes by, the architect must welcome and indeed sponsor an extension of his education. There is little room for doubt that this lengthening will occur in both his general as well as in his professional education. His understanding of those historical, social, economic and cultural forces which are forming our society is vital to him if he is to assume a leadership role in designing the urban environment. A unique professional competence, though essential, is not enough. Though it has been customary for young men to acquire a liberal education before embarking upon a professional career, there is no convincing evidence that such a sequence is superior to one that spreads his liberal education more evenly over a longer period within the university and into those years ordinarily devoted exclusively to professional courses. But no matter how acquired, the future architect is direly in need of a deeper acquaintance with the scientific as well as the humanistic roots of today's culture and particularly the dynamic character of its evolution.

At the same time his professional education will become increasingly demanding. An adequate response to those demands means more time in preparation for practice and, equally important, the development of systems and organizations capable of welding into effective teams all the diverse skills needed for the production of a modern building and a modern urban community. A major challenge facing the schools is the development of programs capable of producing a significant proportion of the specialists who will be members of our profession tomorrow.

Nor will the combination of a lengthened education and better organized offices be enough. Building and urban design research is needed, and the architects must welcome research specialists as fellow contributors, just as generations ago the doctors brought the biologists into their search for answers in the endless battle to improve human health. Let me restate these points. All architects deserve a solid liberal education. Each must possess the professional knowledge needed to serve his client and to understand his own place in the complex team producing the modern city. Some will have the talent and the desire to become the specialist-expert. Some will devote themselves to research. Only in the university, with its vast and varied resources, are all these educational opportunities available.

Facing the Challenge

Across the country each school has, in its own way, faced this new educational challenge. To my mind the greatest strength of our architectural schools lies in their fierce individuality and friendly competition. At Pennsylvania we have attempted to create a framework within which the faculty may offer fresh, stimulating and constantly evolving opportunities for study and research. Present offerings are only first steps along this endless path. The essentials of our program are conceived to be: the close contact and sympathetic understanding of the three professional faculties of architecture (including architectural engineering), city planning and landscape architecture that are housed within a single school; the effective tapping of university-wide resources in such joint programs as city planning and regional sciences, urban design, regional planning and the doctorates in architecture and city planning; curricula capable of simple adjustment to the needs of the individual at both master's and doctoral levels which make research an inseparable part of professional education; and the creation of well-financed research institutes both in urban studies and in architecture in which the teaching faculty plays the major role.

In answer to the need for a sounder liberal education, we have extended our program so that the average student needs seven years to obtain the first professional degree in architecture, and this added time is almost entirely given over to the liberal arts. This is concrete evidence of our conviction that the architect will be a better leader in his community because of this broader education and, perhaps even more importantly, will himself enjoy a richer life because of the wider interests aroused by the opportunity to peer into many areas of man's tireless inquiry.

The demands of the profession are rapidly forcing a significantly greater number of men into advanced study beyond a first professional degree. Some of these forces are basically sound. Some, however, are artificial and should be resolutely resisted. The academic demand that a teacher hold a master's degree is meaningless and vicious. Some of our greatest teachers possess no such union card and one cannot help but feel that a society or a university which demands such conformity is already in dire danger. There are, however, many sound and compelling reasons for study and research beyond the BArch.

The Necessity of Specialization

Since it is manifestly impossible today to be a master in all the manifold professional skills required in building, advanced study must focus upon some more circumscribed field. As in the case of the single architect, so also in any single school of architecture it will in all probability be impossible to offer advanced work and research under inspiring direction in all aspects of the profession from engineering to urban design. Such outstanding resources are not to be found today in any one faculty. Advanced graduate study and research will therefore differ from school to school, depending upon the special resources and interests of the faculty. Such diversity is an asset to the profession. Experimental curricula which actively search for means of improving, extending and deepening the education of the architect will enrich one another not only through the sharing of successful ideas, but also by eliminating through experience those ideas that once seemed promising but which are no longer valuable. Across the country the specializations being offered in the graduate years are increasing in number and, despite their variety, appear to share one common characteristic. All seek to tap the rich educational resources outside the departments of architecture which can be found only in a university. Architects have been slow in recognizing and slower still in tapping the almost infinite resources of the large university. And too seldom have they had the imagination and the energy to use the city as a laboratory or industry as a teaching tool. From the university and from the large city, where the maximum opportunities for study and research are most readily at hand, we should demand and expect leadership in developing programs for advanced study and research.

Graduate Offerings at Penn

Our several graduate offerings give the advanced student a chance to do independent work, to collaborate in faculty research and to develop a specialty. In this we are no different from many other schools.

Nor are our offerings in any sense unique. It should be emphasized that it is our belief that only those students whose interests are in those special fields in which we can offer expert guidance should be encouraged to come to us. Many fields are better handled by others. Within each of the three master's degree programs offered, great freedom of choice is permitted to adapt the work to individual needs. In fact a student may write his own ticket subject only to approval of the chairman, who is the adviser of all candidates for advanced architectural degrees; very few students follow identical programs.

The first of the three is a one-year course with the emphasis upon studio work under Louis Kahn, who conducts two four-hour sessions weekly with the class. He is joined in these discussions by the French engineer, Robert LeRicolais, whose brilliant studies of tension structures have been widely published here and abroad. The third weekly studio session is devoted to the discussion of structural problems under the direction of August Komendant, who is a pioneer in prestressed concrete and who was the structural engineer for Kahn's famous Richards' Laboratory at the University. Though studio work is the core of this option, each student is required to take, in addition, two elective courses per term. Almost no limits are set on these choices. The most commonly chosen is LeRicolais' course in experimental structures in which many designs of tension structures are made and tested in the metal workshop. Other courses commonly elected range from those in the history and theory of architecture and civic design offered by Giurgola and the present writer to city planning analysis and theory, studio work in graphics and painting, and to the inspiring seminar on "Man and Environment" under Ian McHarg, whose TV production "The House We Live In" grew out of this course and featured many of the invited guests, among whom were Shapley, Huxley, Mumford, Tillich, Goddard, Heschel.

