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U		cover	First Design Award rende	ering by Helmut Jacoby
		7	It's The Law by Bernard	Tomson
David Bradford Wilkin Publisher	practice of architecture	9	Specifications Clinic by	Harold J. Rosen
Thomas H. Creighton Editor		11	Housing Modern Busines	ss by Maurice Mogulescu
H. Victor Drumm Advertising Sales Manager		15	Mechanical Engineering	Critique by William J. McGuinne
	11 1 1 m 1	27	Views	
Charles Magruder Managing Editor		59	Up-in-Air Chapel Symbo	lizes Biblical Motif
George A. Sanderson Feature Editor		67	Washington Column by	Frederick Gutheim
Burton H. Holmes Technical Editor		70	Bulletins	
Ilse Meissner Reese Associate Feature Editor	P/A NEWS REPORT	75	Financial Column by W	illiam Hurd Hillyer
James T. Burns, Jr. News Editor		83	Products	
Barbara J. Melnick Interior Design Editor	and the second second	88	Manufacturers' Data	
HERE AND A	August - Freiter	105	Introduction: P/A Sixt	h Annual Design Awards
Stamo Papadaki Art Director	and the second second	106	First Design Award: Urb	an Design Project by
Elmer A. Bennett Drafting	en an		Wurster, Bernardi & Emn	nons
Anne Fallucchi Editorial Production			Edward L. Barnes—DeMa	ars & Reay
THE REAL	a la de soil the	112	Urban Design	
Keith Aldrich Research & Promotion Manager		114	Commerce	
John N. Carlin Circulation Director		126	Industry	
Joseph M. Scanlon Production Manager	design awards program	128	Public Use	
	Warter Hatter	134	Religion	
Frederick Gutheim William Hurd Hillyer Ada Louise Hustable		136	Health	
William J. McGuinness Harold J. Rosen		138	Recreation	
Bernard Tomson Contributing Editors		142	Residential	
William W. Atkin Consulting Editor		152	Education	
	Server States	159	Summary	
Adelaide Lewis, Feature Ann Geddes, Technical Assistant Editors	interior design preview	161	Award Citation Interior	s by Barbara J. Melnick
Sylvia Keelan Dora Sue Melton			Restaurant, Library, Hou	use, Dormitory Rooms
Margaret Squire Editorial Assistants		187	Reviews	
		208	Illustration Credits	they of the
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data, see page 27.) Volume XL, No. 1	11528	236	P.S.: Mid-Victorias	

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Corporations In Professional Practice - Part 1

It's The Law Column by Bernard Tomson

P/A Practice of Architecture article opening a discussion of the role of the corporation as practitioner of architecture and engineering.

The tax laws of the United States have been recently modified by a law known as the Technical Amendments Act of 1958, which permits small corporations, the stock of which is closely held, to be treated taxwise as a partnership. Under this act, small corporations can avoid high corporate tax rates and at the same time retain the benefits of corporate operation. This act will undoubtedly give additional impetus to the debate that has been raging for many years concerning the desirability of the practice of architecture or engineering by corporations. Approximately 36 states now permit the practice by corporations of engineering. A substantially lesser number of states permit the practice of architecture by corporations. Many states prohibit the practice of architecture or engineering except by natural persons. In the final analysis, the decision as to the propriety and desirability of professional practice by a corporation must be considered and determined by the profession involved.

The history of the New York law regulating the practice of engineering is illustrative of the conflicting viewpoints on this issue. Prior to 1920 there were no licensing requirements in New York, and consequently, individuals and corporations practiced both public and nonpublic engineering. During this period, many corporations combined nonprofessional business activities with the practice of engineering.

In 1920, the first registration law was enacted in New York. This law provided that a corporation or partnership could engage in the practice of professional engineering provided that the persons "in charge of the designing or supervision which constitutes such practice" were licensed as professional engineers. In 1921, a new section was added to the New York law distinguishing between public and nonpublic practice of engineering. This section provided in substance that employes of a manufacturer who performed engineering services which were related to the corporation's products (as distinguished from offering engineering services to the public) need not be licensed. The underlying philosophy of this change in the existing law was that engineering services rendered to a company for the purpose of design, research, etc., in connection with the company's products do not call for the same safeguards as engineering services which are rendered directly to the public.

The New York law was again amended in 1923 to provide that the practice of professional engineering "solely as an officer or employe of a corporation engaged in interstate commerce" would be exempted from the License law, In 1932 a section was adopted which excluded from the licensing provisions of the law, the practice of professional engineering by an officer or employe of a public service corporation "in connection with its lines and property which are subject to supervision with respect to the safety and security thereof" by other governmental regulatory bodies,

As the result of the efforts of professional societies, New York, in 1935, amended its registration and licensing law to prohibit the public practice of engineering by corporations except for those corporations lawfully practicing prior to the enactment of the amendment. This amendment followed by approximately six years, the prohibition against the practice of architecture by corporations.

The provision of law which permitted a corporation to continue practicing engineering if it was so practicing prior to the adoption of the prohibition ("grandfather" clause) was construed to require that such practice be continuous, and that the employment of a licensed engineer as chief executive officer also be continuous. This amendment was also interpreted to apply to foreign corporations. The provision of law, however, permitting the practice of engineering by nonlicensed persons in a nonpublic area such as research in, and design of, manufactured products, was not changed.

Although certain corporations were permitted to continue the practice of engineering under the "grandfather" clause contained in the law which prohibited the practice of engineering to all other corporations, there was no specific provision contained in this law requiring the registration of those corporations which could lawfully continue to practice. In 1952, the law was amended to require such registration, Following this amendment, a committee of corporations was formed to work toward amendment of the New York law to permit the practice of engineering by corporations. Several bills to this effect were introduced into the New York legislature between the years 1953 and the present time, but none have been adopted. The first of these bills, introduced in 1953, would permit corporate engineering practice by corporations provided the officer in charge of such engineering was a licensed engineer. This bill was opposed by the New York Society of Professional Engineers and was supported by the Committee on Engineering Laws, which consisted of a group of engineering corporations some of whom were operating on a national scope. A second bill was introduced into the legislature not only requiring that the officer in charge of professional engineering be licensed, but further providing for disciplinary action against a corporation if the license of the executive in control of the professional service was revoked. This bill was not only opposed by the New York State Society of Professional Engineers, but was also opposed by the Medical Society and other engineering and professional groups.

In 1955, a bill sponsored by the New York State Society of Professional Engineers was introduced into the legislature providing that a corporation be permitted to practice engineering provided that all of the directors and officers of the corporation, as well as all employes rendering professional engineering services, be licensed in New York. This bill was opposed by American Institute of Architects, American Institute of Consulting Engineers, Dental and Medical Societies of New York, New York Association of Consulting Engineers, and many other groups. Several other bills followed, each of which substantially provided that a corporation may practice engineering provided that the person in responsible charge, and the employes who perform professional engineering services shall be licensed engineers. These bills, however, were not adopted, although the pressure continues for a change in the New York law.

In next month's column, the arguments which have been propounded for and against corporate practice of architecture or engineering will be discussed.

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Progressive Architecture 8

Architectural Concrete Re-examined—Part 1

Specifications Clinic by Harold J. Rosen

P/A Practice of Architecture article reintroducing architects and designers to approved requirements for architectural concrete.

In this heydey of lightweight curtain-wall construction, it is tantamount to heresy to speak of materials other than aluminum, stainless steel, porcelain enamel and all the other metal forms that clad our buildings today. However, there is available an old material which, when properly controlled, can produce striking results. The material is concrete, which not only serves as the structural element of the building but also provides the exterior finish, thus becoming the architectural medium for expressing bold designs.

The Concrete Industry Board of New York recently completed an exhaustive investigation to produce a manual of recommended practice for exposed architectural-concrete surfaces. The Board recognized that the placing of covering veneers on concrete surfaces adds materially to the cost of concrete structures without improving their structural soundness. By exercising additional control, the concrete surfaces of the structure can, by proper treatment, be finished satisfactorily, both in texture and appearance; thereby eliminating some of the costs of the covering veneers. A special effort, however, is necessary to develop satisfactory exposed architectural-concrete surfaces, and the following requirements should be adhered to, in order to bring about the desired results.

It might be well to forewarn prospective bidders that special efforts are required to achieve the intent of the plans and specifications, by specifying the materials and workmanship for architectural concrete under a separate section or division of the specifications entitled "Architectural Concrete." The bidder is then put on notice that this concrete is not the run of the mill concrete. The following represents some of the more pertinent information which should be included in the Specifications for Architectural Concrete.

General:

All references to materials and methods pertaining to concrete work contained in other Sections of this specification shall apply except as otherwise stated in this Section.

Materials:

a Cement shall be one type and from the same mill and be of uniform color for all architectural concrete work under this section.

(Note: Uniformity of color is essential to appearance.)

b Air-entraining cement or an air-entraining admixture shall be used to obtain proper percentage of air-entrainment as follows: Maximum size aggregate

comun size usgres	a c
3/8".1/2"	7.9%
3/4"- 1"	5-7%
11/2"- 2"	4-6%

The admixture shall be of a type approved by the Architect.

(Note: Air-entrainment in proper percentage will protect concrete from freezing and thawing and saline atmospheric conditions.)

c Aggregates shall be from the same basic source and of a uniform color for all architectural concrete work under this section and shall conform to ASTM C-33 except that the limitations on the fine aggregate passing the No. 50 and No. 100 sieves shall be 15 to 30 and 3 to 10 percent respectively.

(*Note:* Higher percentage of fines will minimize sand streaking on exterior faces of concrete.)

d The proportioning of materials shall be based on the requirements for a plastic and workable mix with a maximum slump of 4 inches, using not less than 5½ sacks of cement per cubic yard and not more than 6½ gallons of water per sack of cement including the surface water carried by the aggregate.

(*Note:* Over-wet mixes increase shrinkage and produce concrete which is less durable and more permeable.)

Forms

a Design

Forms shall be designed in detail and submitted to the Architect for approval. All vertical and horizontal expansion, construction and contraction joints are to be shown and no others allowed without permission. Sizes and quantities, order of erection and reuse of materias to be indicated.

(*Note:* In architectural concrete as opposed to strictly structural concrete, the form of molding materials used, the precision of the details, and the quality of workmanship are a primary determinant

of the effects obtained. It is therefore essential that the basic specifications be adhered to. In designing forms, consideration must be given to rate of placing and consequent pressures. Minimum flexure is important. Recommended locations and details of joints may be found in Portland Cement Association publications entitled *Construction Joints and Expansion Joints in Concrete Buildings.*)

b Materials

Only the best grades of materials are to be used and samples must be submitted for approval in writing before starting work.

(*Note:* The materials used for forms should be determined by the particular shapes or finishes desired. Special applications in conjunction with those specified would be wood molds, plaster molds, and metal molds.)

Plywood—Shall be exterior grade A-A plyform.

(Note: Plywood has the advantage of smooth-surface, large panels with minimum joints and ease of erection.)

2 Boards—Shall be Select Grade of Pine, Fir, Hemlock, Spruce, or others as specified.

(*Note:* The application of boards offers a wide variety of textures; surfaced or rough; square edged or tongued and grooved; uniform or varying widths; vertical or horizontal, open or tight joints.)

- 3 Tempered fiberboards of tested quality.
- 4 Wood panels with plastic or other coatings to be of tested materials that have been previously tested.

(*Note:* An epoxy resin applied at the mill has proved satisfactory, greatly increasing the number of uses.)

- c Accessories
- 1 Wall ties—Shall be an approved type, leaving a recess in the concrete of $1\frac{1}{2}''$ minimum depth from the exposed face. No snap ties or wires will be allowed. (*Notc:* Wall ties which are completely removable leaving a through hole are desirable but other types to meet the $1\frac{1}{2}''$ minimum are available.)
- 2 All other accessories to be kept clear of exposed faces where possible, or they shall be galvanized to inhibit rusting.
- (*Note:* Wherever possible, spreaders, chairs, etc., should be removable. Where they must be left in place, protection against corrosion is essential.)

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special requirements . .



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Housing Modern Business

Value of Integrated Approach Cited by Maurice Mogulescu*

P/A Practice of Architecture article offering observations of a pioneer and leader in the field of office planning and interior design, whose company is recognized for major, original contributions in developing techniques of planned efficiency for modern office operations as well as furnishings, furniture, equipment.

In the current scene, there are welcome signs indicating an increased understanding of the value of co-operative effort between architect and interior designer. The integrated approach by these two specialists has wide application to contemporary architecture as such. It has particular application, however, to the building designed to house office operations—primarily the single-tenant, wholly owned building but also the partially owneroccupied building and, in certain fundamental aspects, also the multiple-tenant building.

In terms of the building for housing office operations, there is a profound unity of interest between architect and interior designer. Both specialize, of course, in different phases of the total project but they are organically related in the nature of their work and share, in the implicit purpose of their work, a commitment to meeting the needs of today's business and industry.

For the interior designer, in fact, this commitment is axiomatic. The whole growth and development of the interiordesign field is pinpointed in the unprecedented needs of business and industry. In the prewar period, it was possible for the office interior to fall adequately into the province of interior decoration. This is no longer possible. Today, interior decoration has been absorbed as but one segment of the far more complex scheme of interior design by which the office interior is planned and engineered as an organic whole, integrating problems of efficiency, economy, and esthetics. And where the use of interior decoration was optional, the use of interior-design services is now mandatory. But even within the over-all specialization of interior design, there are areas of specialization. There is interior

design devoted mainly to hospitals or to hotels or to schools and other institutions. The interior-design services referred to here are those required in office planning.

A powerful combination of postwar factors dictates this situation. Business moved into the postwar period with tremendous increases in expansion and complexitieswhich have produced an explosive, qualitative change. The volume of the nation's labor force has been traditionally weighted at the points of production and distribution of goods. Today the emphasis has shifted. Now it is lodged at the points of executive and administrative operations-the offices where selling, merchandising, public relations, advertising, billing, accounting, filing, and many other White-Collar activities are carried on. It shows up instantly and compellingly in the employment data compiled by U.S. Department of Labor. The White-Collar category, comprising over 40 percent of the labor force, now outranks the Blue-Collar category which, in the last century, was first to outrank the mass of farmers and farm laborers. The industrial revolution has been succeeded by the office revolution. And the change has not been gradual and uniform, but one of increasing acceleration. Another accelerated movement has been the increasing absorption of women workers and of older workers (including women) by the labor force, particularly as White-Collar workers.

The startling significance of these statistics and data is that they picture a basic change in the internal structure and character of the nation's economy. For the first time in our history, the office has moved into the key position of operation for America's large corporations.

This change outdates all prior forms of office procedures. It demands an entirely new idiom for the concept of office efficiency and office equipment; for the housing, accommodation, and orderly arrangement of office personnel. In direct response, interior design arose as the *unique* specialization which visualizes, defines, and applies this new idiom.

To achieve these objectives, the complete interior-design firm combines within one organization a diverse, skilled, trained staff of space planners, designers, engineers, business analysts, draftsmen, researchers, decorators, colorists, and cost and accounting experts. Because of the technical and other complexities involved, as well as the close interrelationships of all elements, only a co-ordinated team of this skill and talent can most efficiently set up modern office operations. Take the typical "Big Business" client today:

What was once his relatively small office staff has now multiplied into manifold and varied departments. Material that used to be handily kept in a few file cabinets has now mushroomed into library proportions. The flood of interoffice memos and order slips has grown too voluminous for old-fashioned footand-hand delivery. Voice communication that once could be simply calling out across a room or picking up a telephone, today demands the latest electronic devices. Personnel increases, which could once be handled by adding a few more desks here or there, have far outgrown any such casual arrangements. The interior designer scraps all old systems that no longer work. Now, in order to move inter-office papers of all kinds, he specifies automation techniques and devices-pneumatic tubes, conveyor-belt systems, and other devices which speed things along with accuracy and link related departments instantaneously. He utilizes advances in technology, in telephone and teletype and intercommunicaton equipment. He invents or applies new, improved filing systems which require minimum space, are easier to work with, and provide accurate categorization and systematization. He makes plans for expansion and develops techniques of inexpensive alteration to meet it. His plans foresee continuing automation developments which, over a long-term period, require that offices be flexibly adaptable to accommodating new machines and even new structures of personnel. He develops and applies new approaches to space layouts for the efficient flow of work, the speedy, proper relationships between individuals and departments. He applies new concepts of lighting, heating, air conditioning, acoustics. He invents techniques of flexibility to permit all kinds of departmental shifts and interior rearrangements keeping pace with changing business requirements.

And while his sight is set on efficiency, it also sees a new aspect of human needs in the office. The architect, although he designs a new kind of office building today, should work in broad strokes and deal with people as a whole. The interior designer should work with individuals and the deposit of so many additional millions of people in offices has intensified the individual need. Moreover, while mechanization and automation are essential for efficiency, they tend to introduce an impersonality and a rigidity which are

(Continued on page 12)

President of Designs For Business, Inc., New York, N. Y., whose current projects include planning and designing 500,000 sq ft of space for Time & Life and 300,000 sq ft for the Corning Glass Works Building, both in New York; and 150,000 sq ft for new offices of Berkshire Life Insurance Company, Pittsfield, Mass. An independent foreign office, Designs For Business of Canada, Ltd., has just opened in Montreal under Canadian management.

Value of Integrated Approach



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Humanizing office space, that houses hundreds of heterogeneous people, requires entirely different techniques. The interior-decorating members of my own staff are trained as specialists in dealing with furniture, furnishings, equipment, in terms of office and business requirements. In action, they work hand-in-hand with our space planners, engineers, and researchers so that at every step in the progress of a project the decoration is meshed with efficiency and planning. The responsibilities of this new type of office decoration are even greater in the light of the changing balance of age and sex in the labor force. Women increasingly predominate-older women. U. S. Department of Labor estimates that by 1965, of some expected 10 millions additional members of the working population (the majority of White-Collar category), most will be women and older workers. It means that the structure of personal relationships is of tremendous importance, requires new ways and conditions of bringing people together to promote working efficiency. It means a whole new understanding and emphasis on incorporating rest rooms, lounges, and first-aid facilities within the over-all space planning.

What underlies these new approaches of the interior designer is the concept of the office as a daytime, intramural community. And a striking example is that phenomenon of the postwar office—com-plete for "eating-in," from snacks and coffee breaks to full-scale lunches for employes and management. Well equipped kitchens, attractive dining areas, even complete cafeterias are very much a part of the modern office. All this is dictated by urgent need. Lunch-hour crowdselbow-tight at counters and tables-sap energy and assault productivity. Bearing in mind that women, today constituting the majority of office personnel, suffer especially under these conditions, the wise designer incorporates in his overall planning and layout the provisions of dining facilities on the premises. At the same time, the designer is aware that a "company type" cafeteria can be depressing, and he guards against such casualty by esthetic treatment. While the planners and engineers and production

department are calculating sizes and locations for the kitchen and dining areas, the decorators (guided accordingly) are working out color schemes, draperies, surfacing materials, and other elements: adjusting the decor to the variety of heterogeneous office personalities.

Framing these new dimensions of efficiency and human needs are important economic considerations. Space is costly. Personnel is costly. Moving is costly. Construction is costly. The large corporation taking new space today-whether its own new, single-tenant home or a multipletenant structure-battens down for 10, 15, 20 years and longer. And this means that offices must be planned and engineered not only along the lines indicated to satisfy current requirements but also to flexibly expand without major reconstruction or cost. In other words, the modern office must be so inherently sound in efficiency, economy, and esthetics that, with barely any structural or decorative changes, it can stand up and serve a lifetime of changing business and human needs. Nor is there any blueprint or absolute that is suitable for all companies. The increase of business complexities heightens the individuality of functions; and interiors must be custom planned for each separate project.