Although nearly all of the twenty-five candidates in this one-year option follow the above program, it is possible for a student to outline a completely independent course of study. This past year two such special programs were approved because each man had a clearly outlined goal and had through experience demonstrated he was capable of doing independent work under the minimum of guidance. One dealt with the problems of architectural education and the development of curricula and courses to meet the emerging challenge; the second was an investigation of the application of computer methods to the analysis of various design hypotheses. The second master's curriculum requires two years with an optional third year of increased specialization leading to a certificate which would normally satisfy the course requirements for the PhD. In this joint offering

in architecture and city planning, the emphasis is upon urban design, and the basic requirement for admission is that an architect shall have shown himself to be a talented designer. In these two years he will devote about half his time to studio and half to basic courses in city planning theory, analysis, the structure of the community, history of city growth, transportation, housing and community facilities, planning administration, land economics and finance. This program is one of five specializations in city planning offered by the School; others are in transportation, comprehensive planning, housing and urban renewal, and regional planning. In the studio the very rich faculty resources from landscape architecture and city planning as well as architecture are available to the student. For example during the past two years David Crane, Edmund Bacon, Robert Geddes, McHarg, Wallace, Kahn and the writer have been critics.

Although the recently approved PhD program is administratively separate, the committee in charge reflects the continuing professional interests of the School since its chairman is also chairman of the Department of Architecture and the majority of its members are drawn from the School. This new program is a vital part of the University's response to the needs of a profession which has become painfully aware of its wider responsibilities and of the fact that too few of its members are prepared to offer these expanded services. It is the School's belief that specialization should occur only after a sound, comprehensive and relatively uniform professional foundation has been laid. Premature specialization would tend to fragmentation rather than mutual understanding among the specialists who will inevitably emerge through the vagaries of professional experience or through planned programs of a post-graduate nature. It should be reiterated that no one school can offer convincingly curricula which would give the prospective specialist skill in any field of his choice. Such a wealth of faculty is not yet to be found in any university. To avoid any misunderstanding, it must be made clear that many specialists, and for a long time perhaps the majority, will develop from the accidents of professional practice or will enter the field from our sister professions. Though we may expect and should indeed encourage specialists to join us from these diverse backgrounds, this does not reduce the responsibility of the schools to offer well-organized programs of the highest quality at the postgraduate level. By so doing we will not only make a direct contribution to the development of many direly needed specialists, but we will be able to set higher standards of performance for those who acquire their expertise by experience or through education in another field.

Limitations and Opportunities

At Pennsylvania we have a faculty prepared, through experience, education and deep-seated convictions, to assist and guide the advanced student in a number of areas, but let me hasten to add that there remain many fields where we would hesitate to accept a doctoral candidate. Though morally bound to accept those applicants whom we can help, we are equally bound to advise those who can be served better elsewhere to enroll in whichever institution offers the best program in his special field.

Our concern is architecture. Specialization has no interest except as it bolsters the concept of total architecture. Research, whether embodied in the doctoral dissertation or carried on within our School jointly by faculty, students and research associates, is focused toward a better understanding of all the forces of nature and of man which mold our environment. In several areas we would welcome students, for in these we feel we have something to offer. Some examples might be in order. In urban design the faculties of all three departments (architecture, city planning, landscape architecture) have long been deeply committed as teachers and as practitioners. Kahn's and Bacon's contributions to the Philadelphia renaissance are so well known as to require no comment. But others have also served the city well: Geddes in his Delaware River waterfront study, Giurgola as design consultant to the Planning Commission on Market East, Crane as head of the design team for the Boston Redevelopment Authority, Wallace as chief planner of Charles Center in Baltimore and McHarg (with Wallace) in the plan for Green Spring Valley Community outside Baltimore.

In the fields of history and theory, Gutkind has completed the first three of eight volumes on the history of cities, Giurgola and Venturi offer theory courses in architecture, and Bacon is working on a book on civic design supported by a Rockefeller grant. These resources are in addition to those of the Department of the History of Art and Architecture. Here again we would welcome specialists. Under Robert LeRicolais, August Komendant and Harland Coornvelt, students may undertake experimental studies in structures and their relation to significant architectural form. The most recent reinforcement of our offerings comes through the move of Russell Ackoff and his operations research group to the University, which will open new opportunities to those interested in applying the most advanced analytical methods to architectural problems. It may be of interest to note in passing that Ackoff received his BArch from Pennsylvania before pioneering in this new field. Similar opportunities may be found in housing and urban renewal.

In capsule form these are the present opportunities for graduate architectural study at our School. Like all pictures snapped at any one moment in history, it can give a false and static impression of rigidity. Nothing could be farther from the truth. The spirit of experiment guides both the educational offerings and the research. Courses, often bearing the same old names, have changed almost beyond recognition in the past decade. The only constants may be a dual dedication to an architecture concerned with the totality of the man-made environment and to a conviction that the maintenance of the highest standards of service and achievement requires untiring reexamination of our goals, our values and our educational methods.

Cranbrook 1964

by Donlyn Lyndon, University of Oregon

In early June the AIA-ACSA Teacher Seminar was again held at the Cranbrook Academy of Art. The principal speakers were Reyner Banham, William Bartley III, Jean-Paul Carlhian, Serge Chermayeff, Peter Collins, Stephen Jacobs, Sibyl Moholy-Nagy, Allan Temko and Bruno Zevi, and fifty-three teaaher participants from as many schools of architecture attended. Here one of the participants describes the Seminar and discusses its climate of opinion as he experienced it. The sketches, taken in the conference room, are by James Lamantia of Tulane.

The AIA-ACSA Teacher Seminar was this year devoted to discussion of the Trinitarian topic, "History, Theory and Criticism," and, like a Christian theological conference, it found itself thoroughly ensnarled in efforts to separate the attributes of

Father, Son and Holy Ghost. Theory emerged as the Holy Ghost, known to be all inclusive and primal, yet evidently without definable content, and thus least discussed. The ecumenical simile could be extended to include conference-long struggles between authoritarian and anarchic tendencies and a persistent concern for the hovering shadow of science. There were forecasts of doom, auburn descriptions of the Golden Age and intimations of a Messianic future. There was little hymn-singing, and a few evangelists stayed long enough to change their tune.

The most encouraging aspect of the conference was an implicit and unchallenged assumption that architecture is a contextual art; that design decisions are made within a frame of reference that includes society, previous buildings and numerous ideas and attitudes held with varying degrees of deliberateness. This, while professed in principle, and set in various ways as the goal of our teaching, seldom precipitated specific discussions of our own context. The conference did not prove to be an arena for wrestling with the present world.

Recognition that the concepts used in history and criticism play an active role in the architect's design process evoked various responses. Bruno Zevi saw this as cause for evolving methods of research and study in architectural history which would use techniques similar to those used in design and lead the student through a re-creation of the design decision process.

While Peter Collins shared Zevi's important supposition that design is in largest part criticism of the product being designed, he aimed his remarks and his recommendations for the teaching of history toward the development of a designer who, when criticizing his own work, would be "dispassionate." He then proceeded to outline a study of history guaranteed to inculcate the values of a civilized, dispassionate Establishment, discarding, for instance, the whole of non-Western architectural history on the pretext that high school education inadequately prepares people for the study of Oriental cultures.

Sibyl Moholy-Nagy, after a superfluous preface denouncing "history," "theory" and almost everything else except "space-time," eloquently described her efforts to teach history according to what seemed remarkably like a theory, committing herself, as few others did, to the discussion of specific material. Worried by the "absolute evil" of eclecticism, she has identified "basic concepts" that can be learned from the study of historical examples and used as elements of present design. The scheme was seductive, even though it ended ominously in space-form continuity, and seemed ironically like what Peter Collins, following Diderot, had urged as a reasonable "eclectic"

process: examine all authorities, discriminate truth among them and incorporate that which seems true.

There was almost complete acceptance among participants and speakers of the phrase "history of ideas"—though just which ideas was usually vague—to the point where Stephen Jacobs' "knowledge of human circumstance and activity" seemed a major step forward in precision. It was Jacobs, too, who gave the most consideration to the teaching context, remarking on the basic incompatibility between a normal art historian's mental habits and the "boom or bust" atmosphere of the architectural school. Noting that many of the evils of present design are

encouraged by the use of isolated examples in the history of architecture, Jacobs pressed for an emphasis on the "cumulative aspects" of historical development.

Perhaps most puzzling was the attitude of the self-avowed representative of the practicing profession, Jean-Paul Carlhian, who stated his convictions that history should be "of ideas" and that theory should be based on what architects are thinking about; then proceeded to enumerate (with the assurance that Philip Johnson and Paul Rudolph were "concerned with the theory of architecture all the time") a list of problems that seemed not to be troubled by "ideas"—replete with reentrant columns and triangular lots. Many wondered whether this really had to do with theory, and several of us who also practice wondered whether "we the profession" would ever extract our heads from the sand.

All this gave credence to another prevalent and somewhat surprising assumption that ran throughout the conference—namely, the inversion of the academic and professional roles in the development of ideas. Once, you will recall, it was commonplace that schools were the bastions of thoughtless conformity, impediments to the progressive ideas being espoused by practical men. Now there seems to be a conviction, most vociferously expressed by Serge Chermayeff and echoed by many others, that the practicing architect is shackled by vested interest, committed to obsolete problems that he happens to be able to solve, and thus more likely to muddle than to clarify the increasing complexity of our world; whereas Academia is "philosophically long-term minded" and, therefore, more able to identify and

pursue significant problems. Though such accusations seemed suffused with what Stanford Anderson identified as the "Conspiracy Theory," there seems ample reason to suppose with Walter Creese that universities are now in a position to assume unprecedented responsibility for the generation of ideas, through experiment rather than dogma.

The continual critical examination of assumptions that must be the base for any progress in the ordering of our environment did not predominate in a conference which never really questioned what was inside the bundle called architecture, or for whom it was intended. But an elegantly prepared and lucid epistemological argument by William Bartley III of the Warburg Institute set a good example by examining the assumptions of the theory of rationality, discarding an appeal to justification and authority within the chain of reasoning itself and substituting as the basis of rationality an injunction to maximize criticism.

Criticism, the final topic to appear on the star-studded program, was discussed by Reyner Banham and Allan Temko. Banham brought to the subject (which by then had been separated from history by default rather than by decision) a plea for criticism that would be "situationist"; that would start from the confrontation of the architect and his program, or "brief" as they say in the UK, with value judgments based on finding consistency of thought.

The architect's responsibilities for the brief were left undetermined. They are, very probably, the most important and perplexing question, since it is a necessary corollary of any concern for the general environment that architect and critic must enter into the political circumstances surrounding the inception of building tasks. Allan Temko's account of life among the mass media was particularly germane to this point. The concern for "newsworthiness" is in
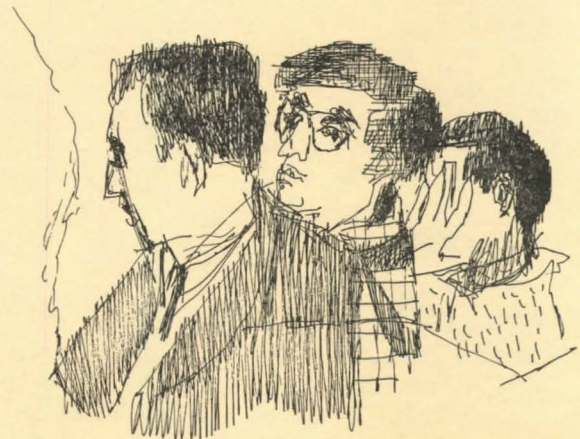
itself a refreshing impetus to consider problems that are of a scale sufficient to engage the attention of large numbers of people. By describing his own operations in a closely knit, face-to-face political environment Temko raised, possibly more than he intended, the issue of critical responsibility in a complex, ostensibly democratic society.

The final day was given over to presentation and evaluation of papers written by participants: critical

essays that were meant to have been based on a hasty tour of Detroit buildings taken in the middle of the week. A disappointing response was only in part due to the inappropriateness of the assignment, and a concluding session dominated by an apologia for

Yamasaki based largely on his unpleasant Nisei experiences seemed hardly a fitting end for a conference that Moderator Buford Pickens had charged with being "productive." Even the promise of a beer party did not entice a majority to stay out of the session.

Throughout the week there were the usual heated sparrings between participants over meals and around the pool, but it cannot be said that the knotty problem of a format for "participation" was solved. Certainly, the chance to find unexpected overlappings of one's own thought with the contradictory values of others, or unsettling discrepancies in conclusions drawn from similar premises, is a valuable one; it gives sobering evidence of what Walter Creese described as the "emotional investment" in architectural theory.

Following Popper's theory of tradition, Stanford Anderson urged us to redefine tasks through critical examination of the "problem situations of the day." The great sadness of the conference was that no one seemed to know what they are.

America Through AA Student Eyes

During the summer of 1963 twenty-six students, thirteen from member schools of the ACSA and thirteen from the Architectural Association in London, took part in a student exchange program initiated by the ACSA Committee on Relations with Foreign Schools of Architecture. This program, which has now been extended to include Scandinavian sponsoring offices, is designed to give students firsthand experience of life and architectural practice in other countries. The students spend ten weeks working in architectural offices followed by two or three weeks of travel before recrossing the Atlantic. Here the impressions of four AA students of three American cities and of that quintessential American phenomenon, the road, are reprinted from a larger selection which appeared in the Architectural Association Journal.