This approach to planning and designing highlights the integrated relationship between interior requirements and architectural plans and, accordingly, the importance of co-operative effort between architect and interior designer.

In the case of a multiple-tenant building, which is put up to house many separate and individual tenants, the building has to have a certain "mean" in its architectural structure which inherently allows designing on the inside according to individual requirements. But certainly the single-tenant building forces upon us the realization that such buildings, at any rate, should be designed so that the interior requirements, as determined by the interior specialist, are in view as the primary factor and the enclosing shell drawn around it as the human skin is drawn in form to follow the function within. For there is no question that interior requirements thus affect the electrical, structural, engineering specifications of the building itself. Interior layout, location of departments, determination of heat loads as they vary from one department to another, all have direct bearing on building specifications-the module of the building, the central air-conditioning facilities, the location of wet stacks, etc. Similarly, furniture and equipment, decoration and accessories also have impact on the basic construction and plans of the building. For example, the size, shape,

and form of work stations—whether it is determined that 65 sq ft or 85 sq ft or perhaps 150 sq ft shall be allotted per person—affect architectural plans and construction. Even the apparently simple problem of putting up draperies is of architectural as well as interior concern because, according to client need, it may be desirable in one case to hang them in windows but more advisable in another case to have a pocket in the ceiling.

Of course the interior designer is able to plan and fit interior requirements into an already established building. By and large, this is what he has been called upon to do. Frequently, however, this has important disadvantages for the client. An illuminating example was explored in P/A (NOVEMBER 1957) by G. Luss, who is vice-president in charge of design of my own company. This was an article in which Luss discussed the relationship between the module of a building and the integration of a modular system on the interior.1 In text, charts, and figures he illustrated that where there is a discrepancy between the module of an already established building and the modules of standard materials manufactured and used today in constructing an interior-acoustical ceiling tiles, flooring tiles, metal partitions, etc .-- to close the off-inch gaps between them requires ". . . the introduction of specially sized ceiling tiles, lighting fixtures, etc., or filler pieces. . . ." For the designer, as Luss pointed out, this situation ". . . becomes, to some extent, the criterion of his economic utilization of materials," and for the client it shows up in greater construction costs. Let me note that this is an example that applies equally to the single-tenant building, the partially owner-occupied building, or the multiple-tenant building.

Ideally, therefore, the interior requirements, as established by the interior designer, should be inherently contained in the basic, original, architectural plans. In practical terms, this not only presupposes collaboration between the architect and interior designer, but also their coming together at the very outset, when a building project is first launched in the planning and talking stage. Such timing, in fact, is of the essence.

When first faced with the job of planning and designing a specific interior for a specific company, the possibilities are endless. But ultimately, these possibilities reduce to only one completely functional, clean, efficient solution. Between the two extremes are the detailed, comprehensive preliminary studies of the client's opera-

tion, by which the interior specialist arrives at that one most ideal solution. And these preliminaries are basic and inescapable because of the interrelationships among all interior elements. Before a single telephone can be installed, it must be decided where each desk and each secretary should go. Specifications for air conditioning depend upon layout of departments and how they vary in the degree of heat loads. Underfloor wiring is governed by studies that indicate the most efficient location for the IBM room in relation to other departments. Types of partitioning systems cannot be engineered without first studying whether to house this clerical group or that advertising group in an open pool or semiprivate cubicles or private offices. A basic module for standardization of equipment, partitions, cabinets, etc., cannot be determined without intense preliminary investigation of current and anticipated business volume and personnel. The decorative and human elements march along simultaneously. Whether to specify cork flooring or carpeting or vinyl depends upon first determining layout, location, and function of departments. Experiments must be made and tests undertaken to establish color schemes and lighting that take note of evestrain, psychological, and emotional factors. Wall finishes-whether plastic or wood or paint-similarly depend upon prior determination of function in this or that area, the determination of maintenance needs, traffic, etc. Location of kitchens, dining areas, rest rooms again relate to who is going to be where, and why. The list of details multiplies endlessly, all interwoven and without any margin for error. Once installations and designs are made, reconstruction or changes are too costly, not only in direct charges but also in interruption of work.

Drawn into things, then, at the very beginning, the interior designer can research, explore, itemize all the details involved, co-ordinate them into a proposed plan, and feed his information and proposals to the architect's office before a single construction step has been taken. In this way, architect, interior designer, and client can consult, make changes and adjustments without risk of flaws in the eventual efficiency, without risk of reconstruction cost.

The architect's present team of consultants consists of the electrical engineer, the structural engineer, the air-conditioning engineer, and other specialists associated with putting up an office building. The trained interior designer, thoroughly experienced in office-planning operations, is the one to complete this team—and vital in assuring the most satisfactory housing for modern business operation.

¹Luss defined modular design as the construction of every interior element on the same module, thereby achieving both flexibility and interchangeability without affecting major installations.

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35-Year Review of Comfort-Equipment Tests

Mechanical Engineering Critique by William J. McGuinness

P/A Practice of Architecture column on mechanical and electrical design and equipment, devoted this month to the research program of the National Warm Air Heating and Air Conditioning Association.

It is difficult to believe that prior to 1914 warm-air furnaces were purchased on the basis of weight of cast iron instead of by potential heat output. It was in that year that the forerunner of the National Warm Air Heating and Air Conditioning Association was established and assumed as one of its duties the testing and rating of the furnaces of member-manufacturers. Today, this organization's primary aim is to "improve the design, engineering, installation, and operation of warm-air heating and air-conditioning systems." In 1918, it delegated the major part of its engineering research to the Engineering Experiment Station at University of Illinois under direction of Prof. A. C. Willard, then head of Mechanical Engineering, later president and now president emeritus of the university. This happy partnership has been operating productively for 45 years. From 1918 to 1924 research was confined to the laboratories of the university where much information was compiled about heat transmission and heating systems. Because of the shortcomings of tests based upon simulated conditions, a decision was made in 1924 to build a fullscale house in which to test various systems. This house, later to be followed by three other research houses, was the first to be built anywhere for the exclusive purpose of developing and improving residential heating, cooling, and other comfort qualities that comprise air conditioning.

research house 1-1924

This house had 11 rooms in two stories and a finished attic, all above a full basement. The walls were uninsulated and the windows and doors not weatherstripped. Standards for gravity warm-air heating were established here. The original plant was a coal-fired furnace with air distribution through ducts in interior walls. Supplies were run to each room but there was a single return in a central location. From this simple beginning, many changes were made. The single return was replaced by as many as 21 individual returns in varied locations. Tests continuing through 1943 introduced

power fans and automatic firing of oil and gas. Much of our information about modern forced warm-air heating, now called winter air conditioning, came from these experiments. During the 1930's, tests were made of summer air conditioning by means of ice, city water, mechanical refrigeration, and the circulation of cool night air.

research house 2-1947

The one-story residence had become popular by this time. This one-story research residence, still in use, has a full basement and open-truss joists for floors and roofs, within which warm air can be passed to warm radiant surfaces. It is a 5-room house with 35%-in, mineral-wool blanket insulation in walls and 5 in. above the ceiling. All openings have storm windows (or doors) and weatherstripping. Comparisons were made between standard forced-air methods and those employing warmed radiant panels. Small ducts (4 in.) were used in some trials and the principle of delivering warm air directly to the perimeter was established. This was a departure from older methods which usually delivered the air from interior walls and picked it up at the perimeter. Beginning in 1952, this house was used for studies in air conditioning. About 2 tons of cooling were used for this 1040 sq ft house. Advantages were found in undersizing the plant slightly. Discrepancies were noted between heat gains computed by prescribed methods and the heat gain actually measured. The time lag was found to be less than standard calculations would indicate. Operational costs for water and electricity were \$32 per month.

research house 3-1949

A few years after the war there was a great number of low-cost houses on the market. Because of the housing shortage and the short supply of money among some veterans, these houses were often minimum in size and designed to save every dollar. Many were on concrete slabs and were lacking in weather stripping, storm sash, and insulated walls. Research House 3 was built to simulate these conditions and to solve some of the problems they presented. It was a 41/2room house on a concrete slab having no wall insulation, storm sash, or weatherstripping. Tests established the superiority of the subslab duct system. It was found that any system that delivered air in the conventional manner without warming the slab left uncomfortably cold floors. The perimeter method of discharging warm air to blanket the outside wall compensated for lack of insulation and for excessive infiltration. This method which was developed to overcome poor conditions has remained effective as houses have improved in quality.

The distribution of cooled air in summer through the same perimeter registers that carried warm air in winter was investigated. This scheme, previously controversial, was found to be very satisfactory. It was shown that a minimum house could be provided with inexpensive cooling and heating. This house, together with work in Research House 2 provided data for introduction of fresh air, control of humidity, filtration, and regulation of air velocities. The principle of continuous circulation (actually developed in the first research house and checked out in the second and third) was used to prevent the accumulation of still air that might form spots of differing temperature.

research house 4-1958

Completed in August 1958, this house has 8 rooms, $2\frac{1}{2}$ baths, and an integral garage. Its area is 1800 sq ft and its cost—including property—\$33,000. Walls have 2 in. and ceiling 4 in. of mineralwool insulation. All openings are weatherstripped and storm doors and windows are used. Its three-level design with open stairways between provides a basis for study of the popular contemporary multilevel construction. Unquestionably, new findings will occur in the selection of locations for return grills.

The air-distributing system follows the standards already set up by the Association. It will have both heating and cooling: complete air conditioning.

Because the floors of this house are partly on joists and partly on concrete slab, both conventional ducts and subfloor ducts in concrete will be used. Air from perimeter registers will blanket all exterior walls from registers in perimeter slab-ducts, surface registers below windows, diffusing baseboard, and from low side-wall diffusers. An auxiliary highside wall supply system will also be studied in combination with the other methods. A crawl space below one of the levels is heated by openings in ducts which can be shut off in summer. The reports of the ways of coping with these varied conditions should be of the greatest value in planning contemporary systems of air conditioning.

Heating and year-round air conditioning in



Air conditioned Library, round Building E, shown below.

Linton Comprehensive High School SCHENECTADY, N. Y.

Building A, is air conditioned Auditorium with choral, band and orchestra rooms; B) Cafeteria and multipurpose area; C) Gymnasiums, 3 large, 2 small; D) Core-Tech building with shops, also air conditioned administrative offices, Science, Arts, Family Living and Commerce departments; E) Air Conditioned Library; F) Academic classrooms.

Planned enrollment: 1800. Grades housed: 10th, 11th and 12th. Area 258,157 sq. ft. Construction Cost: \$4,328,130.



Schenectady (home of General Electric Co. a pioneer in nuclear power plants) is justly proud of LINTON'S excellent science department. (d-3)





new LINTON HIGH SCHOOL regulated by



"Plan a School that will still be functional in the year 2000"

... that was the challenge faced by the educational, architectural and engineering planners of Schenectady's much discussed Linton High School. One of the important innovations here is the year-round air conditioning in the Core-Tech building D, shown on opposite page, also the Auditiorium A, and the round Library building E.

Proper thermal environment is a valuable aid to effective teaching and learning. The flexibility of the Powers temperature control system installed at LINTON meets the demands of varied types of activity and occupancy in all seven buildings.

Air Conditioning, heating and ventilating systems are regulated from Powers Control Center located in the boiler room. See photo below at right.

Pneumatic system of Temperature Control

Day control for the air conditioning systems during the cooling season consists of dew point control for the chilled water coils with individual reheat mixing damper control for each zone controlled from a zone thermostat.

Night control of the air conditioning systems provides reduced room temperatures during the summer "night" cycle when the buildings are unoccupied, with a minimum of refrigeration. This feature is designed to provide precooling and reduced start-up load.

A Powers MASTROL System controls the hot water heating system plus individual room control of convectors in critical areas.

In the Year 2000, the Powers temperature control system at Linton will likely still be functional. Twenty-five to 50 years of dependable operation with a minimum of maintenance is often reported by users of Powers control.

In Your New School make sure taxpayers get the biggest return on their investment in accurate temperature control. Ask your architect or engineer to include a time-proven Powers Quality System of Control. Architects: **PERKINS & WILL** Chicago and White Plains, N. Y.

Associate Architects: **RYDER & LINK** Schenectady, N. Y.

Mechanical Engineer: E. R. GRITSCHKE & ASSOC., INC. Chicago, III.

Heating and Air Cond. Contractor: TOUGHER HEATING & PLBG. CO. Albany, N. Y.



190 Powers DAY-NIGHT Thermostats here help prevent OVERheating in occupied rooms and are adjustable for lower economical temperatures during unoccupied periods.



216 Powers PACKLESS Control Valves are used on convectors and unit ventilators. They're labor savers, banish packing maintenance and will prevent damage from water leakage.



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Left: 235 Ton Centrifugal refrigeration compressor has ample capacity for building D and library, or auditorium alone when other two buildings are not in use.

Right: Powers Control Center in boiler room. Center photo: one of 5 air conditioning systems and 9 of 68 Powers Sub-Master Thermostats controlling conditioned air to various spaces.

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STRUCTURAL: Tectum plank or tile provides a generous safety factor in excess of 200 psf. for roof loads. Safer for workmen—makes economical spans of steel practical—helps cut costs in every respect.



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NONCOMBUSTIBLE: Tectum is rated noncombustible by Underwriters' Laboratories, Inc., and carries favorable insurance rates in most communities. Acts as a fire barrier for public and private construction.



ATTRACTIVE: The deep, rich texture with a random swirl pattern enhances any type of application. A natural offwhite color, it normally needs no painting but may be painted without destroying acoustical values.



INSULATING: Keeps air conditioning and heating costs in line. Combines structural and insulating values in a single material for hot or cold climate roof decks. U factor rating of .15 for 3" material.



LIGHTWEIGHT: Thick planks of Tectum are comparatively light in weight and are as easily worked as wood with ordinary tools. Roof framing may often be lighter because of less dead weight. Saves time and material handling.



Two of the several methods of fastening Tectum plank. Nail and clip methods are illustrated



Grouting securely seals and fastens Tectum tile on bulb tee framing systems NEW MATERIALS offering greater latitude for designers have led the trend toward functionalism in building construction. Tectum. for example, offers the inherent advantages of several materials. It is made of wood fibers vet is rated noncombustible through a unique manufacturing process. It is insulating, acoustical and structural . . . three qualities normally associated with two or more separate materials. It has a pleasing texture that combines naturally with other materials. It is dimensionally stable, resists insects and fungus growth and is as easily worked as wood. Its light weight reduces handling charges, makes erection less costly.

LABOR SAVINGS: Open construction is more than just a short cut to reduced costs. With Tectum you can use the functional advantages of the material for greatest benefit while effectively reducing the amount of time required to erect a comparable roof deck of other materials. Tectum goes down fast down dry — ready for roofing immediately. When it's down the ceiling is finished. One labor operation provides a structural roof deck, finished interior ceiling, insulation and acoustical control for the entire area covered.

QUALITY CONSTRUCTION: Tectum meets and often exceeds conventional requirements for quality construction. Owners admire its appearance — a rich, deep fissured texture that adds beauty to any type of building when the material is exposed over beam or joist.

Tectum is represented in your area by a competent distributor or erector. Ask his recommendations on Tectum roof decks, sidewall materials, acoustical ceilings and formplank needs. Or write Tectum Corporation, Newark, Ohio. Plants in Newark, Ohio and Arkadelphia, Arkansas. Regional offices in Atlanta, Philadelphia,

Columbus, Chicago, Dallas, Beverly Hills, Seattle and Toronto, Canada. Distributors in all leading areas.





DIMENSIONALLY STABLE: Fibers of Tectum's composition lie in random patterns, resulting in excellent dimensional stability in all directions. Plank or tile may be laid with tight joints without fear of cracking or buckling.



RABBETED EDGES: Tectum tile, normally laid on bulb-tee subpurlins, has a rabbeted edge on the long dimension. Provides adequate space around bulbtee for grouting, adding stability and reducing heat loss around tee.



RESISTS TERMITES, FUNGUS, ROT: Tropical climates, with termite and fungus growth problems have no effect on Tectum. Tectum has proved to have toxic effects on termites — will not deteriorate in humid climates.



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CUSTOM LENGTHS: Tectum may be ordered in standard sizes, as cataloged, or in custom lengths from 4' to 10'. A continuous manufacturing process increases design flexibility for your advantage.



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TURN PAGE FOR DETAILS ->

*25,000 ANNUAL DESIGN

COMPETITION OBJECTIVES

Large scale development of homes known as "Tract Housing" is a field in which the architectural profession has not been significantly active in recent years and yet such developments are the only areas to which many families can turn for the solution of one of the great human needs—A PLACE TO LIVE AND TO REAR A FAMILY. Something approaching a million homes have been built each year since World War II, a total of over ten million; yet except for the custom house class the architect has contributed relatively little of his talent and training to this problem.

The objective of this competition is to stimulate a major contribution to "Middle Income Homes" through

IMPROVED DESIGN-GREATEST AMENITY FOR GOOD FAMILY LIVING.

PERSONAL LIVING VALUES—AVAILABILITY AT COSTS WITHIN RANGE OF THE MIDDLE IN-COME FAMILY.

COMMUNITY BEAUTY-VISUAL ENHANCE-MENT OF THE COMMUNITY.

Recognizing that wage scales, construction costs and land costs vary throughout the country, a site has been selected representing a norm, as follows:

It lies in the general industrial Great Lakes area on the periphery of a major city.

It constitutes a typical quarter-section farm which, through urban pressure, has become much too valuable to be retained for farming purposes, and has been rezoned for residential purposes. The cost of land—\$4,000 per acre—\$640,000 for the parcel.

It is adjacent to a large scale industrial park now in rapid development for light industry such as electronics, etc.

An adequate water, sewer and high tension electrical service exists in the County road flanking the property.

The existing Farm buildings are dilapidated and can be discounted.

Subsoil is yellow clay with a good thickness of top soil.

In evolving a solution, the following should be considered:

Good employment opportunities exist in the general area. Regular bus service is available on the U.S. Highway to a newly developed large scale shopping center.

The economic problem includes the development of all necessary internal roads, sanitary facilities and utilities and there shall be a proportionate charge against each house or dwelling unit for these facilities. Amenities for community living shall include consideration of safe play conditions for small children and a gathering place for elder citizens. To provide a platform of evaluation, the family income shall range from \$6,000 to \$9,000 per annum and the sales price of the appropriate dwelling units shall range from \$15,000 to \$24,000. Recognition of the trend toward larger families shall be taken into consideration.

Because of the variation of nationwide construction costs, this site shall be considered within the 518 category of the 1957 Building Cost Index, published by Engineering News Record, listed hereunder.