Detroit

I think probably one's immediate impression on arriving in America is the impact of the scale and space compared with that of our own urban environment. Here, particularly within our cities, the Englishman's concern with space is very noticeable— every available plot of land is used and used intensively. Our crowded and underscaled roads and our inability to create radical changes in our road system within cities reflect our conservatism and reluctance to change our traditional environment. Even our skyline is now being controlled because we are afraid high buildings will affect the quality of our cities seen both close at hand and at a distance.

In America's more highly developed parts, such as Detroit where I was working, none of these attitudes seemed to have prevailed. The reasons for this seem to be manifest. First is the feeling that bigness does not matter—the sky's the limit literally, and it does not matter how far the buildings are spread away from each other, there is plenty more land anyway.

Second, the apparent lack of tradition and lack of evidence of an awareness of past cultures has led to there being no positive ideas on what the quality of urban environment should be. Property developers working in a very loosely-controlled free enterprise system seem to have decided that. Past architectural styles have been re-created but have lost their original meaning and scale, notably in their application to commercial enterprises.

Third, greater wealth has led to a higher standard of living and hence to a far higher and faster increasing car-ownership than our own. It is because of this much increased mobility of the individual, as well as no lack of space for building, that expansion in area of a place like Detroit has occurred. The city has the second highest car-ownership in the States, just under two cars to every adult person, and makes 80 per cent of the country's cars.

Detroit is still creeping into the countryside with new suburbs and out-of-town shopping centers, while areas adjacent to the center are fast dying. Buildings are coming down fast in these areas, the sites becoming used-car parking lots, with all their jazzy advertising, or just left bare. Most of the industry concerned with the manufacture of cars is carried on out

of the downtown area, which is comparatively small and consists of a cluster of skyscrapers built by bank and insurance organizations. The center is no longer the most important place, so there is no advantage in living near it. The result of these influences gives a rather blitzed effect. There seems to be no planning control except for the acquisition of land for building new motorways, and the direction of these is now questionable.

Because of the total unattractiveness and quality of existing housing near to the center, Detroit's inhabitants are now competing to live in expensive, very low-density subsurbs, the houses sometimes occupying one acre apiece. These houses, shrouded and sheltered by the remaining countryside, represent the citizens' ideal retreat into countrified suburbia, with every gadget and material comfort at their command. The inherent evil in this is the isolation in terms of community and chance social meeting, the only focus being the fortnightly visit to the supermarket to fill up the deep freeze.

The effect of this on the transport system (there is very little public transport) causes generally dispersed car commuting, with only a small pull to the existing downtown area.   MARTIN BEATON

Chicago

"The city made by men, tossed as a burning fuse into the junction of East and West, acted out on the natural stage for the development of the heart of America," said *Time* magazine of Chicago. It has recently been stated in the *AA Journal,* by Alan Colquhoun, that the idea of the city is the "focus of activity." This city on the move, this city on the make, is an example of this in practice. I found the dynamic prospect of Chicago powerful after the city design program in the fourth year.

There is no need to tell the story of the striving pioneers, although their marks are clear to see just in the names around. They built their city with boundless optimism in a swamp and rebuilt it after the fire, even though their skyscrapers were anchored in soup. Nor need we document the present economic success—because of its geographic position for trade, freight, conventions and industry. What matters is why it is stimulating today as a twentieth century metropolis.

Chicago is built on a gridiron plan and this is one of its great strengths. The prairie is flat and featureless, its only organization rectangular land holdings increasing in value and condensing to a finer mesh and texture to form Center City. The river, flowing in reverse from the lake and meandering through the grid, becomes obtrusive, instead of being smothered. The side of the lake bleeds out the grid into a different pattern of park and landscape that follows the urban area from north to south. This is what makes Chicago different from all other US metropolises, for the lake and park are used as a magnificent amenity. Where else can one bathe half a mile from a city center? This feature is so strong that it acts as a magnet to control development: an edge to the endless gridded sprawl, which could be utopia—tree-covered, lawn-spread, low-density living. The Gold Coast wall adjacent to the park, a series of tall buildings, is a ready-made image from a dynamic viewpoint by the drive along the Lake Shore, providing high-density living for those who wish to live anonymously on top of activity, with long views back to the center and out to the everchanging lake.

Provincial dynamism is led by a strong political boss-mayor, with Chicagoans proud of their new city rising under steel and zeal. Bulldozers cut great tracks through slums, planting new dwellings in their wake; highways slash through the grid, cross hatching the metropolis, but still it has traffic problems like any other city. The commercial center city, the Loop, defined by the El has an overpowering impression, where the sunlight is chopped about by the enormous black buildings and the rumbling inefficient screeching railway cars just manage to avoid colliding with the double-glazed air-conditioned shiny comfort of the offices.

The El is the spirit of the Loop, forming the tenuous and necessary horizontal link between the vertical chasms of the continually evolving skyscraper. The creative technology of the mechanical elevator, the steel frame, and the glass and metal wall are linked by the visual proportions of necessity to produce the largest windows, "Chicago windows," beautiful windows that enable the building to rent the more easily. The new glass boxes form striking contrasts with their masonry counterparts by their insertion as new growth points in the old fabric.

The men of Chicago have followed Burnham, who so instructed them: "Make no little plans, they have no magic to stir men's blood. Make big plans, aim high in hope and work. Let your watchword be order, and your beacon beauty."   PETER ELEY

Los Angeles

Los Angeles is a mechanical desert ideally suited to rape, muggings, beatings, holdups and the like. It consists of parking lots, buildings looking like film studios, telephone cables and sticky asphalt everywhere. It is not a city and is quite unlike any city in the world.

As a stranger you arrive in the thick of it and, letting advice have its way, you quickly take refuge into the safety of the automobile. Many an innocent camera-clad tourist tells the tale of how the police in Beverly Hills stopped them, made them recount their reasons for being on foot and told them of the dangers. Under no circumstances do you get out of your car until you arrive at your destination.

On one of those rare days when there are no smog alerts and when the eyes are not reddened by the automobile fumes, it is possible to see the entire spread of Los Angeles from an airplane. The gigantic grid, approximately forty miles square, is hemmed in by hills on three sides and by the Pacific on the fourth. This is suburbia to end all suburbia. Los Angelinos call it "Slurb" and call themselves "autocrats." Slurb is spread so thin that one immediately thinks of it as an open city. Actually the two-thirds open space is entirely occupied by automobiles and

freeways. It is a destructively megalopolitan region. People stream here every day because to them it offers a good climate and plenty of money. Thus the region grows and grows.