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STATISTICS AND CLIMATOLOGY

AV

PR

BUILDING	COST	INDEX	1957
ENGINEER	ING N	EWS REC	CORD

Atlanta	448	Los Angeles	502
Baltimore	509	Minneapolis	531
Birmingham	462	New Orleans	470
Boston	520	New York	583
Chicago	517	Philadelphia	560
Cincinnati	496	Pittsburgh	552
Cleveland	520	St. Louis	538
Dallas	445	San Francisco	493
Denver	518	Seattle	560
Detroit	537	Montreal	447
Kansas City	509	Toronto	468

	MAX.	MIN.
Jan.	42	7
July	88	68
Extrem	ies 109	-17
EVAILIN	G WINDS	
Jan.	NE	
July	NW	
Averag	ge 12 mph	

HUMIDITY-8 AM Jan. 80% July 75% Normal 50%

PRECIPITATION

Normal 39.34" AnnualSunshine Frequency45%Daytime Cloudiness50-55%Cloudy Days40%Winter Sunshine30%Summer Sunshine65%Dense Fog5%

COMPETITION

"It is our bope that this competition will encourage the architectural profession to direct its great skill and experience to the solution of a recognized national problem. This problem, better bousing for the middle income family, vitally affects all strata of our society. Its solution is properly the concern and responsibility of everyone connected with the bousing industry." SEYMOUR MILSTEIN, PRESIDENT

METHOD OF SUBMISSION

Each submission shall consist of not more than three 30 x 40 illustration boards, used vertically, of sufficient weight to permit handling and display. Drawings shall be in black and white suitable for reproduction. Typewritten information, schedules, etc. may be applied to front of illustration boards. There shall be no projecting lettering or other materials. Each board shall have a thin card mounted face inward on the back with gummed tape, bearing the Contestant's name (or names, if a joint submission), address, and school or office affiliation; a statement signed by the Contestant (s) that this particular submission has not been previously submitted in any other competition; the name of the individual or individuals to whom award check is to be made payable and address of the individual to whom it is to be mailed if award is made for the submission. If the contestant is an undergraduate student he will so indicate on the back of the submission.

Submissions shall be addressed to Mastic Tile Corporation of America and delivered to The Architectural League of New York, 115 East 40th Street, New York 16, New York, postmarked or express receipt stamped not later than 12 Midnight on June 30, 1959, and must be received not later than 12 Midnight on July 10, 1959. Submissions will be returned by prepaid registered mail wherever possible. However the sponsor cannot assume responsibility for loss or damage to entries. Exhibit, reproduction and publication rights are reserved by the sponsor for a period of one year after award.

Submissions will be numbered in order of receipt and each will be anonymous until the Jury has judged the entries which are identified by number only. The Jury shall have full and final power in the selection of all entries for award. By taking part in this program the Contestant(s) agree (s) that he shall have and make no claim against the Jury, any member thereof, the sponsor, the endorsing institutions, on account of anything that may be done or omitted to be done, except for awards made to him. The mailing of the check payable in the amount awarded to the name or names given on the original entry shall constitute full payment of the award.

Notification of awards to entrants will be made by the sponsor as soon as practicable after judging is completed, and payment of award as above shall also be made as soon as practicable.

The Major Award winner will be required to submit an explanatory model of the typical dwelling unit for public display adequately demonstrating his solution within a period of 45 days after date of award. This model shall be made available for display as arranged by the sponsor.

The submission shall indicate in tabular form the proportionate assessment of general development, cost of roads, utilities, etc. together with a schedule of construction cost in sufficient detail to indicate reality of approach. The scope and validity with which the economic problem is faced will be one of the criteria of judgment.

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REINHOLD

way to success?

Dear Editor: I was quite interested in your plea (P.S., NOVEMBER 1958 P/A) for greater recognition of the architect as artist and as individual. This seems a rather strange request at this time when "Big Business" seems the key word and way to success as an architect. This is true all up and down the scale from the Metroformic areas to the pastures and plains. It would seem that we, as architects, are trying desperately to keep pace with the corporate growth so prevalent in our way of life.

I think though there is another and greater reason for this lack of recognition: this being the jealous way in which each architect guards his identity in each project. I think most architects realize that they do not function as creators or even designers, rather they are procurement men of a refined order. How many architects spend the design time that a painter or composer does in the execution of his projects? Very few, to be sure, and in the case of the very large WHO, DONE, and IT-type operations, probably none. In these firms the creativity comes from the boys in the backrooms. These are people never heard of unless they leave and form their own firms-and then the process seems to start all over.

Probably more unfortunate is the attitude that creativity is not required for the successful architectural project. Few architects will risk the loss of commission to satisfy an urge for a "different" building. Creativity is the outgrowth of dissatisfaction with the status quo, but somehow many prefer the anonymity of the same suit, same hat, same shoes as the brethren who may issue forth with the contract. This is the easier and less offensive method of making the dollar. Too few are anxious or willing to change.

If we require this identity (creativity), let us insist that each architect do his own design, his own detailing, have his own personal control over the auxiliary consultants involved in any given project. Some way, insist that the client select his architect upon his personal ability to design. Until then, only hope that some few will make a mark or an impression upon the buying clientele.

One other prejudice the architect must break down is the attitude of the large buyer for "bigness." Buyers of architectural services are primarily interested in size of firm when procuring the services of a firm. Competition is closed, except for an occasional political plum, to the small operator. The cry during the past ten or so years has been: the architect is the co-ordinator, the team captain, the LEADER. Our publications have been full of propaganda that architecture is too complicated for one man. This may be true to a degree, but the profession has sown its own anonymity by such a course, such a public policy. Not until more and more firms begin active pursuit of identity will the architect receive any but the most casual identity. Not until the profession realizes that it must encourage this identity will the architect be anything more than a "drafter of blueprints" to huge segments of our population.

The corporate seed has been sown by our schools and our publications. It has been endorsed by our profession. It seems rather hollow to snap our fingers and say, "By George, what we need is more creativity, more identity!" I would suggest a more pointed publication crusade by the periodicals. Perhaps this will begin to destroy some of the damage done by the lovers of conformity.

> BERNARD N. CAHLANDER Denver, Colo.

information abroad

Dear Editor: I have for the past eight months been traveling from London, across Europe and Asia, and while in each major city en route, have stopped off at the American Libraries. Since I feel that to maintain an up-to-date interest in the profession, while traveling, is necessary, I have been pleased on several occasions to find a current copy of P/A on the periodical stands.

Your coverage appears very adequate and I've found each issue of interest.

> DAVID S. SCARTH American Express Co. New Delhi, India

(Continued on page 32)



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Andersen Windowalls

p/a views

(Continued from page 27)

enthusiasm needed, too

Dear Editor: From the point of view of structural elegance and grace, thin shells offer a potential outlet for the creative talents of the architect and the engineer. Unfortunately, as is characteristic in most creative endeavors, the ultimate product can become a beauty or a beast. If properly conceived and expertly nurtured to its final maturity, the shell structure will stand at the pinnacle of esthetic achievement in man-created environment. On the other hand, when improperly conceived and developed by ignorance, it will stand as a sort of Frankenstein's monster.

Few types of structures are so demanding upon the resourcefulness and talent of their creator as are the thin shells. The *enthusiasm* on the part of the designer does not play an entirely unimpor-



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tant role in this struggle for perfection. It is not at all uncommon that a shell structure is doomed to failure from its very conception only because of the lack of enthusiasm among its otherwise competent designers.

Perhaps more than any other type of structure, the thin shell has to reflect its true nature of strength as a surface carrying element. In its purest form it tolerates no architectural camouflage nor structural absurdities. It is imperative that the achitect who is most responsible for the shell's general geometry and its utilitarian function should possess an innate feeling for the structure and an imagination of its intrinsic behavior as a space spanner. The architect does not have to be a mathematician of note or an eminently theoretical scientist to be able to evaluate the objectivity and weightstrength economy of a particular shape of thin shell which by its architectural function would otherwise suit the purpose of the structure. A solid intuitive reasoning and correct qualitative appreciation of the general behavior of the thin shell as a medium for load transfer is all that is actually necessary to produce a striking and competent design.

When the architect has determined the general form of the thin shell based on the above-mentioned considerations and carried his project no further than a sketch stage, then he should immediately consult a competent shell engineer. The general scheme of his solution and what is just as important-the feasibility of most rational boundary conditions for the shell-should be subjected to a scrupulous scrutiny by the engineer. It is functionally mandatory that the thin shell shall be permitted to receive the maximum limit of boundary support within the confines of architectural expression and harmony. This should be the restraining maxim for the architect in his quest for uninterrupted openness in architectural planning. Only when he gives due consideration to this aspect of shell design can a thin shell afford to support its surface loads gracefully and still be able to possess physical dimensions that fully justify its name.

It is mostly at this stage that the progress of many shell designs seems to take a nose dive. If the architect fails to recognize this aspect of shell design as


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p/a views

(Continued from page 32)

being part of the architectural consciousness in functional planning, he is only pipe dreaming and the actual, engineered, shell structure will have little resemblance to the delicately smooth and flying architectural model that had everybody raving in praise.

Yet, more often than not, a shell structure gets mangled due to the reluctance of its engineer to strain his capability to the limit in order to meet the architectural expediency. The engineer in general being rather meagerly prepared for the appreciation of esthetics and anemic in his knowledge of the fine arts, is prone to be somewhat short of over-all enthusiasm and zealotry. Sometimes occasions do arise when the architect exhibits stubbornness far beyond the point of reason, in order to stick exactly to his original design concept, that eventually costs the shell its requisite quality of lightness and

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structural efficiency. But these cases, as a rule, are rather rare. The architect, being more of a soul-searching philosopher, seldom lends a deaf ear to good advice. When it comes to engineers, the picture is not as favorable. Many engineers are too often inolined to adopt a purely moneywise philosophy in the exercise of their profession. This materialistic attitude brings with it a frame of mind that does not facilitate the architect's task to mold his creation into a shell surface that will be functionally right, esthetically pleasing, and structurally sound.

The writer fully realizes from his own practice of thin-shell engineering in South and North America that it is quite often not so easy for the engineer to meet a challenge in a thoroughly satisfactory manner. Nevertheless it *can* be accomplished, as is demonstrated by many ingenious and original thin-shell structures that have been engineered in Europe.

In the Western Hemisphere the collaboration between the architect and the engineer has not been as successful in producing thin-shell structures distinguished by bold concepts and delicate proportions. The shell engineer of the United States has yet to make his mark in an impressive fashion in this type of construction.

One of the reasons for the greater resourcefulness of the European shell engineer seems to lie in his more extensive formal training in higher mathematics and theoretical mechanics. It is true that theoretical knowledge alone is rather academic, but when coupled with the same degree of practical experience it produces a level of competency that is hard to surpass. Furthermore, in professional practice, the European engineer seems to be more willing to carry out original theoretical investigations and appropriate model analyses in order to promote daring and novel thin-shell structures, than his American colleagues. There is a lot we can learn from this attitude. Many of our engineers are too often satisfied to treat monumental and novel thin-shell structures in a routine manner by applying primitive theoretical methods and conservative engineering concepts to avoid less economical pioneering effort in the development of a daringly light structure. By adopting this viewpoint, the engineer,

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p/a views

(Continued from page 42)

in essence, has refused to accept the challenge offered to him by the architect. When it comes to really important and large-scale projects that could and *should* be milestones in thin-shell construction, then a failure in its engineering is a bitter professional setback for the cause and promotion of thin shells as a means of architectural expression. For instance, two recent grandscale shell projects conceived by two of the most outstanding U. S. architects promised a great display for the engineer's ingenuity, competence, and daring. It came as a surprise to this writer when both shell structures turned out to be clumsy, heavy, and conservative in the extreme. It is hard to believe these shell structures represent the best in theoretical prowess and technological know-how of our structural engineers.



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It seemed quite obvious, judging from the architectural models, that the architects were ill-advised during their preliminary designs and the best advantage was not taken from the architectural features of the projects, that would have benefited the structural behavior of the shells. As more accurate calculations show, the great bulk of the boundary members was unnecessary and their very use introduced difficult stress conditions in the skin of the shells. The resulting conservative structures deducted considerably from the architects' otherwise strikingly original and esthetically stimulating achievements.

The lamentable absence of a cadre of competent practicing shell engineers in America is perhaps explainable by the fact that this continent has not produced a native genius in this field in the image of the great Prof. Dr. Eduardo Torroja of Spain whose influence would have inspired and attracted young talent to specialize in this fascinating field of structural mechanics. As a matter of fact, the writer considers it a must for architects and engineers, alike, who plan to have anything to do with shell structures, to read the autobiography of Dr. Torroja, which is now available in English (see REVIEWS, OCTOBER 1958 P/A), in order to get first-hand information on how the design of shells is properly done, from a man who is probably the only universal genius on the complex art of construction and design in our generation. In addition to his awe-inspiring background in the mathematical theory of engineering mechanics, he has also demonstrated the great utility of scale-model testing in the field of thin-shell engineering and has established the world's most complete model-testing laboratory at the Technical Institute of Construction in Madrid.

The magic circle of competent shell engineers who possess an innate talent for esthetics and could be rated in the same class with Dr. Torroja, Pier Luigi Nervi, and the late Robert Maillart number less than ten. Fortunately for the United States her prospects to assume a prominent place among the leading exponents of thin shell structures have brightened considerably since Prof. Dr. Mario G. Salvadori embarked on his engineering practice of thin-shell design.

> GUNHARD-AESTIUS ORAVAS Asst. Prof. of Applied Mechanics McMaster University Hamilton, Ont., Canada

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UP-IN-AIR CHAPEL SYMBOLIZES BIBLICAL MOTIF California Architect Designs Unusual Structure for Illinois Hospital



MOLINE, ILL.—The hospital chapel, frequently consigned to hole-in-the-corner, left-over space, is receiving careful treatment at Moline Public Hospital. For the existing hospital, San Francisco Architect Henry Hill has designed an arresting precast-concrete free-standing building raised on a single large pedestal and connected by a bridge to the main waiting room on the second floor. Precast, web panels are to be integrally colored gray-gold, with a sand-blasted finish. The open-web units will be filled with concrete panels embedded with copper and amythest-colored glass. The lantern is to be of gray glass in a bronze frame.

The architect explains that the design seeks to capture the spirit of the 90th Psalm: "... for a thousand years in Thy sight are but as yesterday when it is past, and as a watch in the night."

John W. Kruse is Associate Architect on the project; William F. Bernbrock, Supervising Architect; Isadore Thompson, Structural Engineer; Smith & Garthorne, Electrical Engineer; Beling Engineering Co., Air-Conditioning Engineer.





DOMED "FLIGHTEL" PROPOSED FOR MEMPHIS AIRPORT

12

MEMPHIS, TENN.— The design by Memphis Architects Wadlington & Marshall for the airport hotel (or "Flightel") at Memphis Municipal Airport comprises a central core surrounded by three "satellite" units having 15 guest rooms apiece. The central building, roofed by a concrete framework carrying a translucent-plastic skin, will contain a swimming pool, mezzanine lounge and restaurant, lobby, 27 guest rooms, and administrative, mechanical, and service areas. These enclosed facilities can be used year-round. The dome is equipped with acoustical panels for minimizing aircraft noise. Covered walkways connect with the satellite units, which have central stairwells covered by translucent domes. Each room will have a private deck shielded from noise. Since the majority of guests will be from the airport, particular attention was paid to the appearance of the structure from the air.

BARREL-VAULTED AIR TERMINAL TO BE EASILY EXPANDED

ALEXANDRIA, LA.—Two commercial carriers scheduling twenty flights daily and the regional Civil Aeronautics Administration offices will occupy this small terminal facility. Designed by Glankler & Broadwell, Alexandria architects. The building provides public waiting-space and rest rooms, a snack-bar restaurant and kitchen, a concession and vendingmachine area, ticket lobby, baggage pick-up station, and similar facilities for the two airlines, including operations and baggage rooms, managers' offices, and ticket counter space. The CAA will occupy operational and office space on the second floor. The terminal, because of its modular design, is easily expandable from either end—airlines and CAA to expand to the west and passenger facilities, to the east.

Emphasis in design and planning was placed on operation of the terminal with a minimum of personnel. Study produced a simple structural module. Offices and other small areas are divided into two levels with low ceilings. The ticket lobby and waiting area are afforded the full height of the reinforced-concrete, barrel-vault roof. The vaults, repeated over the passenger-loading concourse and over the flight-ramp concourse, are separated by gutters draining down the columns. From the air, the contrast of the gutters with the white marble-chip roof adds emphasis to the vaults. Perforated masonry walls fill the bays above the concourse roof, on the entrance side, and glass walls occur on the apron side of the building. Precast-concrete panels are used as end walls, and can be removed and replaced during expansion.











FLINT CULTURAL CENTER WILL ADD CARILLON, AUDITORIUM, MUSEUM, TRANSPORTATION BUILDING

FLINT, MICH.—Upper Midwest culture received another shot in the arm recently with the announcement of four major additions to the Flint Cultural Development. The Detroit architects-engineers, Smith, Hinchman & Grylls Associates, Inc., prepared designs for a Carillon Tower, a Transportation Exhibit Building, an Auditorium, and a Historical Museum and Art Exhibit Building.

The Carillon Tower will be the focal point of a Commemorative Mall studded with six granite markers bearing the names of private citizens whose support has made the center possible. The base of the Tower supports an air-conditioned glass dome housing the carillon-playing instrument. From this base, spring three stainless steel prongs, rising 105 feet in a "sunburst." Suspended from these prongs is the speaker housing which broadcasts the carillon music.

The Transportation Building (which, with the Auditorium and Museum, makes up the new, northern portion of the center) has a structural frame of steel bents (section above) which houses air-conditioning ducts. It encloses a large, multipurpose space for exhibiting items such as trains, planes, etc. There is a smaller orientation room for 100 persons. Exterior is glass, anodized aluminum, and porcelain enamel.

The Auditorium, which will seat 2500, has complete facilities for stage productions. The architects state: "We are stressing the direct accessibility by car; protective overhangs, accesses to the main house and balcony, also a large lobby and recreation area on the mezzanine overlooking the Plaza."

The Historical Museum and Art Exhibit Building has a permanent "period" collection plus changing contemporary exhibits. The former is shown around an interior, glass-roofed court. The changing exhibits are located in a one-story section under a folded-metal roof. The exterior is treated with three-dimensional, porcelain-enamel skin.



CALIFORNIA HOSPITAL TO REPLACE OBSOLETE STRUCTURE

Association of Several Small and Medium-Sized Firms Gets Hospital Commission

How is it possible for the small architectural firm to get the large commission? This is a question plaguing many an ambitious, frustrated (and presumably talented) younger practitioner. An important hospital commission in the Los Angeles area which recently was won by a <u>combination</u> of smaller firms may point the way to at least one solution to this problem.

"Project Architects" was originally formed to make a strong bid for the coveted Los Angeles Air Terminal commission (sought by practically all of the larger architects in the area, and ultimately won by the by-no-means small organization of Pereira & Luckman—now Charles Luckman Associates). Although the members of "Project Architects" (Arthur B. Gallion, Douglas Honnold, John Rex, A. Quincy Jones, Frederick Emmons, Maynard Lyndon, and Raphael S. Soriano) did not succeed in that first attempt, the idea of collaboration, and the degree of successful teamwork which the attempt had indicated possible, made them decide to continue the joint arrangement. The San Pedro Community Hospital commission is the first important, tangible result.

Key to the procedure these architects have devised is a double professional life. Each of the individuals (or firms, in the cases of Jones & Emmons and Honnold & Rex) continues to maintain its own identity, and to solicit and complete commissions on an independent basis, operating from separate offices. At the same time, the commissions secured on a joint basis will be executed from a project office, participated in by various members of the combined firm, according to previously agreed-upon time allotments based largely on experience in relation to the particular project.

This apparently perfectly feasible method of double professional life is being investigated by a number of other groups of smaller practitioners in several parts of the country. As the San Pedro Community Hospital project reaches the end of the design phase and nears construction, it is pleasant to be able to report that this means of co-operative practice evidently works.