This is the land of the real estate developer. Land is plentiful, yet water is a problem and the outlook is parchy. Deserts are subdivided and sold on the "never-never" to fulfill dreams. Hollywood was once a desert and this is where the stars settled down. Their palaces are gaudy reminders of Babylonian splendor surrounded by lawns greener than grass because the real thing is not artificial.

On the hottest day of the year we visited Forest Lawn, the cemetery of cemeteries. If your dog lies within these "sacred grounds" you can have an annual remembrance of flowers placed at his grave saying, "Little Dido is thinking of you in Heaven today and is wagging his tail." At the entrance to the grounds, to the strange sounds of electronic "thy-kingdom-come" music, stands the Administration Building. A casual Biblical voice whispers from speakers in the pine trees: ". . . a perfect replica of the famous old English Manor House, Compton Wynyates . . . is constructed throughout of Grade A steel and concrete with foundations extending into the solid rock. It is certified proof against fire, earthquake and . . ."

PO SHUN LEONG

The Road

The highway—you cannot get away from it. Anything that opposes it is destroyed or maimed, and all that rides with it is lifted to the heights. It holds the body together and every value flows within it. It is a new world worth seeing, and the best way to see it is with the thumb.

Its power is so great that if cities get in its way, it lifts them up and scatters them over miles of its own barren flanks. These chunks of city are remolded into service hotels, into motels, restaurants into drive-ins *cum* gas-stops. Town shops, clubs, theaters, etc, move out and form new unit shopping centers with all their ancillary services. They can be likened to small cities within themselves, essentially parasitic to the highway but without residents.

The whole environment is transformed and geared to the mobility of the automan, who is fed, entertained, rested and completely serviced. Here the highway changes from a link between cities into a continuous city.

Most people, even the automen, bemoan the death of the old cities, but they cannot stop the process. The highway has the backing of the almighty dollar.

The automan is so much a part of his car that he grows into it. His backside broadens, his belly falls and molds into the seat, his legs get so used to pushing stop-and-go pedals that they become useless for other functions, and his arms can only turn the power steering wheel while putting treble-tipped cigarettes into his mouth.

Truck drivers are almost a race apart, with their own culture. Their language and laws are incomprehensible to an outsider. They have their own truck music in their own truck stops. The tractor truck is home. They work hard and make so much money that the cost of living is a flea bite against what they earn. They scorn the immobile as a sailor scorns the landlubber.

One can like or dislike the highway, but as people are going to continue to drive cars it must be accepted and its nature understood. Then it can be made a servant.

RODNEY PICKERING

Books

World Architecture: An Illustrated History

By various authors, with an introduction by H. R. Hitchcock. New York: McGraw-Hill Book Company, [1963]. $17.95

My heart leapt up when I beheld the rainbow-hued jacket of this ponderable volume. As one who believes that Banister Fletcher should be kept in a locked case and let out for the more mature students only—they tell me that new edition is really much improved, but one must be allowed to cherish some prejudices—I thought that here perhaps was the answer to the prayer of the architectural history teacher for a really large and general collection of

illustrations accompanied by a text written by scholars who regard the history of architecture as something more than an exercise in classification. A thoughtful introduction by Henry-Russell Hitchcock, wisest of American architectural historians, and chapters by Seton Lloyd (on Ancient and Classical architecture), Andrew Boyd (Japanese architecture), David Talbot Rice (Medieval), Norbert Lynton (Renaissance), and John Jacobus (Modern), with more than a thousand illustrations in black and white and more than fifty in color—all this, thanks to the collaboration of its New York publisher and an Italian printing house, for a mere $1.20 more than the latest edition of Sir Banister! This is quite some-

thing, at the very least a remarkable feat in publishing. If it turns out not to be everything one had hoped at first sight—well, what is?

It would, no doubt, be possible to find fault with the title, "World Architecture," on the grounds that whole countries and even a continent (Australia) are unrepresented, but it is hard to think of another that would do justice to the book's really wide range. Far more questionable are the half-hearted attempts to lend an air of comprehensiveness to it by including a page of pictures of pre-Columbian architecture—between "Renaissance" and "Modern"!—and another headed "Primitive Dwellings Today," on which the gypsy caravan of all things is presented as a primitive dwelling. Much more to the point would have been something on the Baroque architecture of the New World, the total omission of which is a serious impoverishment of Mr Lynton's generally useful account of the Renaissance and the Baroque. Other omissions that are regrettable for similar reasons are the Early Christian churches of Syria and the Medieval ones of Armenia. Of the former only Kalat Siman gets a mention, because of its squinches, and of the latter none at all.

Every reader will turn first to the chapters on the periods or countries in which his special interests lie; most teachers of the history of architecture will probably turn to the last chapter, on architecture from the end of the eighteenth century to the present, first of all. Despite an occasional tendency to overelaborate writing, this, it seems to me, is a masterly performance in difficult genre, the *informative essay* as one might call it. Mr Jacobus's interpretation of the architectural history of the last 150 years is so convincing as a whole that I feel I must record a dissent from his view that the High Victorian style of the 1850's and 1860's represents a "metamorphosis of the Picturesque into a specific mode of architectural expression." Surely, although picturesque habits of composition were not easily abandoned, the attempt to realize the ideals of "truth", "character" and "reality" made the High Victorian style fundamentally different from any of those usually grouped under the head of the Picturesque. On the other hand Mr Jacobus's account of the contemporary situation is so good, it seems to me, that it should be shared at once:

By 1960, the trend toward arbitrary formality engendered a resurgence of an ingenuous, superficial historicism. This manifests itself in a pseudo-scholarly affectation of features drawn from the great buildings of the past, a technique which has more in common with the eclecticism of the nineteenth century than with the less explicit evocations of the past that appear in the functional architecture of the first third of the twentieth century. Beneath the surface of superficial pandering to this or that momentarily fashionable "re-interpretation" of the past, the more serious architects of the mid-twentieth century seem to be carrying on a profound re-evaluation of the various achievements of the past two centuries. Part of this movement takes the form of a search for a point of departure in some incompletely explored facet of the early modern tradition lying behind the too articulate, too specifically formulated style of the 1920's. The recent disinclination to pursue the rational and functional attitudes of

the International style is to be explained not so much by a wish to be rashly and irresponsibly anti-functional, as it is by a partly concealed desire to evade the stylistic formulae and the involved cubist-inspired spatial ambiguities that were fundamental to a Bauhaus or a Villa Savoye. In this respect, the current reaction that has grown up in contemporary architecture is in part directed against the liberties of the first third of the twentieth century.