The San Pedro Community Hospital will replace an existing structure. The new building provides four floors of nursing unit bedrooms, totaling approximately 145 beds. Arrangement is principally double rooms opening off a central corridor, with the majority of rooms facing south and a view of the Pacific Ocean. Specialized services such as obstetrics and surgery are located in a separate wing on the second floor, and the first floor contains administrative offices, outpatient services, coffee and gift shops, elevators, and ambulance entrance.





66 Progressive Architecture

CONSTRUCTION LEADS RECOVERY

by Frederick Gutheim

Construction is certainly leading the nation back from what ever kind of "depression" we have been going through in the last couple of years. Government forecasters have come up with an expected record total of \$52.3 billions in 1959. Four-fifths of the 7 percent increase over last year is attributed to new housing and highways. A slight decline in building types of the greatest architectural significance is anticipated due to decreased outlays for commercial and industrial buildings and warehouses. In the private-building sector, substantial gains are expected in new stores and shopping centers, restaurants, and garages. Government office buildings, jet airports, hospitals, and schools are also expected to increase. If you want to jot them on your cuff, some facts to remember are: approximately one-third of the total \$52 billions construction figure is for highways; two-fifths of the total is for housing; and total expenditures for construction by local, state, and Federal governments come close to another two-fifths.

 President Eisenhower's admonitions that liberal elements in the Democratic Congress will be curbed by their more conservative colleagues in that party are now being tested as committee appointments are made and a legislative program developed. It is probable that he is right. It is inconceivable, of course, that the resounding victories of the recent campaign will not somehow be reflected in legislation. Federal aid for school building is one program that will probably be enacted. But the outlook for sweeping legislative policy changes in the next year is remote. Rather, the legislative climate will be one of maneuver. Jockeying between Congress and the Executive branch will be a major activity. Almost everything will reflect nominations and issues of the Presidential campaign of 1960. Congressional investigations, particularly those looking toward legislation on domestic issues in 1961, are especially worth watching. Nothing of significance is apt to be offered by the Administration. "This is a growing country with a growing population, and the needs of the present and future cannot be satisfied on a 1900 or even a 1950 scale of values," Washington Post & Times Herald pointed out last month. But there is little prospect that-for such areas of real need as housing and urban renewal, health services, or aid to economically depressed areas-any program will be offered. One group that will not be satisfied with this is American Municipal Association, whose recent convention heard a procession of figures like Senators Clark and Javits urge stronger Federal support of urban programs. Another group comprises supporters of the \$275 millions Douglas-Payne depressed-areas bill, which was vetoed by the President last summer. (Political analysts have noted that 10 of 13 Democratic senators who replaced Republican incumbents, and 37 out of 47 switches in the House, came from surplus-labor areas that would have qualified for Federal aid under his bill.)

• A monument to Franklin D. Roosevelt is proposed on a 27-acre site across the Tidal Basin from Jefferson Memorial, that has been designated by National Capital Plannning Commission. The project is the conception of an official Franklin D. Roosevelt Memorial Commission, headed by former Attorney General Francis Biddle, and is expected to be the subject of an international architectural competition.

 Prof. Christopher Tunnard of Yale University, in a letter to New York Times, has called attention to the extraordinary architectural opportunities that are present in the \$68 millions Federal office building that General Services Administration will erect on Foley Square, lower Manhattan. The structure will be the largest Federal office building outside Washington, and nearly half the size of the Pentagon here, or RCA building in New York. It will be designed by an architectural consortium embracing Kahn & Jacobs, the Office of Alfred Easton Poor, and Eggers & Higgins. Tunnard wrote, "I have always felt that Foley Square as it stands now just misses being one of the outstanding governmental open spaces in the United States, being surpassed by the San Francisco Civic Center, among others. This is largely due to the awkward triangular shape of the road pattern (a square in name only!). It has several notable public buildings, but is lacking in a plan. If it is possible to shape up the west side so that the area is at last comprehensible as a real square (the proportions are good), New York will have achieved a really magnificent governmental center." With "one new building and the help of New York's excellent traffic engineers, a tangible demonstration of the principles of Alberti and Michelangelo can be made, and I believe with every assurance of success."

This splendid appeal, written after the publication of General Services Administration's sketch of this project, has particular force in New York City. But in how many other cities are we dissipating the values of urban space by heedless and unrelated decisions in such fields as public buildings and highways? To spot such waste and do something about it is a job in city planning that only architects might be expected to do. Professor Tunnard deserves a public vote of thanks—and I hope others will follow his lead.



RESTAURANT AND PLANETARIUM PLANNED FOR NATION'S CAPITAL



WASHINGTON, D. C.—A 600-seat seafood restaurant, a 150-seat steak house, two cocktail lounges, and a 1000-seat planetarium will vie for the attentions of Washingtonians and tourists at the proposed Hogates Restaurant and National Planetarium, designed by Justement, Elam, Callmer & Kidd, Architects, with William Crandall Suite as Design Consultant. The area receives traffic from a freeway and a mall, requiring careful planning for both vehicular and pedestrian traffic on the site. There is two-level, undercover attendant parking. All eating and drinking facilities are under one roof; the seafood restaurant on the ground floor, and the steak house on the mezzanine. A major design factor for the Planetarium was a 6000-pound Foucault pendulum, which has been suspended from a free-standing arch.

DUNE-HOUSE DESIGNED TO RESIST HURRICANES

EAST HAMPTON, N. Y.—A house to face the Atlantic Ocean on the southern shore of Long Island—which should weather the buffetings of wind, sea, and sand—has been designed by Slater & Chait, New York architects. The house is actually on a triple-view site, since it faces a pond visited by migratory birds on the side away from the ocean, and a sunset-viewing terrace on the west. The roof line, said by the architects to be reminiscent of the repetitive roll of waves, is repeated in the interiors. Downstairs is a utility room and bathers' shower which later will be made a full bath. A luxury note is a dumb-waiter which carries cooling draughts down to thirsty sun-bathers.

The house is supported by Y-shaped columns, permitting through passage of waves, wind, and sand during heavy weather. During warm months, the space under the house can be used for parking and for shelter of beach and terrace gear. Columns and beams of glued-laminated wood increase the resistive strength of the house.



PRECAST ARCHES HIGHLIGHT DESIGN OF PHARMACEUTICAL BUILDING

Yamasaki Places Building on Football-Field-Sized Podium

MENLO PARK, CALIF.—An administration building/warehouse has been provided here for the branch office of Parke, Davis & Company, by Architect Minoru Yamasaki (of Yamasaki, Leinweber & Associates, Detroit). The two major elements of the structure are the glass-walled administration building and the 24,000-sq-ft warehouse building. The branch office sits in a restricted industrial park, facing a freeway. Since the site slopes downward from the freeway, Yamasaki noted that motorists would be able to see only the upper portion of the building. He therefore placed the entire structure on a concrete podium, bringing it to the level of the highway.

The warehouse roof was developed through a combination of economics and esthetics. A regulation flat roof covering 24,000 sq ft would have required many supporting columns, and would have presented a rather mundane appearance. The Yamasaki solution of precast concrete arches tied to-



gether with steel ties requires the support of only six interior columns and the concrete walls, and serves as an eyecatching advertisement for the company. The roof consists of 64 precast quarter-sections, weighing 51/2 tons each.

As one of the main design aims was employe welfare, the designer has provided a courtyard separating the administrative and warehouse units. Redwood benches encircle this court, and there are a fountain, trees, and planting. The employe dining room gives onto the patio through sliding glass doors.

Particular attention was paid to the materials-handling program in the warehouse. A system of order-picking racks, storage racks, and packing facilities was installed; and a method of conveyorized processing of packed orders (below) was developed.

Associated with Yamasaki on the project were Knorr-Elliott Associates of San Francisco.



 Sixth Annual PROGRESSIVE ARCHITECTURE Design Awards Banquet is scheduled at Fairmont Hotel, San Francisco, Jan. 16. Minoru Yamasaki announced as main speaker and P/A Editor Thomas H. Creighton to present Awards. Following day, seminar is scheduled on two Award Winners, at University of California College of Architecture.

• Ludwig Mies van der Rohe has joined Yale School of Art & Architecture as Visiting Critic. . . . Business Meeting of Society of Architectural Historians, Cleveland, Jan. 30. . . . Georg Jensen, Inc., announced winners of 8th Annual Frederik Lunning Prize. Poul Kjaerholm, Danish furniture designer, and Signe Persson, Swedish ceramist, will share the \$5000. . . . Herbert V. Kohler, president of Kohler Co., named "Man of the Year" by National Association of Manufacturers.



• First U. S. design by Italian Architect Gio Ponti unveiled last month on New York's Fifth Avenue is Alitalia (Italian Air Lines) ticket office. Walls and floor are decorated with ceramic tiles by Fausto Melotti, in shades of blue and white embodying sky colors, colors of airline. Lighting, furniture, decorations are all by Italian artists and artisans.

• First major exhibition celebrating Frank Lloyd Wright's 90th year is taking place during January at Grace A. Dow Memorial Library, Midland, Mich. Exhibits, personally selected by Wright, emphasize Michigan work, and includes original presentation drawings, working drawings, models, photographs, furnishings from Michigan homes. Major portion of exhibition will proceed to Corcoran Gallery, Washington, D. C., then to New York's Metropolitan Museum of Art, where it will open on Wright's 90th birthday. Active in assembling exhibition was Midland Architect Alden B. Dow, who studied under Wright. Dow presides at special architect-viewing of Wright show Jan. 18.

• Committee to Preserve American Art has been formed in New York as a "small, mobile group to act quickly and save sculpture, murals, metalwork, stained glass, and any other architectural embellishment threatened by building demolitions." Francis Keally, president of Fine Arts Federation of New York, is chairman and members are Adlai S. Hardin, president of National Sculpture Society; Charles Baskerville, president of National Society of Mural Painters; Karl H. Gruppe, vice-president of National Academy of Design; and Thomas M. Beggs, director of National Collection of Fine Arts, Smithsonian Institution. When architectural art is threatened, alert the Committee at 17 E. 49 St., New York 17, N. Y. First triumph of the new organization was through its fast action to transfer to City of Indianapolis the monumental Karl Bitter sculptures on façade of Western Electric Company's St. Paul Building, turn-ofcentury New York skyscraper now being wrecked.

Pereira & Luckman became Charles Luckman Associates when Luckman bought out William L. Pereira's shares of stocks and interest in the firm. . . . Robbins L. Elliott appointed executive director of Royal Architectural Institute of Canada. . . . National Floor Covering Exposition, New York Coliseum, Feb. 19-23. . . . American Concrete Institute, Los Angeles, Feb. 23-26. . . . National Lighting Exposition, New York Coliseum, Mar. 1-4. . . . Architecture/Northeastern Pennsylvania, Everhart Museum, Scranton, Jan. 9 (architecture selected and introduction at opening by William Caudill of Caudill, Rowlett & Scott). . . . Selected panels from recent AIA show of student work will be sent to Germany for International Student Exhibition and Conference. . . . Northern Illinois Chapter, AIA, sponsors First Annual Construction Industry Seminar Feb. 19-20, Rockford, Ill. . . . College of Fine Arts, Carnegie Institute of Technology, has received endowment of \$5 millions from A. W. Mellon Educational and Charitable Trust (among provisions is Chair in Architecture).

 Harvard will receive first high-rise buildings with addition of two 12-story residence halls by Shepley, Bulfinch, Richard-



son & Abbott. Towers will have glass and limestone exteriors, will share courtyard with a new library building. Three buildings will be part of College's Leverett House.

• Opening of exhibition of work of Sculptor Costantino Nivola at New York's Architectural League in December was marked by panel discussion moderated by Paul Nelson. Speakers were Nivola, Thorne Sherwood (Sherwood, Mills & Smith); Richard Stein (Architects Associated); James Johnson Sweeney (Guggenheim Museum); Arthur Drexler (Museum of Modern Art). Subject was "Collaboration between Architect and Artist," which Nelson described as ideally having contrapuntal relation, enhancing and highlighting each other. He also proposed consideration of contractual form between architect and artist which would pinpoint responsibilities of both. Exhibition is League's first one-manshow in 28 years.



• Twenty-one-story Norton Building will be constructed on sloping site in Seattle. Structure, to sit atop platform housing garage, will have curtain-wall system composed of aluminum members, dark-gray-glass panels, and tinted-glass windows. Part of platform will be landscaped as a plaza. Architects are Bindon & Wright, Seattle; consulting architects are Skidmore, Owings & Merrill, San Francisco.

• Latest addition to Detroit's ever-growing municipal facilities is Wayne County Jail expansion. Designed by Eberle M. Smith & Associates, Architects-Engineers, building provides maximum-security detention quarters for 251 male prisoners. Vertical and horizontal circulation is combined in link between old and new buildings. Peripheral guards' corridor, in addition, surrounds double bank of inmates' cells and corridors. Cells are backed up to central utility/airexhaust shaft. Outer walls of typical cell block are ob-



scured white glass with porcelain-enameled-steel spandrel panels; continuous protective/decorative steel grill is set out from curtain wall between columns.

• New York architectural firm of Voorhees, Walker, Smith, Smith & Haines (name recently lengthened by addition of Charles Haines) announces withdrawal of Ralph Walker and Stephen F. Voorhees. Both Walker and Voorhees will continue to serve firm as "consultants."

• "Twentieth Century Design from the Museum Collection" exhibits through Feb. 18 "useful objects"—furniture, household accessories, machines, even a Paris Metro gate—acquired for New York's Museum of Modern Art collection. Chosen by Arthur Drexler, Director of Department of Architecture and Design, and Greta Daniel, Associate Curator, for their quality and historical significance, objects show background of contemporary design, beginning with Art Nouveau.

Aluminum Experimental House for Alcoa by Charles M.
 Goodman & Associates, Washington, D. C., architects,



proposes design of system of aluminum components which act as structure as well as enclosure. Skeleton frame acts as electrical raceway, as well as structure; infilling panels are nonloadbearing foam core sheathed in deformed-aluminum sheet on exterior. Roof is also system of foam-core panels sheathed in deformed aluminum.

• Third Annual R. S. Reynolds Memorial Award program has been announced. International-award program, for design of "significant work of architecture, in the creation of which aluminum has been an important contributing factor," will be judged May 11-13. Feb. 2 is deadline for submission of nominations form, and May 4 for submission of data binder. Further information: R. S. Reynolds Memorial Award, American Institute of Architects, 1735 New York Ave., N. W., Washington 6, D. C.

• Cornell University announces fellowships, scholarships, and assistantships in architecture, landscape architecture, city and regional planning, painting, and sculpture; applications must be made before Feb. 13. . . . Mar. I is deadline for application for fellowships, scholarships, and assistantships at Princeton University School of Architecture. . . . Atlantique, French-American Association, announces openings in three French architectural firms for year's experience, part of society's cultural exchange program. Applicants must be graduated from accredited American school of architecture, speak French, and "be interested in international relations." Inquiries: Miss Yvonne Bourguignon, Executive Director, Atlantique, 972 Fifth Ave., New York, N. Y.

• Speaking at a seminar on Fabricated-Steel Construction last month, Bethlehem Steel's R. E. Wilmot, Manager of Sales, Structural Shapes, asserted: ". . . there is now and will be for the foreseeable future, all of the structural shapes that are and will be needed, when they are needed." Representing the structural-steel fabricators at the same meeting, AISC's Pres. H. B. Dieterich commented: "We prefer to think of the fabricators as having limitless capacity in the can-do business, and total production capacity limited only by the supply of raw material. This raw material problem we feel has now been solved."

• Three-unit Telegraph Hill apartment building in San Francisco commands cineramic view of Bay and Berkeley-Oakland Hills. Precipitous site dictated stacking of apartment units on concrete trestle. Access is by Calhoun Terrace which connects by platform to top of building. Each apartment has two levels; bedroom (upper) level is interior balcony which provides double-height living room with 18' windows toward Bay view. Architects: Sazevich, Garcia-Reyes, Kirby; Structural Design: William B. Gilbert & Associates.





• Winners (above) of AIA's Third Annual Exhibition of Architectural Photography announced at opening of Exhibition at Octagon (it will continue there through Feb. 22, then be circulated by Smithsonian Institution's Traveling Exhibition Service). First prize winner is by Warren Reynolds, Infinity, Inc., Minneapolis, Minn. Subject is May D & F Department Store, Denver, Colo., by Architects Ketchum & Sharp, New York. Second prize is by Mason Pawlak, Lens Art, Detroit, Mich. Subject is Hickory Grove Elementary School, Bloomfield Hills, Mich., by Architects Smith, Tarapata & MacMahon, Inc., Birmingham, Mich. Third prize went to Art Hupy, Seattle, Wash., for his interior photograph of Architect Eero Saarinen's Alcoa Carefree Home in Bellevue, Wash. Jury for competition consisted of G. E. Kidder Smith, Nicholas Satterlee, and Lionel Freedman, president of Architectural Photographers Association.

• First knighthood for "contribution to the history of architecture" was conferred in last Birthday Honours upon Sir John Summerson, Curator of Soane Museum in London and author of <u>Heavenly Mansions</u>, among other architectural and historical works.

• Construction is underway on new Central Research Laboratory building for Texas Instruments, Inc., in Dallas. Structure consists of three, connected, one-story wings running east-west on sloped site, between which are two-story building blocks, running north-south. Blocks will provide transition between levels and house library, cafeteria and other service and mechanical areas. Architects are O'Neil Ford, San Antonio, and Richard Colley, Corpus Christi, with Associated Architects A. B. Swank, Dallas, and S. B. Zisman, San Antonio.



• Theme of 1959 AIA Convention in New Orleans, June 22-26, has been announced as "Architectural Design." Future conventions are: San Francisco, Apr. 18-23, 1960; Philadelphia, Apr. 23-28, 1961; Dallas, 1962; Miami, 1963; St. Louis, 1964. AIA Public Relations Committee announces renewed contract with Henry J. Kaufman & Associates as AIA PR counsel.

• Producers' Council, Inc., has elected new officers: president, H. Dorn Stewart, Barrett Division, Allied Chemical Corporation; Ist vice-president, Elmer A. Lundberg, Pittsburgh Plate Glass Company; 2nd vice-president, Henry E. North, Jr., Arcadia Metal Products; secretary, T. D. Wakefield, Wakefield Company; treasurer, H. L. Cramer, Westinghouse Electric Corporation.

• Redevelopment Authority of Philadelphia has announced its decision on architects and developers of Society Hill project (NEWS SURVEY, November 1958 P/A, pages 36-37). Riverfront area will be designed by I. M. Pei & Associates, for Webb & Knapp; and area near Washington Square will be by Harrison & Abramovitz and Stonorov & Haws, for the Thomas Jefferson Square Corporation.

• Tallest building in Canada will be completed by 1962. It is 42-story, 565-foot Canadian Bank of Commerce Building in new block development called Windsor Plaza in downtown Montreal. Plaza will also contain 22-story office building and remaining section of Windsor Hotel (older part was demolished to make way for Windsor Square). Buildings will be separated by plazas containing fountains and sculpture. Architect, Peter Dickinson, Toronto; Associate Architect, Max Roth, Montreal. One of first garment factories to be combined under one roof and moved away from New York's over-crowded garment center is Barkin, Levin & Company, Inc., Long Island City, New York. Designed by Ulrich Franzen, New



York architect, structure has reception-display-office area (above), which is connected with plant via glass-enclosed passageway. Building recently received Industrial Building Award from Queens (N. Y.) County Chamber of Commerce.

• AIA has new film on church architecture, "A Place to Worship." Film on commercial structures, "Buildings for Business," also will be ready soon. These join "What Is a House?" and "A School for Johnny."





Chase Manhattan Building, to be completed in New York City in 1960. Architects: Skidmore, Owings & Merrill. General Contractors: Turner Construction Co. Structural Engineers: Weiskopf & Pickworth AP-PROVED SPRAYED "LIMPET" ASBESTOS Applicator; E. B. Carley & Co., Inc.

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U.S. ECONOMY REBOUNDING

By William Hurd Hillyer

It is a well recognized New Year's custom for profitprophets, official and unofficial, to pre-appraise the oncoming twelvemonth as if it were a train of freight cars. Customary, too, is the high optimism presumably demanded of this chorus by its listeners. Such optimism is today excusable, perhaps justified; for the economy is rebounding vigorously under auspices increasingly favorable. Cautious analysis is nevertheless imperative. "Quick-starting runners do not always get their second wind," observes Federal Reserve Bank of San Francisco. The comeback will be more soundly based and likely to go further if restraint is shown, New York's largest trust company maintains. Fortunately, the trust institution notes, the recovery to date has not been accompanied by appreciable increases in over-all price levels.

Construction activity helped to cushion the recession and is perhaps the largest single factor in the current recovery. Throughout both periods, new bank buildings have arisen unceasingly, providing commissions for architectural skill. Now comes the Federal Reserve Board, asserting its right to authorize or deny the establishment of bank branches in buildings, new or old, by member banks. The outcome may have "historic value," not only as affecting "competition between banks in a given area" or as limiting the erection of new banking quarters, in some cases, but also as marking the entry of another Federal instrumentality into financial and business counsels. Therein lies the true significance of the Board's action, regardless of its merits. Government was chief stemmer of the recession by means of inflationary deficit spending; today a Government agency, over-riding state and local authorities, assumes control of bank-branching units in present or prospective quarters. The general trend is well marked and may even invade the realm of architectural specifications and fees.

• Sales of municipal bonds, prime sources of public-construction funds, exceeded \$7 billions in 1958, Investment Bankers Association is told. A larger sum is expected for '59. Of the reported total—a new record—\$2.1 billions went into highways and engineering projects, leaving about \$5 billions for public edifices. As for new construction, public and private, top-ranking producers of building materials foresee a volume of more than \$50 billions in 1959 well ahead of the \$49.7 billions during the year just closed. Other trade authorities set up a target of \$70 billions, taking into account modernization and repairs.

• Divergencies of price trends for certain basic materials reflect wide changes in building design and augment costfigurng complexities. For example, cement is going up while plywood is coming down: a 15-cent rise per barrel is announced by leading cement producers, while fir-plywood mills are facing further declines from the recent drop of \$4 per thousand feet. Obviously, these tendencies had their origin in design patterns, which in turn take into account the resultant ebb and flow of costs. Be that as it may, lumber remains the basic building material, and for this the outlook is bright, as seen by National Lumber Manufacturers Association. A weighted average of replies in the Association's latest survey forecasts a 3.8% rise in lumber output and an increase of 3.5%, or 1,107,500 total of new private and nonfarm housing units for '59.

• At long last, the output of steel ingots boasts a plus sign, as compared with the previous week and also with a year ago. The yearly rise is exceeding 8.5%, the American Iron & Steel Institute reports. Two other bellwethers—bank clearings and electric-power production—gained respectively 5.8% and 3.7% over the previous year's corresponding total, say Dun & Bradstreet, Inc., and Edison Electric Institute. Total personal income is holding firm despite labor disputes; the annual figure is up nearly \$10 billions as compared with 1957, according to latest official reports. Another encouraging sign is in the consumer sector: automobile production climbed to 514,000 cars in November the best comparative showing for the 11 months.

 Homebuilding, which showed firm resistance to recession, is responding better to recovery than many other economic areas. It will continue to play a stabilizing role, says Federal Reserve Bank of Kansas City. Aided by plentiful mortgage funds at reduced interest rates, homebuilding is in a stronger position than at any time since 1954-55 and is hailed in some quarters as "the leading factor in economic recovery." How long will this expansion continue? Federal Reserve reminds us that U. S. Treasury is being obliged to pay stiff rates for funds and this may make mortgage money harder to get. However, "a continued high level of activity in the next few months is indicated by the large volume" of FHA-VA loan applications. Impetus for the upturn or its reverse has been and will continue to be furnished by the mortgage market, rather than contributory items such as population growth, the Bank makes clear. Once more, the key to the future so far as new buildings are concerned is seen to be financial.

• Gains in "virtually every area of business," including construction, are reported by Federal Reserve Bank of Chicago for its highly industrialized district, as reflected by increased loans to business concerns reported at yearend's approach. Loan demands for November were up \$42 millions, compared with October's drop of \$92 millions. The construction loan increase was \$2 millions for the final November week, more than wiping out a \$5 millions drop for the month as a whole. Nationally, inflation fears are lessened by a faint stirring: Administration talks economy and strives to curb the deficit. Such policies are potentially more stimulating to business expansion than the grandiose spending programs that have been urged as recession panaceas. All 20 of the industrial groups in Federal Reserve Index are showing strength. Production is "on the upgrade," says Chase Manhattan Bank. "Yet there are disturbing signs" that the recovery itself could generate inflationary problems. Meanwhile, summarizes The First National Bank of Chicago, improvement continues in new orders, production, construction, employment, and income.



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p/a news report: products





ASSEMBLY SYSTEM OF MILL-ROLLED COMPONENTS SPEEDS CONSTRUCTION

Nailless, weldless, screwless, and glueless-these qualities characterize a new metal-assembly construction method conceived by Paul Kratzmaier, of Neoterics International, Ltd., Nassau, Bahamas. Suitable for walls, floors, roofs, or partitions, the new system consists of mill-rolled components which so interlock that the tensile and compressive forces set up between the members automatically hold the panel assembly together. Basic pieces are the skins—exterior and interior faces-C-beams, and X-beams. When combined (as in drawing) a highly useful, cellular, structural panel is produced which can conveniently accommodate various electrical services as well as receive batt- or paper-honeycombtype insulation. The panels are far stronger than normal construction uses call for. The metal surfaces can be painted or papered and, as reported, do not require taping or gasketting where contiguous surfaces are joined. Practically any panel depth can be produced, as governed by end use in construction. Costs are competitive with conventional construction practices and in many instances can permit significant savings.

Among other advantages of this construction technique claimed by its designer are: (1) a house made of these panels can be radiantly heated and cooled without addition of pipes or ducts; (2) as much as 50 percent savings in heating fuel costs; (3) savings in size of air-conditioning plant up to one-half capacity; (4) all piping can be supported internally in the walls; (5) structure will require less expensive foundation; (6) maintenance problems greatly reduced; (7) elimination of lathing and plaster, interior wallboard, attached acoustical tile or insulation; (8) structural and physical specifications exceed the Southern Building Performance Codes. Neoterics International, Ltd. **100**

p/a news report: products



101





102

103







Curtain Walls Have Built-In Air Conditioning

Curtain-wall innovation has air-conditioning units as integral part of panel. Installed like conventional curtain walls; only special equipment needed is electrical connection for air conditioning. Although appropriately spaced units condition whole building, room occupant can control own temperature. 101 Michael Flynn Manufacturing Company

Bulb for Incandescent-Fluorescent Changeover

Availability of new fluorescent screw-in bulb makes possible quick switch from incandescent to fluorescent area illumination. Unit is self-contained in drawn cover case with on-off switch and two bulbs. Available as end mount, top mount, side mount.

Herbach & Rademan, Inc.

102

New Acoustical-Ceiling Tiles Appear

Ceiling patterns may be given a new look with uniquely styled acoustical tiles. Mineral-fiber Deluxe Minatone, 12"x12"x5%", has random small perforations extending onto beveled edge of tile, producing unbroken pattern effect. Low-cost, metal-pan Gridtone has random perforations in two sizes scattered over a field of directional bars set in relief for a three-dimensional ceiling design. Also introduced, Golden and Silver Travertone have gold or silver flecks imbedded in fissures of mineral-wool tiles. 103

Armstrong Cork Company

Window Tilts In for Cleaning

Double-hung window, called Monumen-tilt, tilts in for cleaning from floor level inside. Hinged glass sash and vertical sliding sash which carries it are double weatherstripped. Any type glass up to $1/2^{"}$ insulating glass may be used. Maximum window sizes 4'-6" wide x 8' high. 104 Fleet of America, Inc.

Furniture Has Micarta Surfaces, Sculptured Bases Polychromatic Micarta surfaces and sculptured cast-aluminum bases enliven new Charak Modern collection. Four-door chest of sienna Micarta, framed in black walnut, has hinged doors which retract into frame. Interiors are custom-engineered. Cabinets are produced in blue Micarta with cream walnut or in natural English oak with black walnut; pulls and bases are sculptured, cast aluminum. Designer Donald Deskey.

Charak Furniture Co.

105

Foam-Core Panels Fulfill Many Uses

Modular panels having cores of Dylite expandable polystyrene are applicable for facings of many types both interior and exterior. Panels exceed FHA specifications for loadbearing panels in houses, afford ease of handling and installation. NAHB Research House utilizes panels featuring exterior facings of redwood siding and plywood: interiors of plywood, Philippine mahogany, Masonite, Gypsum board, brick veneer; and roof of two kinds of plywood. 106

Koppers Company, Inc.

Steel Panels Are Filled with Urethane Foam

Panels made by U. S. Steel Homes and tested in actual installations, recently, are filled with Nopcofoam, a polyurethane foam. Units proved to be easy to manufacture, damage-resistant, and of superior insulating quality. In production, liquid plastic is poured between steel in molds, then hardens into all fissures inside panel. Nopco Chemical Company **107**

New Lighting Fixtures with Color, Shape, Interest Believing that lamp shades should be "easy to look at," with "no glare, and no hot spots over the light globe area," Designer Jason Harvey has created a collection of lighting fixtures, light constructions, and lamps of natural wood and Japanese paper laminated over vinyl. Results are effective translucency and diffusion of light. Collection includes simple hanging fixtures and complex free-standing light constructions, scuptures of wood, colored and white shapes, light and shadow. Custom-made, lights retail from \$45. Jason Harvey 108

Headboard Unit Engineered For Contract Work

Bed-Bax integrates headboard, night tables, bed lights, and writing shelf in a single piece of equipment installed at any height. May be ordered to length and finish for individual installation. Wall-hung unit eliminates visual confusion, simplifies maintenance, may be removed for rearrangement of components, and is fitted for installation of standard plug strip to eliminate dangling cords. Contract finish is lacquer and wax-rubbed maple with glossy white hardware; oiled walnut with dull-black hardware, 15% additional. Work surfaces are white plastic. Designer: Leo L. Fischer. Architectural Furniture Components **109**

Device Ends Eraser-Pounding

Trayvac, built-in vaccum chalkboard-tray inlet, is designed for rapid, easy elimination of chalk dust from trays and erasers. Can be installed on chalkboards in new or existing schools having central vacuum system. Dust simply pushed to inlet with eraser; eraser itself cleaned by passing lightly over Trayvac opening. H-P Products, Inc. **110**

Interest Develops in Raised-Floor Systems

Flooring designed to support data-processing and other heavy electronic equipment requiring flexible underfloor power cables increasingly occupies architects' attention. Most systems employ screw jacks supporting metal grid, which in turn supports floor panels that are removable to provide access to space beneath. Floors are appropriate for other uses, including industrial, where accessibility of subfloor ducts, lines, etc., is desirable.

Unistrut Products Company	111
United States Plywood Corporation	112
Bel Air Industries, Inc.	113

Triangle Tiles Offer Design Possibilities

Ceramic triangular tiles are available in Hermosa's Dura-Glaze colors, can be used to create new shapes, color effects. Currently available finish is Diamontex; obtainable later will be Dura-Glaze, Satin Matte, Bright Glaze. Gladding McBean & Company **114**

p/a news report: products

107 109



110

108

111 112 113







p/a news report: products

Glass Block of New Size/Color Increases Designer's Range

Many more design possibilities are now offered to the architect, with availability of a new rectangular glass block, 4" wide by 12" long, that can be used in combination with the familiar 6", 8", and 12" (square) units. Supplementing the designer's palette still further, the new glass blocks are made in the following vigorous colors: blue, green, red, yellow, and orange. They are also available in jet black and in pure white. The 6" units have the same hues-and the 8" squares are offered in gray and walnut. Pittsburgh Corning Corp. 115

Vinyl Flooring Tile Resembles Marble

Cirrus design vinyl flooring tile is said to have a translucent quality and unique multilevel directional graining. Nine basic colors: black, yellow, dark brown, tan, red, dark green, light green, gray, white; black, white are also produced with gold metallic veins. Available in 9" and 12" squares in .08 gage and 1/8" thicknesses.

The General Tire & Rubber Company

116



Interchangeable Panels Extend Flexibility

Modular office furniture, Steelwood, features wood panels that snap into steel frame. Versatile arrangements of desk, file, credenzas may be planned; versatile color themes may be achieved by combining steel frames, in black, white, or seven colors, with wood panels, in seven colors or natural walnut, or with aluminum panels. Desk tops are walnut, gray, or beige high-pressure laminate. Robert John Co.

117





Plywood Panels Have Interesting Grain, Texture "Charter Walnut" (shown) and "Charter Oak" are additions to Weldwood line which also includes "Charter Birch" and "Charter Pine." Panels are cut from logs especially selected for unusual grains.

United States Plywood Corporation

New Furniture Suits Many Uses

Simplicity of line distinguishes desks, cabinets, tables, seating in this Architective furniture. Conference tables-rectangular, round, square, or boat-shaped—with a substantial overhang and without leg stretchers provide comfortable all-around seating. Bases are walnut or ebonized; tops are walnut, teak, rosewood, or plastic laminate with a 21/4" shaped solid-wood edge; legs rest on adjustable nylon cushioned domes. Tables are from 8' to 24' long. Upholstered seating group has pedestal base sheathed in walnut or stainless steel. Natural walnut desks and cabinets are finished in clear lacquer, linseed oil, ebony, or a special open-pore mat lacquer. Desks may have outside or under-mounted legs, flush or overhanging tops, and pedestals 12" or 18" high; 11/4"-thick desk tops are walnut veneer or plastic with wood edge. Cabinets, without bases, 12" or 18" high and 38" or 56" long, may be wall-hung or bench-mounted. 119 John Stuart, Inc.

Packaged Radiation-Shielding Window

Pre-engineered, copper-lined window, using zinc-bromide solution, effects substantial cost reductions compared to all-glass unit. Suitable for laboratory, hospital, processing plant, other installations, and built to Argonne specifications. "Aquarium" window comes ready for mounting in concrete wall-stepped, to prevent radiation rays from leaving room if concrete shrinkage develops during aging. Available in four sizes, and special order sizes. 120 Research Equipment Co.

118

Wide Range of Fabrics Offered by New Showroom

Fabrics designed by Edward Wormley mark debut of a new showroom offering great flexibility in design, production, and service to architects, interior designers, and furniture manufacturers. Wool on two-color warp creates raised strip in double-faced Repoussee, an upholstery cloth available in a variety of rich or quiet colors; retail, approximately \$20 a yard. For upholstery or drapery, Madeira is woven of pure noil silk in random narrow lines; retail, approximately \$21. Appia and Piazzeta, restrained linen sheers, in white-onwhite or white on colored ground; retail for about \$4.80 a yard.

Franklin Harward Fabrics, Inc.



New Upholstery Fabrics Introduced

Striped Guilford and textured Middlebury, both woven of wool and rayon, are part of The Vermont Group of fabrics. Available in a wide range of vibrant and subtle colors; designed by Elisha Prouty. Retail, \$9.75 a yard. 122 Isabel Scott Fabrics Corp.

Translucent Acoustical Element

Soundsheet provides shielding media in wall-to-wall area lighting-combines acoustical and light-diffusing properties, with noise-reduction coefficient of .70. Available in two types: corrugated, supported on T-bars, with hold-downs; flat, stretched in frames for drumhead tightness. Can be ordered either translucent or opaque, in white, or color. 123 Contrex Co.

Floor and Wall Backing Eliminates Guesswork

"Sure-Set" backing for floor and wall tile allows sheets of tile to be set face-up into cement or mastic, with pattern showing. Removes danger of pattern mix-ups during installation. Necessity to remove paper hitherto used to hold patterns in place is eliminated—faster installation and lower labor costs. Polyethylene backing is waterproof. High percentage of bonding contact to tile area and linear edges prevents any shifting of sheets on walls. 124 Stylon Corp.

Architectural Tiles Use Multiple Textures

Ceramics, glass, metal strips, marble chips, Italian mosaics, and sgrafitto technique are composed in concrete-latex tiles for a wide variety of colors and surfaces-from smooth to deeply textured, from plain to richly patterned-which may be used in any combination for full or partial wall patterns. Hand-executed tiles are available in 4"x4", 4"x8", 8"x8", 12"x12", or custom sizes (and designs), may be applied to wood or metal with standard mastic. Prices: \$6.60 for 4"x4" tile, \$13.20 for 8"x8" tile on orders of 10-sq-ft or more; on orders of more than 100-sq-ft, discount 15%. 125 Karl Mann Associates

Comfortable, Colorful Folding Chair Available

BTC Chair is produced in four models: Decorator (padded seat and back, shown); Panel (walnut or birch seat and back); Caribbean (perforated-steel seat and back); Tom Thumb (child-size versions of other three). Adaptable in wide range of color schemes. Folds for quick, compact storage. Designed by Robert Martin Englebrecht. (Right) Brewer-Titchner Corporation

"Syncretizer" combines winter functions (heating, ventilating, natural cooling) and summer functions (ventilating, mechanical cooling, dehumidifying)-for classroom, other assembly-area installations. Suitable for use with pneumatic, electric, or electronic temperature-control systems. Available in five sizes, from 500 to 1500 cfm standard air: may be integrated with matching open and closed Nesbitt storage cabinets.

John J. Nesbitt, Inc.

127

Self-Contained Heat Pump Operates Air-to-Air

Compact heat pump is designed for heating, cooling residences and small commercial areas. Dimensions: 29 9/16" x46"x52". Outdoor coil can be defrosted electrically without removal of heat from conditioned space. Conditioned air can be discharged three ways: horizontal throw, vertical upthrow, vertical downthrow.

York Corp., subsidiary of Borg-Warner Corporation 128



Folding Door Adds Texture

Wovynfold, folding door or room divider, is woven of wood slats and vinyl. In natural, beige, off-white, and gray, door is available in 11 stock sizes.

American Accordion-Fold Doors, Inc.

129

Range Features Pull-Out Oven

Oven of new, 40-inch electric range slides out of range cabinet for ease in cleaning. Oven-top lifts off so that back wall may be reached. Range also has automatic, spatter-free broiler. (Below right)

130 Frigidaire Division, General Motors Corporation



p/a news report: manufacturers' data



A continuing difficulty, in that area of the building industry which concerns itself seriously with the nature of materials and methods of construction, is the definition of quality. When an architect speaks glowingly of the quality of materials, he is often accused of thinking in terms of cost (admittedly a factor); when a builder's eyes glisten as he describes quality in certain materials he uses (or wants to use) he is often suspected of partiality; when a manufacturer, in his technical literature, describes his products as of "quality" level, he is, of course, suspected of proprietary promotion. But quality, where it exists, goes deeper than that. Kawneer, in a new booklet titled Building Design and Execution: A Joint Search for Perfection, tries to describe this characteristic (in relation, of course, to its own products, but in rather objective terms) and succeeds quite well:

Man reacts to buildings and records his reactions, says a foreword, somewhat like a camera . . . "but as a camera that continuously records, interprets, and reacts. Most of this is done subconsciously, and it is done with a kind of logic that is often baffling. These reactions determine whether a building performs its function admirably or miserably . . . or just sort of plugs along."