Not all the contributions on occidental architecture (to which the present reviewer's competence is limited) come up to the standard of Mr Jacobus's. Professor Talbot Rice's is a disappointment. Sometimes he slides over a topic in a way that fails to bring out its real interest and is likely to leave the uninformed reader with the wrong impression. For instance, he writes: "Transeptal projections to north and south just in front of the apses were however quite an early feature in Rome; they produced a T-shaped plan, as for example in Sta Maria Maggiore." Now this not only evades the problem of the origin of the peculiarly Roman form of transept in Early Christian times but could easily be taken as implying that the transept continued to be a feature of churches in Rome, which of course it did not. The whole subject, which was illuminated by Krautheimer more than twenty years ago, is surely important enough to merit more than a couple of sentences. Then of the Perpendicular style Professor Rice says bluntly that it "was first employed at Gloucester soon after 1330," disregarding recent research which has surely made a qualifying phrase, at least, advisable. In other places his terminology is loose, or at variance with accepted usage; he calls Bourges' cathedral a hall church, when most of us have learnt to confine that term to the Late Gothic type in which the interior is conceived as a single volume, and he writes of English Gothic that "the tracery of the windows showed great variety, the earlier forms being based on geometric designs—we know them as *reticulated*—then later on freehand curves, and these we term *flamboyant*" (my italics). And how, in the name of Viollet-le-Duc, can the English fan vault be seen as "the logical conclusion" of ribbed vaulting?

Finally, it is a reviewer's duty to point out that certain matters in the editorial sphere have not been given the care that is their due in a book of this kind. Some of the captions contain half-truths of which the authors of the accompanying text can hardly have been guilty, and there are also some cases of mistitling; figure 902 does not show the Barrière de la Villette, nor figure 959 Richardson's Marshall Field Store, and the parliament buildings at Brasilia (plate XLIX) should surely have been given a more explicit label than "skyscrapers." The glossary at the end of the book contains several egregious errors, with English bond and Flemish bond interchanged, entasis described as a bulge, opisthodomus misspelled "episthodomus," and wattles described as reeds, as well as a number of definitions that are at worst confusing and at best inadequate (e.g., those of axial planning, semi-dome, and triforium). These are things that could and should be righted if the book goes into a second edition. I hope

that my criticisms have not obscured the fact that I believe it deserves to do so. Merely to thumb through its well-filled pages, exhibiting as they do the amazing variety of our world's architectural heritage, should be a stimulus to any student with eyes in his head.

MARCUS WHIFFEN
Arizona State University

Lighting in Architectural Design

By Derek Phillips. New York: McGraw-Hill, 1964. $17.50

This is primarily a book about light—how it is introduced into a building from nature's highly variable sources and how it can be produced and controlled within a building. It is abundantly illustrated with informative line drawings and photographs of outstanding excellence which exemplify the best in contemporary British, European, and American practice. The author's dual role of architect and lighting consultant enables him to understand and convey to his readers the part which proper lighting can play in enhancing the effectiveness of a building and the technical means by which such lighting can be achieved.

The problems of terminology which often make British textbooks hard going for American readers have been largely avoided, and the author thoughtfully presents the US equivalent for UK words which might cause confusion on this side of the Atlantic. He has selected his material impartially from a wide variety of continental and English sources as well as from American ones. In the preface, he points out that his book evolved from a paper presented before a joint meeting of British architects and illuminating engineers, each of whom knew surprisingly little about the other's work. He has produced a volume which tells the architect much about the technology of illumination and gives the engineer an insight into the architect's practical and esthetic problems. His book can be read profitably by members of both professions.

The volume is divided into three parts, dealing with principles of design (65 pages), light and architecture (150 pages) and computations (70 pages). In keeping with the British tradition of making maximum use of daylight for economic reasons, there is a comprehensive treatment of methods of computing natural illumination. The familiar IES charts and tables are supplemented by material from England's Building Research Station.

The brief treatment of the lumen method of calculating artificial lighting is quite adequate in view of the comprehensive attention given to this subject in manufacturers' literature and other reference books. The final chapter entitled "Brightness Engineering" presents an approach to the calculation and control of contrasts in the visual field. The use of scale models (2 in: 1 ft) is discussed, and photographs are presented to show how effectively the actual room can be represented by a simple and inexpensive model.

The second section of the book, "Light and Architecture," is devoted primarily to the technology of artificial lighting. Once again, familiar material from IES and other American sources is combined with illustrations from British and continental installations. A chapter is devoted to the economics of artificial light sources, with costs and prices given in dollars as well as shillings and pence.

The first section deals primarily with the architect's and the ophthalmologist's approach to lighting. The contrast between recommended illumination levels in the United States and in Great Britain, the factors controlling physical discomfort and disability glare, and the emotional impact of illumination are all effectively presented. A chapter on safety as influenced by all aspects of lighting, from the construction stage to the completed building, should be required reading, since it points out the hazards, ranging from electrocution to fire, which are inherent in temporary wiring, on construction building sites and even in the completed building.

If the budget of fourth- or fifth-year architectural students could permit the purchase of "Lighting in Architectural Design," it would constitute an excellent textbook on the subject. This reviewer could detect only one typographical error (in the footnote on page 51), and his only constructive suggestion for a future edition would be the numbering of the photographs for easier reference. The volume represents a very happy collaboration between an author with an important message to deliver and a publisher who obviously relished the opportunity to present it with maximum effectiveness.

JOHN I. YELLOTT
Arizona State University

Other Books Received

Inclusion here does not preclude review in a future issue.

MEETING HOUSE & CHURCH IN EARLY NEW ENGLAND. By Edmund W. Sinnott. New York: McGraw-Hill, 1963. $10.00

THE NEW TOWNS: THE ANSWER TO MEGALOPOLIS. By Frederic J. Osborn and Arnold Whittick, with an introduction by Lewis Mumford. New York: McGraw-Hill, 1963. $12.50
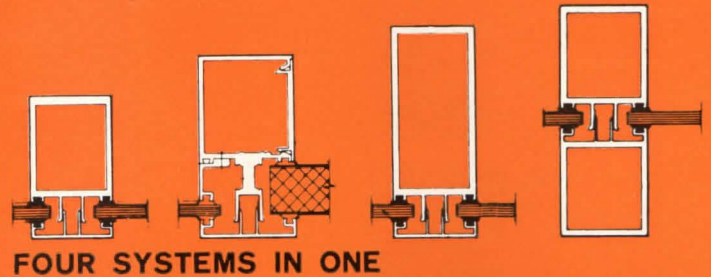
NOTES ON THE SYNTHESIS OF FORM. By Christopher Alexander. Cambridge, Mass: Harvard University Press, 1964. $6.75

KEY MONUMENTS OF THE HISTORY OF ARCHITECTURE. Edited by Henry A. Millon. Englewood Cliffs, NJ: Prentice-Hall, and New York: Harry N. Abrams [1964]. $9.95
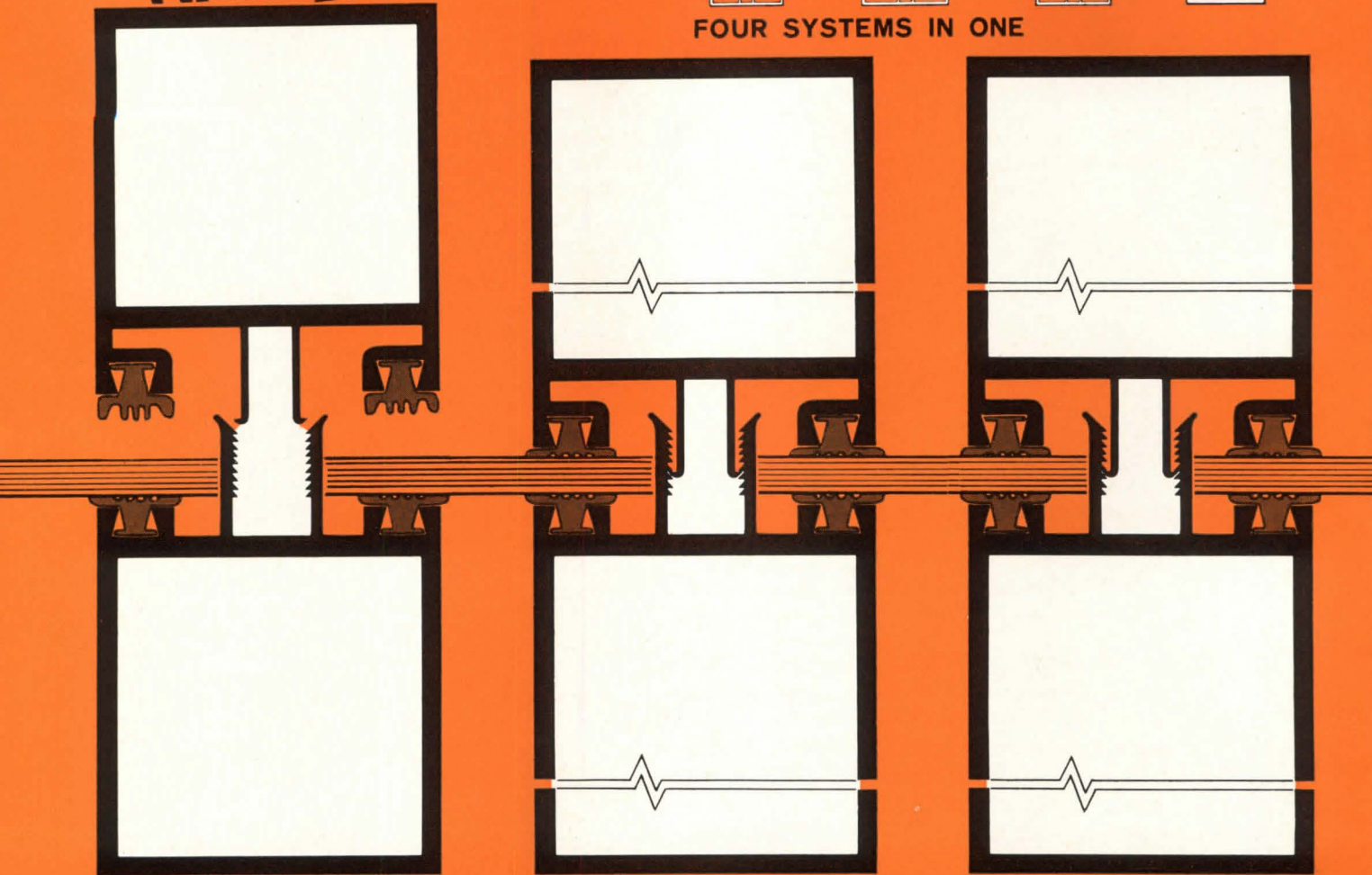
URBAN LANDSCAPE DESIGN. By Garrett Eckbo. New York: McGraw-Hill, 1964. $16.50

CALENDAR

Sept 20-25: Prestressed Concrete Institute Convention, Mayflower Hotel, Washington, DC

Sept 21-Oct 2: Urban Planning for Environmental Health, Kahler Hotel, Rochester, Minn

Sept 23-25: AIA Board of Directors, New Orleans

Sept 24: Producers' Council Convention, New Orleans

June 14-18, 1965: AIA Annual Convention and XI Pan American Congress of Architects, Sheraton-Park Hotel, Washington, DC

AIA Regional and State Conventions

Sept 18-20: Ohio Region, aboard *SS South American*, departing from Cleveland

Sept 30-Oct 3: Northwest Region, Hilton Hotel, Port-land. Theme: "The Hand of Man"

Oct. 7-11: California Region, Coronado

Oct 25-28: New York State Association of Architects, Grossinger's. "Design—Search for Esthetic Solutions"

Oct 29-31: Central States Region, Kansas City, Mo; South Atlantic Region, Jack Tar Poinsett Hotel, Greenville

AIA Committee Meetings

(At the Octagon unless otherwise specified)

Sept 10: Exhibitions

Sept 10-11: Research for Architecture; Auditorium and Theater Architecture; AIA-PC Liaison, White Sulpher Springs, W Va

Sept 11: Public Relations

Sept 14-15: Housing; Preservation of Historic Buildings

Sept 25-26: Building Codes and Disaster Studies

Sept 30-Oct 3: School and College Architecture

Oct 3: Urban Design, Hilton Hotel, Portland, Ore

Oct 12: AIA-Engineers Conference

Oct 16-17: AIA-PC National Liaison

Tours

Sept 29-Oct 15: Architectural Tour of Portugal, Spain and Italy. Optional six-day extension to Greece. Con-tact: James Branciforti, Professional and Special Inter-est Programs, Alitalia Airlines, 666 Fifth Ave, NY

Oct 7-31: Architecture and Garden Tour of Japan. Op-tional extension to Hong Kong to Nov 3; "Festival of Architecture in Japan" in Tokyo Nov 6-10. Contact: Kenneth M. Nishimoto AIA, 263 S Los Robles Ave, Pasadena, Calif 91106