In well phrased and handsomely illustrated spreads, the points are made that: perfection is man's ultimate but unattainable goal; everyone is a critic of line and detail; flaws are not amusing in architecture; color, and condition of color, determine a large part of building-users' reactions today; compromise (fine in politics) is unacceptable in an art such as architecture; construction time, so important in today's building, is largely a factor of the quality of materials installed.

This is real "soft sell'—but if architects are as concerned as they should be with "perfection of design and perfect execution of that design," it should attract favorable attention to Kawneer's "quality" argument. (T.H.C.) The Kawneer Company

200

AIR AND TEMPERATURE CONTROL

Heat-Transfer Fluid for Snow-Melting Systems

Manual describes use and properties of Dowtherm SR-1 heat-transfer fluid specifically designed for thermal snowand ice-removal installations. An aqueous ethylene-glycol solution, it also has applications as a secondary coolant in air-conditioning systems, and in hot-water systems which may be periodically subjected to freezing.

Organic Chemical Sales, The Dow Chemical Company 201 (20-p.)

Evaporative Cooler for Gas Air Conditioner

Folder describes and illustrates TG-10 and TG-15 Series coolers for use with all-year gas air conditioners-stresses advantages of less weight, volume; simplified construction, maintenance, installation; less power consumption. New material for cooling surfaces consists of plastic-bound cellulose specially impregnated to make it water absorbent and resistant to deterioration. Complete specifications and data included.

Arkla Air Conditioning Corporation (4-p.)

High-Velocity Valve for Engineered Air Distribution

Catalog presents engineering data, dimensional and application information, for high-velocity Uni-Flo Model R air valve. Composed of gang-operated, neoprene vane sections-



provides simple, positive control of velocities and pressures, and assures linear control of air volume. For a variety of applications-can be used in single-duct, or in double-duct systems to mix hot and cold air.

Barber-Colman Company (Catalog F-8752, 7-p.)

²⁰²

Editor's note: Items starred (\star) are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.

CONSTRUCTION

Aluminum Grating and Treads

Brochure features product illustrations of chemical, corrosion-resistant Electro-Pressure welded rectangular grating of various wearing surfaces—Relgrit aluminum-oxide abrasive embedded nonskid grating; U-type; radial; and numerous styles of stair treads. Includes complete engineering details, from panel sizes, weights and loads, to surface treatments and fastening methods—ordering specifications. Reliance Steel Products Co. (16-p.) 204

Formable Rigid-Sheet Flashing

Folder explains characteristics and specific properties of Nervastral rigid-sheet flashing—formable, homogeneous, waterproof, protective compound for exterior and interior applications—in a wide range of types of construction. Contains elements of polyvinylchloride and other highpolymer resins—has thickness of 20/1000", approximate weight of 20 to 21 oz. per sq yd. Specifications for installations included.

Rubber & Plastics Compound Co., Inc. (AIA 7A1, Bulletin 133, 8-p.) 205

Poured-In-Place Roof Decks

Booklet details nine important advantages of poured-in-place gypsum roof decks. Provides complete application notes including data on design, weight and thermal properties working drawings for a typical gypsum roof deck construction.

The Celotex Corporation (8-p.)

206

207

Aluminum-Strut Dome

Folder describes fabrication and erection of aluminum-strut dome serving as economical temporary showroom or storage shelter for commercial, industrial, and agricultural use. Features are ease and speed of erection and disassembly at low cost-transportability to selected location, and relocation. Height 16' at center; diameter 57'; covers 2500 sq ft floor space. Structure weighs 850 lb—translucent sealed vinyl-clad nylon envelope weighs 450 lb—withstands winds of hurricane velocity when properly anchored. Packaged in cartons for easy handling.

Capitol Products Corporation (4-p.)

DOORS AND WINDOWS

Reinforced-Plastic Windows for Working-Area Safety

Folder contains complete information on Structoglas "A" shatterproof reinforced-plastic windows for industrial and commercial uses. Substantial cost savings are claimed through elimination of replacement and reglazing, maximum ease of installation and maintenance, admission of large-area diffused natural daylighting to reduce artificial lighting expense. Available in corrugated or flat panels and panes adaptable to continuous pane, monitor, skylight installation. Structoglas Division, International Molded Plastics, Inc. (4-p.) 208

Easy-Operating Steel Windows and Screens

Catalog describes windows and screens for institutional and other installations calling for ample ventilation, easy operation. Specifications plus structural and installation details are given for 11/2" Heavy-Intermediate and 11/4" Intermediate windows—in full range of projected, casement, and combination types. In addition, architectural projected, Simplex casement, and industrial windows in commercial projected and horizontally pivoted types are presented—also specifications for basic mechanical operators.

Ceco Steel Products Corporation (Catalog 1001-N, AIA 16-E, 36-p.) 209

Interchangeable Glazing in Sliding Glass Door

Catalog reviews features of aluminum sliding glass doors— Series 250 for single glazing, and 1000 Series which permits interchangeable glazing of 1" dual, 5%" dual or 1/4" single glass—shop or field glazing, as well as interchangeability of glass without disturbing the framing installation, are special features of the 1000 Series. All lines are all-weather products, tested for water infiltration impermeability. Catalog



contains 1/2 size, perforated removable detail sheet for architectural tracing, with suggested specifying data to save time and space in specification writing. Includes cutaway drawings, and photographs of existing installations.

Miller Sliding Glass Door Co., Inc. (AIA 16-E, 7-6.) 210

Minimum Friction and Distortion in Folding Door

Brochure illustrates construction of Foldoor fabric-covered sound-insulating folding door, incorporating special design features providing: minimal hinge friction; absence of ceiling rub; elimination of billowing causing fabric distortion; neatness of hardware and all-around installation; narrow profile for pocket installation in wall storing. Available in sizes to fit all openings—in range of vinyl fabric textures and colors. Operation details, specifications, included.

Holcomb & Hoke Mfg. Co., Inc. (AIA 16-M, 15-p.) 211

Grained, Figured Glass for Decorative Uses

Booklet offers numerous ideas for the use of translucent lightdiffusing glass for exterior and interior application, in traditional and contemporary homes—available in figured patterns, and in a quantity of grained surfaces. Varying degrees

CONTINUOUS ROLLING GYMSTANDS

motorized!



Now ... in place of 4, 5, 6, or 8 individual gymstand sections along a wall, Wayne lets you have one sleek, sweeping bank of seating the entire length of your gymnasium. Yes, a complete unit ... seat, foot and riser boards ... in one continuous section.

Opens and closes automatically with the turn of a convenient key switch, makes use of every

See Wayne's Continuous Motorized Seating* at the AASA Convention, Atlantic City, Feb. 14-18, 1959





WAYNE IRON WORKS, WAYNE, PENNSYLVANIA Rolling Gymstands • Outdoor Grandstands • Folding Partitions • Basketball Backstops

p/a sixth annual design awards

As PROGRESSIVE ARCHITECTURE's Design Awards Program enters its sixth year, one thing becomes ever more apparent. Though Juries may disagree heartily over a particular project, a continuing consensus is that the search should be for something beyond basic competence, even a high degree of competence. The Jurors see and analyze a school, for example, that is capably planned and nicely designed. But they will then question: "What contribution is there here?" Or: "This approach has been done repeatedly; it's a good solution; but shouldn't we look for points of departure, rather than points of arrival?" Mere novelty, however, is pushed aside quite as quickly as shopworn work. This year's painstaking Jury took this same general view of the nearly 600 projects submitted:

"We are looking for qualities beyond mere function," commented Architect Hugh Stubbins, of Cambridge, Massachusetts, Chairman of the Jury. "We look for a clear architectural expression; something that contributes to development of this expression."

"Shall we say that the folded plate is not the universal answer to all roofing problems?" queried Milo S. Ketchum of Denver, who was the Engineer member of this year's Jury—after viewing a hundred or so entries, with every fifth one (more or less) indulging in the folded plate in some form or other.

Ladislav Rado of the New York firm of Antonin Raymond & L. L. Rado, Architects, emphasized the point that "novelty" was not the goal of the Jury's deliberation. "We are not necessarily looking for something that is 'different,'" he remarked, "but rather something that expresses a very clear, strong idea in a complete way."

"Something that gives the observer a compelling esthetic experience," was the way Architect Philip Will of the Chicago firm of Perkins & Will, attempted to name the thing desired.

The fifth member of the Jury, Minoru Yamasaki of the Birmingham, Michigan, architectural firm of Yamasaki, Leinweber & Associates, echoed the general feeling that "function and function alone doesn't make architecture. . . . What we seek here, I think, is a wholly consistent development; some quality besides competence."

The Jury worked two long days winnowing out what they considered to be the most contributory submissions. Finally, with 29 projects set aside for honors, they determined which ones should receive Award Citations; which should rise to the level of Design Awards; and what single one might deserve the accolade of winning the over-all First Design Award. Their findings constitute this issue.

first design award

Capitol Towers, Sacramento, California

Wurster, Bernardi & Emmons-Edward Larrabee Barnes-DeMars & Reay Architects









Capitol Towers for Capitol Mall Redevelopment Corporation (Roger L. Stevens and James H. Scheuer; James S. Lanigan, Executive Director), Sacramento, California: Wurster, Bernardi & Emmons, Edward Larrabee Barnes, DeMars & Reay, Architects; Mayer, Whittlesey & Glass and Dreyfuss & Blackford, Associated Architects; Karl Treffinger, Job Captain; Lawrence Halprin, Landscape Architect; Carl Feiss, Planning Consultant: Nathaniel S. Keith, Housing Consultant; Joseph E. Spink, Civil Engineer; William B. Gilbert, Structural Engineer; G. L. Gendler & Associates, Mechanical Engineers. At a time when Urban Redevelopment is much in the public consciousness, and both proposals and finished projects are daily news items, it is hoped that this First Design Award will arrest the attention of architects, planners, developers, civic officials, and all others concerned with the rebuilding of our cities. This project, prepared with unusual care, should stimulate reflection, stock-taking, and thorough study. The site, a four-block area not far from the Capitol, will be the first portion of a larger Redevelopment Program which will eventually affect most of the city's west end. Unlike most current projects in which use, coverage, and density are rigidly prescribed for the planners, the program, in this case, was jointly developed by the Redevelopment Agency, the private developers, their architects and consultants. Thus,

urban design: First Design Award







an earlier proposal of an all-high-rise project has been replaced by a design which encompasses both high- and low-rise units and places particular emphasis on intensive ground-use, on the separation of pedestrian and vehicular ways, and the shaping of exterior spaces. Density has been lowered from the original 110-145 persons-per-acre to 80-85. On the other hand, parking accommodations have been increased to 100 percent for low-rise units, 75 percent for the apartment towers in three multilevel garages (left). Parking for the low-rise units will be in cul-de-sacs, leaving the interior of the site free of vehicular traffic. It is anticipated that most tenants will make use of the central pedestrian way to reach the shopping center, bordering the project on the west, and in walking to their offices lying generally east. The three reinforced-concrete apartment towers (plan and elevation above) on either side of the pedestrian way

urban design: First Design Award

will principally provide efficiency units—all with balconies. Since living quarters are not planned for sale, but for rental, the unique design of the low-rise units was feasible. Most of these are made up of two-story structures containing one-bedroom apartments (below). Except for a few three-story structures with duplex units, all apartments are on one level—the upper-story balcony apartments will be oriented toward the parklike public courts (acrosspage top), while the ground-floor apartments will face in the opposite direction toward private gardens (acrosspage bottom). In this way, tenants are offered maximum privacy and are given a choice of viewing and using an outdoor space



which is either tenant or management maintained. To further the visual interest even more, and to increase the amount of privacy, apartments have been staggered. Breezeways have been introduced at the points where apartments are offset. In this way, the architects have been able to BALCONY - I BR SECOND FLOOR PLANS

maintain the urban character of the closed square while ventilating the courts. Narrow pedestrian ways will thread through the project, interconnecting the low-rise courts with the highly individual courts of the high-rise-one using the water motif, the second to be a quiet sitting court, the third to have a grove of palm trees. It is intended to use color on the stucco-on-frame, low-rise structures-giving each court a different color in the spectrum, relating each court to the next. In summary, the Jury was particularly pleased with the informal, yet orderly interplay of the vertical and horizontal building masses; the excellent use of the grounds; the ingenious design of the low-rise units, which are both economical and livable; and the solution of the parking element. Unanimously, the Jurors considered this project an important piece of work and a highly sensitive design-one which stood above all the others for qualities that went well beyond mere function.





urban design: Award Citation

Charles River Park Redevelopment for Charles River Park, Inc., Boston, Massachusetts: Victor Gruen Associates, Architects; Edgardo Contini, Associate-in-Charge of Co-ordination; Ben Southland, Associate-in-Charge of Planning; Rudolph L. Baumfeld, Associate-in-Charge of Architecture. A 40-acre area of central Boston is to be cleared to accommodate 3-story town houses as well as 16- and 20-story apartment towers for 2400 families. To avoid "the inhumanity of gigantism, the rigidity of repetition, the anonymity of multiplicity," the site will be subdivided into 5 neighborhoods, each housing 400 to 500 families. "Each group of buildings," write the architects, "is clustered around a court-each court different from the other in orientation, in dimensions, in character." The neighborhoods, all free of internal vehicular traffic, will be linked by a continuous park-the new "common." Such elements as schools, churches, children's nursery, and shopping facilities are to be served by a loop road and reached from the living quarters via pedestrian walks. Consistency of architectural treatment will establish unity.





commerce: Design Award

Terminal Building, Robert Mueller Municipal Airport for City of Austin, Texas: Fehr & Granger, Architects; Herbert Crume, Associated Architect; W. Clark Craig, Structural Engineer; Herman Blum, Consulting Engineer. "There was no desire on the part of the city to build a massive monument." Instead, say the architects, "the design was conceived as a large unified shelter providing flexibility and openness." Of greatest importance in the planning of the terminal was the smooth flow of circulation -pedestrian as well as vehicular. Second, it was essential, in anticipation of the rapid growth of commercial air travel, that the building be planned for expansion without destroying its unity, and without disrupting operations during future construction. A third and equally important consideration was economy. Floor construction is to be concrete. The roof will employ steel trusses 24' o.c. and 5' deep. Curved diamond-shaped trusses will form cantilevers on either side of main trusses. Roof and ceiling surfacing is to be of lightweight concrete. The tower will have a concrete frame, using aluminum and glass on the exterior. "The roof structure and control-tower shape," explain the architects, "are a conscious effort to get away from a static silhouette and create a dynamic structure which would be pleasing from the air as well as the ground. It is hoped the building will express something of the spirit of progress which exists in air travel today." The Jury considered this building an excellent solution in planning, as well as design expression, and wished to distinguish it as Runner-up to the First Design Award.











The Tree House for Duquesne Inclined Plane Company, Pittsburgh, Pennsylvania: Steinhardt & Thompson, Architects. An extraordinary site on the brow of a 45-degree slope, several hundred feet above the confluence of the Allegheny and Monongahela Rivers, was chosen for this building. It is to house a 300-seat restaurant with an elaborate bar and private dining rooms commanding a magnificent view. The existing 80-year-old funicular, which runs from the river's edge and a parking lot to the restaurant, will transport the restaurant's patrons. "The funicular railway machinery," say the architects, "is highly decorative and will be exposed to public view in the middle of the building, visible from all levels." Extensive terraces, and an open roof terrace protected by translucent plastic, will enlarge the restaurant's capacity in the summer, and will provide ample facilities for outdoor dining and dancing. "Difficult soil conditions," write the architects, "demand a minimum number of footings, a problem which has been solved by the tree-shaped piers, branching off as they rise." The structural frame is to be of aluminum. Exterior walls will be almost entirely of glass, to satisfy the patron's demand for a "table with a view." (See also page 161)







commerce: Award Citations







Office Building for the First New Haven Corporation, New Haven, Connecticut. Earl P. Carlin, Architect; Peter Millard, Partner-in-Charge; Henry A. Pfisterer, Structural Engineer; M. Menkus, Mechanical Engineer. This small office building is to be erected on a narrow site in a highquality business neighborhood. Design requirements were: maximum flexibility of floor area; on-site parking; economical construction; natural daylighting; and high esthetic appeal. In the proposed scheme 80 percent of the ground level has been devoted to parking. Office areas, on two floors above, make use of a 6' module, permitting several arrangements. Daylight is introduced on both floors through skylights in roofs of set-backs. Through these, walls are uniformly light-washed. Construction is of precast concrete members. The Jury particularly commended the ingenious day-lighting solution for a confined site of this type.







Pine Lumber Sales Display Building for Pine Lumber and Supply Company, Redford Township, Michigan: Hawthorne & Schmiedeke, Architects. Sales space and office facilities were required for merchandising of household hardware and items of interest to the "do-it-yourself" customers, as well as outdoor domestic tools and supplies. Interior space has been divided symmetrically about the central office section and checkout counter-a practical arrangement for ease of supervision and service by minimum personnel. The structure is to be roofed by double-acting plywood vaults. These will be braced by 3'-deep plywood box girders and supported on wood columns 12' o.c. "The undulating fascia will be formed from 4'x12' stainless-steel sheets," say the architects, "bent along the two curved lines of a hyperbola, producing a three-dimensional transition." Walls are to be of a decorative wall block, to be merchandised by the company.



s and have been to



Oak Park Shopping Center for Morris Kravitz, Clifton Heights, Pennsylvania: Thalheimer & Weitz, Architects. Two existing food markets (far right of photo above), situated a quarter-mile apart on the site, influenced the design of this shopping center to a large degree. After preliminary studies exploring the use of the "central mall" plan, 1, and the "one-directional" plan, 2, these proposals were eliminated in favor of the "cluster-type" plan, 3. This scheme was found to be most workable in relation to the existing markets, and the natural contours of the site. By adopting this plan it will also be possible to maintain an existing tree-covered elevation, and to surround the building with parking space, giving equal access to all stores. Architecturally, the designers felt, "the cluster scheme would provide both grand and intimate spaces for shopping."











commerce: Award Citation



Lac Qui Parle Farm Center for Gerald Michaelson, Dawson, Minnesota: Willard Thorsen, Architect; James E. Stageberg, Associate-in-Charge. This shopping center is designed specifically for the county's farm population, invited to use the center for business as well as pleasure. "The central display and lobby area," explain the architects, "besides being a focal point for the entire building, will provide the space for this social purpose, and also for displays of agricultural interest. . . . The exterior is given the desired "agricultural" atmosphere by the large outdoor-display area in front of the building." Portions of the roof (*indicated by small squares on plan*) will be assembled of precast shells with skylights at their apexes. The larger, peaked roof squares have been redesigned as flat-joist roofs, Exterior walls are to be of precast concrete sections (*acrosspage*) with a strong relief pattern.



192







commerce: Award Citations



Bank for Wyoming National Bank, West Side Branch, Gateway Shopping Center, Edwardsville, Pennsylvania: Eyerman & Hoban, Architects; Dennis I. Page, Project Architect. The problem of lending sobriety and identification to a bank in a sea of neon, plate glass, and billboards, was met by breaking the continuity of the center's canopy and by giving the entrance greater depth and perspective. The square plan was the result of available frontage, space requirements, and the need for entrances from parking areas at front and rear. Windows have been kept to a minimum—the main banking area will be lighted by clerestories. Construction is to be steel—with concrete block, brick veneer, marble and porcelain fascia panels.