Oct 18-31: Mexican Architecture and Interior Design Seminar-Tour, in cooperation with Sociedad Arquitec-tos Mexicanos. Tour repeated Feb 14, 1965. Contact T. H. Hewitt, Apartado Postal 5-251, Mexico 5, DF

NECROLOGY

BLACKMAN, JACK COLWELL, Danville, Ill
BROUWER, DIRK WILLEM, Old Greenwich, Conn
FINN, ALFRED C., FAIA, Houston, Tex
FULLER, ALBERT B., Kansas City, Mo
HULME, NORMAN, Wallingford, Pa
MAASS, GUSTAV A., Palm Beach, Fla
MORRIS, EARL C., Denver, Colo
PAULEY, WALTER E., Fort Lauderdale, Fla
TALLEY, ROBERT W., Houston, Tex
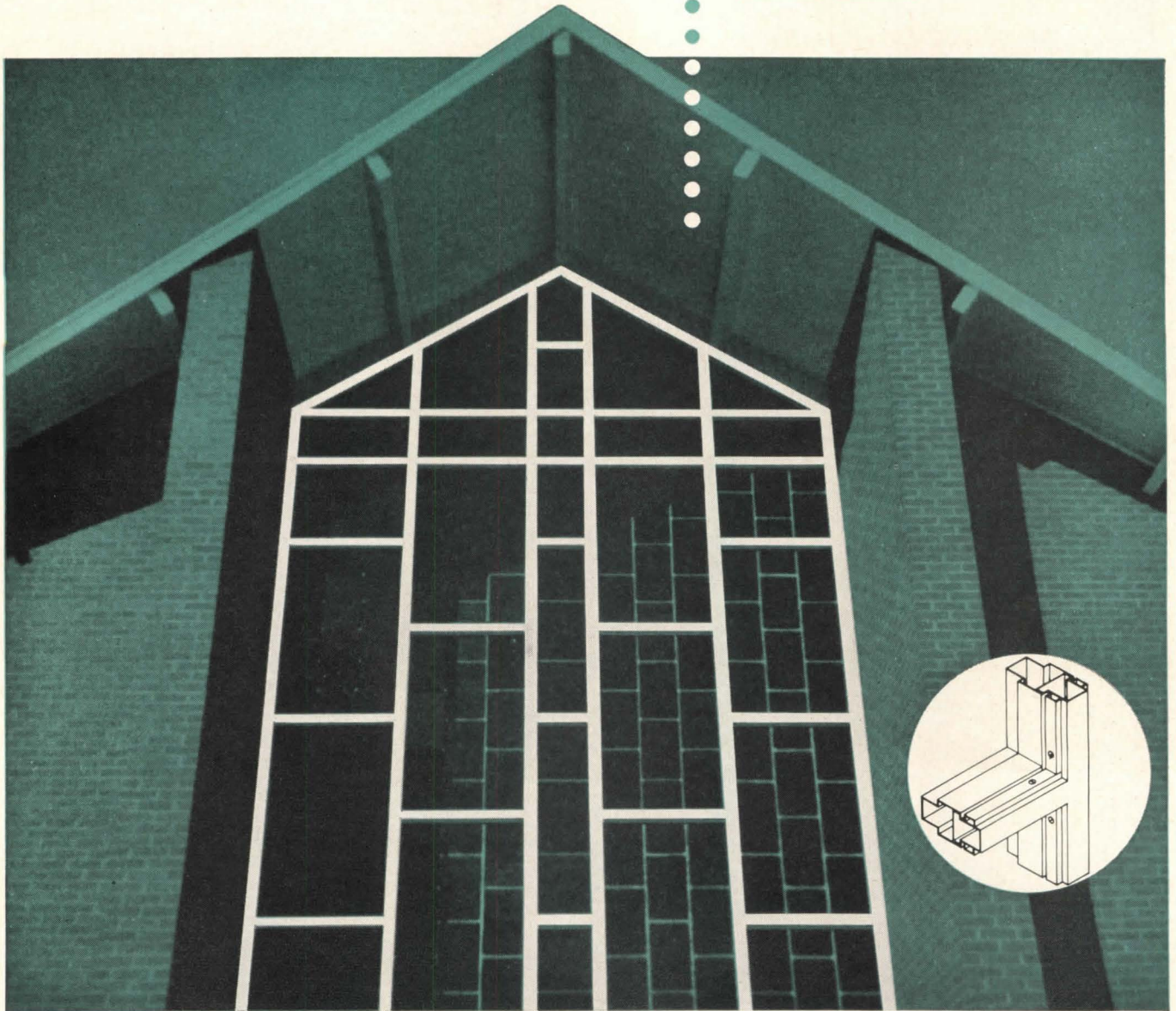WOODRUFF, LEWIS JAY, Houston, Tex
Honorary Member
MELCHER, GEORGE B., Minneapolis, Minn

**QUOTES / FDR Memorial:
A Turn-about-face**

No sooner had Washington's Fine Arts Commission given the nod to the scaled-down winning design for the FDR Memorial when the four sons of the late President Franklin Delano Roosevelt announced that they are "unalterably opposed" to the revision but will not carry on a family campaign against it. The Institute has long held the position that the design, as winner of a duly conducted national competition, should be approved.

Amidst the continuing verbal battle over the design by Pedersen, Tilney, Holberman, Wasserman, Beer—The FDR Memorial Architects, it is interesting to note that the *Washington Evening Star,* shortly after the wraps were taken off the revised proposal for the eight concrete tablets in West Potomac Park, reversed its stand—a practice not common to the daily press. Some excerpts:

"Along with nearly everyone else, we had a great time a couple of years ago poking fun at the 'giant slabs' and 'misshapen book ends' of 'instant Stonehenge' . . .

"Now, however, the *Star* has a confession to make. As the heat of battle cooled, our passions did too. And the more we looked, particularly at its three-dimensional model rather than merely at flat-surfaced photographs, the more we found ourselves doubting our original verdict. Now that the FDR Commission has returned with a revised design, scaling down the highest of the giant slabs—er, 'steles'—from 167 to 130 feet, we have to admit we are beginning to like the thing.

"The fact is, once the shock of unfamiliarity passes, this conglomeration of contemporary structures has a strong appeal. Certainly our city has its share of Greek temples. We need no more of them. And in the matter of precedent, the obelisk memorial to George Washington is as much a deviation from the standard in the Nation's Capital as one could imagine. In memorializing perhaps the greatest of our 20th century Presidents, why not look to contemporary design?"