Furniture showroom for Ralph M. Galloway, Sarasota, Florida: Victor A. Lundy, Architect. The circular structure will be clearly visible from both directions of the heavily traveled Tamiami trail. To keep the property as parklike as possible, three beautiful existing pines have been incorporated into the design of the two entry courts, and a traffic-resistant grass will be planted in the parking area. "The structure," says Lundy, "is a radial morning-glory scheme of laminated-wood arches, 16 in number." Furniture is to be displayed below and above a circular mezzanine hung from the arches, in an area restfully dark, friendly, and away from glare. Gray glass is being considered for glazing the entire building.

industry: Design Award

Central District Filtration Plant for City of Chicago, Illinois: Water Filtration Process and Plant Operation Planning, Filtration Design Division, Bureau of Engineering, City of Chicago, Designers; Naess & Murphy, Architects-Engineers; Stanislaw Z, Gladych, Chief Designer; Mitsuru Otsuji, Senior Designer; Clement Cummings, Designer; Walter E. Miller, Designer; Carolyn J. Henderson, Designer; Dan Kiley, Landscape Consultant. The architects' role, in this instance, was to shape the city's well developed functional solution into a harmonious architectural expression. The portion of the building complex particularly affected in the redesign is the central structure, which will house administrative offices, chemical and research laboratories, storage, maintenance shops, the pump house, the chlorine building, and an entrance lobby on the first floor (acrosspage, below). A second and third floor above this central building will accommodate general office areas, bacteriological laboratories, chemical room, and additional storage. Its structural frame is to be of reinforced concrete with waffle flat-slab floor system. Into the anodized-aluminum frame of the exterior curtain walls will be set heatabsorbing gray glass and precast exposed-aggregate wall panels. Filter beds to either side of this central structure are to be roofed by a series of concrete shells. The entire complex is to be located on 61 acres of man-made land which projects into Lake Michigan. The Jury considered this project a great step forward in the design of publicservice structures; they felt, however, that its placement along Chicago's most desirable waterfront was ill-advised.















public use: Award Citation

Court House and Office Building for Santa Cruz County, Santa Cruz, California: John Lyon Reid & Partners, Architects-Engineers; Burton L. Rockwell, Partner-in-Charge; Rai Okamoto, Job Captain; Warren H. Radford, Project Architect; Alexander G. Tarics, Structural Engineer. This new building is to be erected on a site bordering San Lorenzo River in a central-city area cleared as part of an urban redevelopment program. "A one-story scheme has been adopted," the architects state, "for maximum public convenience, efficient relation between departments, and economy of construction." Convenient for the public and completely surrounded by public lobbies are the four courts-two municipal, two superior-and the supervisors' meeting room. These facilities have been given additional prominence through increased ceiling height. Lobbies open on the west toward the business district, on the east toward the river and a foot bridge. The two building elements to either side of the central area will house offices. Construction will be long-span, using prestressed concrete.





public use: Award Citation

Public Library for Pascagoula, Mississippi: Carl L. Olschner & Associates, Architects; Kenneth L. Warriner, Jr., Design Associate; George S. Schrenk, Structural Engineer; A. R. Salzer & Associates, Mechanical Engineers; Consultant, Mrs. Lura G. Currier, Director, Mississippi Library Commission and President, Public Library Association, Division of American Library Association. In addition to space for eventual 100,000-book capacity and a 200-seat auditorium, this library will also be the base for extensive book-mobile and branch-library services. Spe-



cific requirements were, that the main entrance be placed at ground level and that all areas be easily supervised by a small staff. Because of the limited site, it was necessary to place book stacks on the mezzanine. It was further requested that the library interior be open to view. This has been achieved by pierced-brick screen panels (Flemish bond, without headers) which will permit a view into the library, while still offering a sense of protection from the busy thoroughfare. The same white-brick panels, in Flemish-bond pattern, with recessed headers, will enclose the auditorium. Structurally, both auditorium and library will be steel framed—exposed portions of steel to be covered with anodized aluminum in a brown finish. The building is to be air conditioned. (See also page 162)






public use: Award Citation

15 Harrison Pr

130



St. Croix Forestry Camp, Youth Conservation Commission, Pine County, Minnesota, for the Department of Administration, State of Minnesota (Arthur Naftalin, Commissioner; A. J. Nelson, State Architect): Parker & Johnson, Architects; Leonard S. Parker, Partner-in-Charge of Design; Meyer & Borgman, Structural Engineers; Olson, Emanuelson & March, Mechanical Engineers. First stage





of an eventual development that will include athletic facilities, offices, classrooms, and shops; this is the nucleus of a minimum-security institution for juvenile delinquents, between the ages of 14 and 16. The 3 dormitory units, each sleeping 20 boys, are grouped around a central, flat-roofed day room (sketch above), which also serves as a centralcontrol point for security at night. The hexagonal dining hall, with a teepee-like roof, has windows on all sides and enjoys a view of the nearby Tamarack River. Perhaps the most arresting structural element is the repeat of the catenary form of the hung roofs over the dormitory units -a roof system that will also be used on future units. Catenaries between the laminated-wood beams that span these units transversely are formed by 1/4"x11/2" steel straps, hung on 4'-0" centers. On these, 2"x6" T&G decking is used, with a 11/2" layer of rigid insulation, and the finished roofing above that.



religion: Award Citation

Calvin Presbyterian Church, Long Lake, Minnesota, for the Minneapolis Presbytery (Willard Reeves, Director, Board of Church Extension): Parker & Johnson, Architects; Leonard S. Parker, Partner-in-Charge of Design; Meyer & Borgman, Structural Engineers; Olson, Emanuelson & March, Mechanical Engineers. The main element of a complex (see site plan) that will eventually include a Fellowship Hall, Chapel, and Classroom Building, this church, planned around a "Central Table," will provide seating initially for 170, with space provided to accommodate 300 at a later date. To be built on a 7-acre site in the Lake Minnetonka region, the church was consciously designed to provide a landmark in the landscape. In the initial stage, though the total Sanctuary will be built, about half of the space will be temporarily closed off for use as classrooms. When the classroom wing is constructed, this space will be added to seating for the congregation. The "steeple," crowned by a continuous skylight, is on axis with the main residential street of the neighborhood. "The opposing 'boomerang' planes of the roof are supported on two large 'A' frames at the east and west walls," the architects tell us, "and on heavy masonry walls on the north and south low ends."





















Psychiatric Hospital and Neuro-Psychiatric Institute for State of Tennessee (Frank G. Clement, Governor), Memphis, Tennessee: A. L. Aydelott & Associates, Architects-Engineers; Charles Jen, Design Associate; Sterling Pettefer, Production Associate; Alston Guttersen, Consulting Architect. On a 71/2-acre site adjacent to Memphis medical center, this campus of facilities designed for treatment and rehabilitation of the mentally ill is composed of a series of related elements. Most prominent unit is the multistory, 200-bed hospital for inpatient adults, of which a typical convalescent floor plan is shown 1. Adjoining this to the west is a one-story acute-treatment center for children, with its separate outdoor-activities area. At the southwest corner of the site is the Neuro-Psychiatric Institute that will house laboratories, training facilities for psychiatric personnel, and (it is hoped at some later date) two floors of adult inpatient nursing units 2. Occupying the east end of the property, a therapy building is planned 3 that would include bowling alleys, gymnasium, swimming pool, auditorium, classrooms, and general-purpose rooms. In commenting on the design, the architects say: "In this building there is an awareness of the great advance in successfully treating mental illness; the design goes beyond the mere physical planning for functional operations. The psychological impression on the patient is considered to the point of creating many features calculated to instill warmth and beauty, friendliness and sympathy to him, and to inspire cheerfulness and confidence in him. At the same time, the effect on the outsider is to stimulate a more reasonable attitude toward these people and a better understanding of modern care for the mentally ill."

January 1959 137



Dolphin Club, Bucks County, Pennsylvania: Robert L. Geddes-Melvin Brecher-George W. Qualls, Architects; David Bloom, Consulting Engineer. The swimming facilities for a private club that will also include baseball diamonds, tennis courts, basketball and volleyball courts, and picnic grounds, this lightsome group consists of two bathhouses, snack bar/ office unit, and sunshade umbrella, plus three pools-one for diving; one for swimming; the third, for children. The complex is organized on two, paved, curvilinear terraces, one 4 feet higher than the other. Bathhouses, snack bar, and sun umbrella occupy the upper terrance and overlook the pools below and trees beyond. A screen consisting of pipe columns and reinforced-plastic panels is curved around the upper terrace on the east, south, and west, both to shield the automobile approach and to provide a sense of enclosure for the pool activities. Vaults of the bathhouses and umbrella, like this surrounding screen, are of molded, reinforced plastic in a variety of colors. The retaining wall and building walls are white-painted concrete block laid up with stacked joints. The umbrella is a tubular-steel structure.





Sportsman's Rest for David Horsburgh, Sarasota, Florida: John M. Crowell, Architect. This structure is to be built on land leased from the municipal government and is to be operated as a recreational facility for the benefit of those who fish and boat in the Sarasota Bay area. A cluster of four identical reinforced-concrete umbrellas on pile foundations will roof the larger of the two structures. Skylights between the 4 square roof slabs will serve to illuminate the main circulation areas and to ventilate the building, Walls will be of glass or specially made curtain-wall panels (*right*) of lightweight cellular concrete, faced on both sides with sea shells. A fifth umbrella will shade and shelter an openair picnic area. Interconnecting walks and boat docks are to be of wood, as will be all railings and seats.











Prefabricated Aluminum House for Antilles Development Corporation, Virgin Islands: Gunnar Birkerts, Designer; Lyndon Welch, Structural Consultant. The vacation house was designed to be prefabricated in the United States, shipped to the Virgin Islands, and erected there with a minimum of skilled labor. Roof, floor, and wall panels aluminum-faced with polystyrene core—are to be splined and adhesive-bonded. Piers, considered heavy by the Jury, will be of the same construction. Columns and beams are to be aluminum extrusions. Anodized-aluminum grills will serve as sunshades. The Citation was given on the basis of structure, rather than plan.





House, Parkersburg, West Virginia: Gerald E. Henniger, Designer. The client required the following: two bedrooms; separate facilities for guests; space away from the living area for art pursuits and hobbies. By separating living area and guest/studio quarters by an entry court, and by using the sloping contours of the land, a unique sense of space has been achieved within the 60'x250' urban site. The spatial experience is yet heightened by contrasting the openness of the living-room level with the seclusion of the upper-level bedrooms which are to be shielded by a softly translucent-plastic screen (*above*). The structural frame will be combined with used brick, painted white; glass; and quarry tile.





residential: Award Citations

Speculative House for Tacoma Master Builders, Tacoma, Washington: Robert Billsbrough Price, Architect. The client's requirements were: to design a residence for a typical flat inside city lot, which would incorporate three bedrooms, living and dining rooms, family/kitchen/utility area, covered parking space for two cars, and an off-street parking area for guests' cars. In addition, a swimming pool and cabana were included in the design. Construction of the simple, rectangular house will be of wood, using three laminated beams, $2'' \times 6''$ joists, and built-up roofing. Floor construction, over crawl space for heating and plumbing installation, is to be of $2'' \times 6''$ decking on beams. Brick and cedar will be introduced at screen walls. The Citation was awarded on the basis of excellent utilization and organization of land.











House for Memphis, Tennessee: Francis Gassner, Architect; Thomas Nathan, Associate. This house for the architect's own use will be sited on a 100'x185' heavily wooded lot in a well established urban neighborhood. Three bedrooms were required and a ceramics studio for the owner's wife. In developing the 2400-sq-ft plan it was the architect's design wish "to develop a house that could not be encompassed at a single glance, but rather one that would unfold as the spectator progressed through it." Structurally, the house is planned on a 6'-and-12' module, using steel-tube sections with welded connections for columns and beams. The floor will be a slab on grade. Walls are to be prefabricated, modular units of exterior plywood, vapor seal, honeycomb core, and prefinished interior panels. Triangular sections of similar construction with a surfacing of built-up roofing will form 12' square roof pyramids which will occur over the major interior spaces "to spatially emphasize these areas both externally and internally." (See also page 163)

residential: Award Citation





Desert Community, for National Park Service (Dr. Conrad Wirth, Director), at Entrance to Petrified Forest National Park, Arizona: Neutra & Alexander, Architects: C. Howard Miller and Hans von Escher, Associates; Sanford Hill, Chief, Western Office, Division of Design and Construction, National Park Service; Betler Baldwin, Landscape Architect; Parker-Zehnder & Associates, Structural Engineers; Boris Lemos, Mechanical Engineer; Frumhoff & Cohen, Electrical Engineers. A most exceptional program and an extraordinary site condition distinguish this multipurpose project. For it is not only the gateway and visitors' reception point for the Petrified National Park but also a complete, microcosm community for the families of those who work in the park-including library, grade school, community building, town office, etc., as well as apartments and houses. In this desert location, almost constant winds blow from the south and west-so strong that they will blast the paint off an unsheltered automobile-and vegetation grows with the greatest difficulty. Hence, the compoundlike grouping of L-shaped houses (typical plans accrosspage) with wind-shielding walls to the south and west and small (30'x37') high-walled patios where devoted care can produce oases of natural growth.





residential: Award Citation

Residence Hall for Christian College (Kenneth Freeman, President), Columbia, Missouri: Hellmuth, Obata & Kassabaum, Inc., Architects; King Graf, Project Manager. Construction of this residence hall for 160 girls will be the first step in a long-range building program for the college. The Jury commended the ingenious three-story scheme—with lobbies and lounges on the middle floor, student rooms above and below (*section below*)—which achieves maximum privacy, a homelike atmosphere, and a measure of luxury despite the moderate budget. From the intermediate level, students ascend or descend one flight. (*See also page 166*)

ment 1

1.1







residential: Award Citation



University of California Residence Halls, for The Regents of University of California, Berkeley, California: Carl I. Warnecke—John Carl Warnecke, Architects; John Carl Warnecke, Neill Smith, Lun Chan, Stan Fishman, and Eric Langdalen, Competition Design Team; Lawrence Halprin, Landscape Architect; Knorr-Elliott & Associates, Interior Designers; Isadore Thompson, Structural Engineer; Dudley Deane & Associates, Mechanical Engineers. A residence group for 840 students, this completely symmetrical scheme was the winner of an invited design-competition in which eight firms participated. Especially commended by the Jury for its site and ground-floor plans, the group is or ganized with 4 self-contained, 9-story dormitory units at the corners of the 2.7-acre site, and common-use facilities dining halls, kitchens, administrative offices, and recreation rooms—placed in a low structure, with folded-plate roof, at the center. A continuous, covered walkway surrounds the central building and links all buildings and the minor courts, which are designed as outdoor extensions of the living rooms of the residence units and as dining courts off the central structure. The main floor of each residence unit has, in addition to its generous living room, a library, three multipurpose rooms, a rest room, and a lobby that is entered from the central-court side.

















Dormitories and Dining Hall for Rhode Island School of Design, Providence, Rhode Island: Robinson, Green & Beretta, Architects; Warren A. Peterson, Designer; Pietro Belluschi, Consulting Architect; Hideo Sasaki & Associates, Landscape Architects; Bolt, Beranek & Newman, Acoustical Consultants; A. W. Lookup Co., Structural Engineers; Fred S. Dubin Associates, Mechanical Engineers; John W. King, Electrical Engineer; Henry C. Murphy, Kitchen Consultant. Dormitories for about 250 female and 150 male students, plus common-use dining and lounge facilities, were the basic requirements of the program. The steep slope of the city-block site-a grade difference of more than 80 feet from the high east end to the narrow area at the west endposed a very special problem. Solution is organization of a dormitory quadrangle for women at the top of the property: and a two-part, stepped-down dormitory for men at the lower end of the site. Dining hall and lounge units are centrally placed, and all areas are connected by stairs or bridges. Plazas of various sizes occur at several levels. As the architects comment: "The hill was sculptured into a series of descending plazas and terraces, of which the buildings themselves form the walls of outdoor social and living areas." Time-honored surfacing materials-brick for the walls, slate for the roofs-harmonize with many historical buildings of old Providence in the immediate neighborhood.



College Campus for Methodist College (Dr. L. S. Weaver, President), Fayetteville, North Carolina: Stevens & Wilkinson, Architects-Engineers; Godwin & Bell, Landscape Architects; Jack Wilborn, Structural Engineer. The architects were asked to design a completely new college plant, to accommodate 600 resident and 600 nonresident students. Site for the campus will be 580 acres of rolling pine forests. Major buildings—gymnasium (*below*), classroom building, science building, library, cafeteria/union, fine arts building, chapel (*top to bottom acrosspage*)—are to be arranged around three interlocking malls. Dormitories will be informally grouped in adjacent wooded areas. Since many of the buildings will be below the approach level, particular attention has been paid to roofs. The Jury noted consistency of design throughout.





School of Crafts, for Haystack Mountain School of Crafts, Deer Isle, Maine: James & Marie Howell, Designers; Rockwell King DuMoulin, Associated Architect. A summer school on the Maine coast, this institution offers instruction in weaving, ceramics, wood and three-dimensional design, textiles, and graphics. Studios and workshops are disposed on one side of the campus; director's house, cabins, and dormitories for both faculty and students (a total of 60 persons), on the other. Between these is the main common-use building, including dining room and kitchen, lounge, exhibition room, and director's office. The coniferwooded site is 30 acres in extent and includes a broad stretch of rocky coastline, as well as a sandy beach area that can be readily converted into a natural salt-water swimming pool. The designers selected flat roofs and straightforward wood construction for the buildings, and it is expected that the various craftsmen and teachers will contribute screens, sculptures, and other related art objects that may be changed whenever someone wishes to try a new experiment. (See also page 167)











Hillview Unit for Brown Schools, Inc., San Marcos, Texas: Fehr & Granger, Architects; Tom Shefelman, Associate; W. Clark Craig, Structural Engineer; Herman Blum, Consulting Engineer. This is a privately owned institution for treatment, education, and care of mentally retarded and emotionally disturbed children. Solution: parallel dormitories for girls and boys (*below left*) either side of a social hall; administration and classroom building in the center; and dining hall and special building for the youngest children, on the north side of the group.



summary

Once the five hard-working Jurors completed their task, they still found a little time to consider the program as a whole. They were particularly fascinated by what happened to the buildings for Education. For 88 projects were submitted in this category; yet only 4 received Citations, and of these none was either an elementary school or a high school. Why, the Jurors wondered?

Philip Will was quick to speak to the point: "School design goes in cycles, and it partly reflects the general economy," he commented. "All of a sudden, voters don't want to pay taxes; they vote down bond issues; and programs are cut." Questioned by Rado whether he felt that lack of money was the main thing that stifled design, Will admitted it was not the whole answer, "but I think it's part of it, and I think it's one of the things that causes architects to cut down on lobbies and corridors and dispense with other things that make a plan graceful and pleasant inside."

Stubbins felt that the tempo of school-design work might be a contributing factor: "I think that schools today reflect the pressure the architect is under," he ventured. "There isn't enough thought given to them. . . . When you get a school commission, they want it in a month, in three weeks, in two weeks." Will agreed emphatically: "That statement should be underlined!"

All Jurors felt that one reason they awarded so few Citations in this category was that the school, as a building type, has received an enormous amount of study in recent years, and advances have been readily adopted by firms throughout the country. Hence, almost all of the schools submitted displayed a high degree of competence. But fresh contributions? Outstanding design? If they were there, the Jury could not find them.

Conversation turned to the Health category, in which there had been 37 submissions. Of these 37, the Jury found only one to which they decided to give a Citation. Why?

"Some of the hospitals may have been very good hospitals," commented Rado, "and yet I think we passed them by because they didn't go beyond being very competent solutions. . . . They didn't point in some direction where there is still improvement possible, expected, or desired."

For a glimpse of the Jurors at work, the photo (below) shows them assembled above a table-load of submissions. Left to right: Milo S. Ketchum, Philip Will, Jr., Hugh A. Stubbins, Jr., Ladislav L. Rado, Minoru Yamasaki. P/A staff members at right: Thomas H. Creighton, Editor, and Barbara Melnick, Interior Design Editor.





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Barbara J. Melnick award citation interiors

This month we present outstanding interiors selected from projects commended by the Jury in the P/A Design Awards Program. All—except for the Design Award-winning restaurant shown on this page—are Award Citations, distinguished by thoughtful development of interior spaces, spaces designed not only to function adequately but also to provide an ordered, integrated, rich environment for human activities.

Architects for the restaurant will utilize masonry and wood finishes to create a warm atmosphere. Though not yet complete, plans call for flexible interior partitioning to accommodate varied dining needs.

In the library, careful attention has been given to varying patterns and scale, even of details, in a scheme expressed with clarity and directness.

The Gassner house, imaginatively designed as a spatial experience, unfolds in a series of surprises and vistas; it has the richness of changing textures and color, low passages opening to high ceilings; the pleasure of a small inner garden; the rare virtue of preserving privacy.

Sensitive use of materials, good storage facilities, and especially consideration for the individuals who will use them, may be found in the relaxed simplicity of the dormitory interiors.

> Main dining room in The Tree House, Pittsburgh, Pennsylvania, Award-winning restaurant: Steinhardt & Thompson, Architects. Glass walls allow view of superb panorama below; machinery for existing funicular railway which carries diners up from parking lot is visible in the center of the floor —an arresting conversation piece and decorative element.



161







Public Library for Pascagoula, Mississippi: Carl L. Olschner & Associates, Architects; Kenneth L. Warriner, Jr., Design Associate, The ground-level interior is given a sense of seclusion and protection from the busy street by piercedbrick screen walls; openings allow occasional outside views beyond the small-scale landscaping in the reading gardens. A two-story-high central area exposes all major activities to supervision from a central desk (a client requirement); provides spacious relief from the low-ceilinged areas under the mezzanine; and is an axis for organizing the divers, smaller, more intimate and private spaces created by book partitions. Light, restful background for displayed books will be provided by off-white walls, acoustical ceilings. and exposed structure; sand-color terrazzo flooring; bookcase ends of lime-stained wood; furniture in rusts, yellows, greens. *(See also page 130)* House, Memphis, Tennessee: Francis Gassner, Architect; Thomas Nathan, Associate. The architect has planned his own house as a series of spatial events—a raised, pyramidal roof defining each major interior space which is further em-



phasized by colored ceilings—connected by flat planes. Circulation areas (top) border garden court with honeycolored quarry-tile flooring, low ceiling of natural-finished cherry board; focus on brightly painted wall at end of vista; and lead to living room which has high, white, pyramidal ceiling, is carpeted in grayed tan, will have brown-tweed Knoll sofa, two natural-leather Barcelona chairs. View from back garden (bottom) enclosed by grayedbuff brick wall shows theme of warm, neutral color repeated in studio's brick wall, tile flooring. (See also page 145)



Women's Lounge, Typical Dormitory Room, Dining Hall for Rhode Island School of Design, Providence, Rhode Island: Robinson, Green & Beretta, Architects; Pietro Belluschi, Consulting Architect. Women's lounge (*above*), central to dormitories, connected to dining hall and coffee shop, provides a warm and inviting atmosphere for students to entertain dates; to meet before or after meals and between classes; and for informal talks and meetings. A comfortable environment for relaxing is created by the casual groupings of furniture, centered around the fireplace; by brick and whitewood-paneled walls. Floorings are plasticasbestos tile and carpet, Typical double room, $13' \times 18'$, with a view of enclosed courtyard or the city, is designed to offer maximum flexibility to art students who will

express personal taste in arranging beds, tables, wall hangings, carpet. Walls and ceiling are plaster, painted white; flooring is asphalt tile. In contrast to the intimate scale of rooms and lounge, dining hall (below) is a vast $(80' \times 90')$, impressively proportioned (46' at ridge) space, planned to house large-scale campus activities. Informally arranged rectangular and round tables, seating 2, 4, 6, and 10, will accommodate 420 students. Tall brick fireplace with copper hood and 30-ft-diameter chandelier will heighten the drama of the space. Architects plan white, acoustic, formboard ceilings with exposed-concrete bent; plasticasbestos-tile flooring; brick walls and wood louvers with expanded-lath backup.

(See also page 152)







p/a interior design preview

award citations



Typical Dormitory Room for Christian College, Columbia, Missouri: Hellmuth, Obata & Kassabaum, Inc., Architects-Engineers. Students enjoy privacy and a residential, rather than institutional, quality in double rooms sharing semiprivate baths and balconies (on second, third floors) or garden areas (on first floor). Maximum wardrobe space, another program requirement, is provided by built-in units combining 2-ft-wide dresser with 5-ft-wide wardrobe; this unit and built-in desks with white-Formica work-surfaces will be natural-birch plywood. Two varied room arrangements, taking advantage of balcony openings, are shown in plan. Color scheme of white ceilings, neutral walls, neutral asphalt-tile flooring, white glass-fiber casements has bright accents in upholstered Herman Miller chairs and (See also page 148) bedcoverings,




Scholarship Student Dormitory and Director's Cabin, Deer Isle, Maine, for Haystack Mountain School of Crafts: James and Marie Howell, Designers. Students in this 60person school community for the entire summer (while regular students and faculty change) have individual privacy in buildings with a minimum of glass, divided into two sections sleeping three each (left and above). Natural-wood interiors with built-in storage units, for clothing and work produced, will be animated by painted cabinet doors, brilliant textiles, personal craft objects displayed. Simplicity, ease of maintenance, problems of winter storage and combating the effects of salt air were, again, requirements for the director's cabin (right and below), used for entertaining small groups and for sleeping. Natural colors of wood, fiber rugs, casement fabrics will be accented by black canvas chair, bright plastic upholstery on sofa, black antique fireplace. Wood dining and coffee tables are to be made in the school workshop; the director, a painter, may do a cast plaster mural for the wall behind the fireplace. (See also page 156)

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A wide choice of woods and styles enhance your design possibilities. Select from Birch, Silver Birch, Maple, Oak, Walnut, Elm, Cherry or Mahogany. *Each is completely factory-finished, ready to install.* Available V-grooved at 16" intervals or V-grooved, cross scored and pegged. All panels V-grooved at veneer joints also. In regular plywood sizes . . . *plus lengths to sixteen feet.*

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subtleties of spatial sequences captured in text by Dan Kiley*

Creative Gardens. James C. Rose. Reinhold Publishing Corp., 430 Park Ave., New York, N. Y., 1958. 208 pp., illus. \$10

This book is a most important one for all-professional, amateur, student, and general public. It is the first book to touch upon the truths of Landscape Design possibilities today, and to do so in a revealing and eloquent way. I found the text, especially the opening chapter, most stimulating and inspiring -the best exposition of space design 1 have yet read. The subtleties of spatial sequences as they develop in a landscape are not only elusive to the designer but equally so to his pen. Therefore, I am delighted that James Rose has been able to order them so clearly and effectively for us.

The photographs combine with text to explain in a thorough way what happens when a designer, with a vision as whole as the author's, is confronted with a design problem, makes his analysis, and proceeds through the design process to an integrated result.

The viewpoint of the photographs increases our understanding of this design process. The most successful projects illustrated are the simpler, less complicated solutions-like the one in Santa Barbara. Some, I feel, are overdesigned, where there is no rest from design. In general, I think that the so-called Modern Landscape Designer is bemused too much with Modern Form and not enough with a straightforward approach that reduces complications in the development of building in the landscape. We have seen too much of this already from the little group on the West Coast. It might have been good 20 or more years ago-but it looks suspicious today. Unfortunately, this aspect does appear occasionally in Rose's work and indicates to me a certain weakness, where Landscape Design tries too hard to be an art form.

Rose's approach is a highly personal one and suggests the scale and detail

*Site and Landscape Consultant, Charlotte, Vermont.

of the Japanese, but with greater and freer spatial activity. Sometimes the elements he uses are not complete enough to conclude a space phase before he starts on another one. The impression is of too much activity without the contrast of a simple, larger space.

Finally, I believe this work would have been richer had it drawn on nature, the past, and even a few contemporary works of other designers (landscape or other) to emphasize the important points and to show the scope and variety possible today. For my part, I feel we need to go back to the Greeks for fresh, clear inspiration—and try again. This is exactly what I am doing now, in Greece. (Continued on page 190)



"I have found it helpful to think of a garden as sculpture . . . large enough and perforated

enough to walk through. And open enough to present no barrier to movement, and broken enough



to guide the experience which is essentially a communion with the sky. This is a garden."



KAISER CENTER New Home Office for the World-wide Kaiser Companies Oakland, California

See 10 m

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ARCHITECTS and ENGINEERS: Welton Becket & Associates

STRUCTURAL ENGINEERS: Murray Erick Associates

MECHANICAL and ELECTRICAL ENGINEERS: Dudley Deane & Associates



Floor areas electrified in the West's largest office building



Milcor Celluflor anticipates tomorrow's electrical load in new Kaiser Center

Here, to provide unlimited electrification at low cost — and meet the challenging construction requirements of a fanshaped floor layout — the architect has combined four types of Milcor Celluflor panels.

In addition to being the structural floor, the underfloor cells serve as raceways to handle the complex cable systems required by illumination, communications, and hundreds of pieces of electronic office equipment in this new 28-story building. And — there's electrical capacity to spare! Service outlets can be installed practically anywhere on the floor. They can be relocated or new ones added — or circuits can be changed — without costly alterations.

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Electrical header duct carries electrical feeder. circuits from the distribution panel transversely across Celluflor cells. Definite patterns of service repetition are established so that proper raceways are easily located, when electric power, telephone, signal, or other service outlets are required in any floor area.

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Sweet's, section 16d/In Sweet's, section 2f/InL Sweet's, section 11a/In Sweet's, section 2h/In Sweet's, section 3b/In Sweet's, section 2a/In Sweet's, section 12a/In Sweet's, section 16j/In



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reviews

(Continued from page 187)

artistic sensibility

Philosophy of Structures. Eduardo Torroja. English version by J. J. Polivka and Milos Polivka. University of California Press, Berkeley, Calif., 1958. 416 pp., illus. \$12.50

In this book, an eminent structural engineer has summarized all his thoughts, feelings, and encyclopedic knowledge of the art of structural engineering. The book is long (416 pages) and is not to be read hurriedly, but must be savored and studied. The rapid pace with which it was necessary to read in order to finish the book and prepare the review, left this reviewer with a sense of frustration. One yearns to be back in class with the professor explaining and illustrating each difficult concept with blackboard sketches.

In this book there are no equations or even mathematical symbols. Everything is explained in carefully translated English, heavy with adjectives; and there are many words that are unfamiliar to most of us, such as, lamina, directrix, isostacy, morphology, and others. The author has recorded observations on nearly all the problems of the design and construction of buildings and bridges, and has made frequent references to the history of construction and to ancient and modern structures. There are not as many pictures of his own buildings as one might expect, but, fortunately, these may be found in a recently published book: The Structures of Eduardo Torroja (F. W. Dodge Corp., New York, 1958).

The architect and the engineer will be most interested and will receive the most immediate gain from later chapters, called, "Static Resisting Functionalism," "The Beauty of Structures," and "Genesis of the Structural Scheme."

Torroja discusses the function of the arrangement of structural members so that the most efficient structure is obtained, and he has prepared an extended list of examples of both structures and materials showing how the function will influence the structure and the material.

The author has much to say on the beauty of structures, and takes exception to the dialectic of modern art criticism, on page 269: "We technicians are accustomed to a relative mathematical rigor only relative—and we cannot help smiling superciliously when we meet such expressions in art as 'constant variables,' 'curved planes'; in painting, 'ascending and descending forces'; in architectural styles, 'soft forms of stone,' etc. The engineer may come to understand and feel the appeal of curved planes, just as he admires the exuberance of Rubens. And a day may perhaps come when he will distinguish between the forces that hurriedly ascend the slender Gothic flying buttresses and those that calmly descend the heavy columns of the Parthenon. But he must confess that his spirit does not suit this kind of explanation." As an answer, he says, on page 287: "The best possible rule for the creation of a truly beautiful structure is that the designer shall have a serene and acute artistic sensibility, and a fecund creative imagination, served by the requisite technical

(Continued on page 194)



CONSTRUCTION DETAILS

for LCN Closer Concealed-in-Door Shown on Opposite Page The LCN Series 302-303 Closer's Main Points:

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LCN CLOSERS, INC., PRINCETON, ILLINOIS Canada: Lift Lock Hardware Industries. Ltd., Peterborough, Ontario

Vincent G. Kling, Architect

MODERN DOOR CONTROL BY LCM . CLOSER CONCEALED IN DOOR

TRANSPORTATION CENTER BUILDING, PHILADELPHIA, PENNSYLVANIA LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page

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LIBBEY. OWENS. FORD GLASS CO. a Great Name in Glass TOLEDO 3, OHIO

reviews

(Continued from page 190)

skill to understand the purpose and mechanism of its strength behavior."

In Chapter 19, "Genesis of the Structural Scheme," Torroja lays down some rules and makes some observations on the creative function. On page 314, he says: "It is first necessary to specify clearly the functional requirements involved in the problem. Those that are absolutely essential and evident must be distinguished from those that should be satisfied only as far as it is possible. These latter conditions must be considered and weighed against each other, when they appear to be interfering. Finally come those requirements that are only supplements to the general problem and, if need be, should be sacrificed in favor of the others."



for the "natural weathered" look

House in Portland, Oregon. Architect: Van Evera Bailey. Siding and trim stained with Cabot's Bleaching Oil.



The study and reading of this book lead inevitably to a comparison with the book Structures, by Pier Luigi Nervi, recently translated by Giuseppina and Mario Salvadori. Their philosophies and their books are, in many respects, similar. Torroja is the scholar and engineer of bridges and buildings, and seems to be more interested in bridges. Nervi is the engineer, the contractor, and the inventor, concerned only with buildingsand perhaps is the more practical of the two. Otherwise, the philosophies of the two are very much alike. Both books are well worth considerable study and comparison.

> MILO S. KETCHUM Ketchum & Konkel Consulting Engineers Denver, Colo.

enticing archeology

Samaria, the Capital of the Kingdom of Israel. André Parrot. Philosophical Library, Inc., 15 E. 40 St., New York, N. Y., 1958. 144 pp., illus. \$2.75

Babylon and the Old Testament. André Parrot. Philosophical Library, Inc., 15 E. 40 St., New York, N. Y., 1958. 166 pp., illus. \$2.75

These volumes by André Parrot, who is Curator-in-Chief of French National Museums, are Numbers 7 and 8 in the series of small books published by The Philosophical Library entitled, *Studies in Biblical Archaeology*. The excellent translations from the French were done by Beatrice Hooke.

Each year, through excavations and by the discovery of scrolls and inscriptions, Biblical history is being confirmed and brought from the realm of legend. This series of small and extremely readable books is intended for the general reader, to acquaint him with the current state of knowledge concerning the various Biblical sites which are the subject of archeological study.

Samaria is best known to most of us through artists' renderings of Jesus and the Woman of Samaria at the well. Its long history as the capital of the Kingdom of Israel is just being pieced together now from Old Testament references and Assyrian, Egyptian, and Babylonian inscriptions. It was founded by Omri about 870 B.C. and conquered by the Assyrians under Sargon II in 721 B.C.

The site of Samaria has been the scene (Continued on page 196) ANOTHER PRESTRESSED CONCRETE STRUCTURE

A

R

K

Continental National Bank Parking Garage. Prestressed concrete members by Nebraska Prestressed Concrete Company, Lincoln, Nebraska.

Architect Ellery Davis Tells Why Prestressed Concrete Was Chosen For Bank Parking Garage

Because Mr. Davis' reasons are extensive and important, we proceed at once to quote him:

1. "At the time this building was designed, structural steel deliveries in our area were running about 12 months from date of contract award. This was not satisfactory to our clients, who desired prompt use of the building. Moreover, since this is a type of structure which is open to the elements, we felt that from the standpoints of maximum weather and fire resistance, and elimination of maintenance painting, concrete construction would be more suitable.

2. "After the decision was made to employ a concrete system, we set up alternates with the precast, prestressed, twintee joist system, plus a concrete fill versus a conventional cast-in-place reinforced concrete joist system or pan system using removable steel forms. Under the pan-system alternate, the fill was omitted and the top of the structural slab was to be integrally finished with a float texture. Under both alternates, the joist floor system was carried by cast-in-place reinforced concrete girders and reinforced concrete columns of the same cross section and of the same reinforcement. The bids of all general contractors quoting this job showed a substantial saving in favor of the prestressed floor joist system.

3. "From the point of view of the builder, the prestressed joist system permits faster construction as it requires no forming or shoring, can be placed in cold weather, and can be used immediately after placement.

Shown here are Ellery H. Davis; Claus

Johnson, Structural Engineer; and William M. Fenton, Architect, of the firm of Davis & Wilson, Architects & Engineers, Lincoln, Nebraska.

4. "We found a general tendency for the prestressed members to design shallower in depth than the cast-in-place members, resulting in as much as 3 inches less in floor-to-floor height. This reduces the total height of the building and also eases the grade on the ramps.

"The above statements express our thinking on the choice of the precast, prestressed, joist floor system in the subject structure."

"... Expresses our thinking on the choice of prestressed concrete" is a phrase that is becoming increasingly prevalent among architects the country over; a phrase that is applied to all kinds of structures; schools, warehouses, office buildings, shopping centers, storage tanks, motels, etc.

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This new bulletin tells you everything you want to know about the *new* "King of Scots" by National-U.S. Send for it today; ask for form #989.



Sixty years in thermal hydronics

reviews

(Continued from page 194)

of two periods of excavation. The first (1908-1910) under the auspices of Harvard University and the second (1931-1935) under the direction of J. W. Crowfoot. Remains of walls and buildings were uncovered and carved ivories, pottery, household utensils, and ostraca were dug up.

The dating of the early buildings is still uncertain. Of particular interest to an architect is the record of finding timber bonding courses in the walls of hewn stone. This building technique was employed on the Temple at Jerusalem (*I Kings* 7:12). Proto-Ionic capitals also date from the Israelite period.

Little remains from the period of the Assyrian and Babylonian conquests. Three round towers date from the Hellenistic period (c. 321 B.C.). More remains of the Roman period, during which it had several times of prosperity: the first under the pro-consul Gabinius (57-55 B.C.), the second under Herod the Great (26-4 B.C.), and the third under Septimus Severus (A.D. 193-211). Herod renamed the town Sebasté and built a temple to Augustus, part of the colonnades of which are still standing, and a stadium, which is recognizable, and a street with porticoes and shops, a forerunner of some of our shopping centers. There is no longer a city on the site of Samaria. There is a small village near the ruins called Sebastiveh which continues the name given by Herod the Great.

Babylon was a much greater city, capital of a much larger kingdom. It has always captured the imagination of poets and historians. Today it is only ruins, few of which are in a sufficient state of preservation to give any indication of the past glory of the city. The Ishtar Gate, with its glazed bricks of blue and brown, is perhaps the most impressive.

The site of Babylon is only a short distance from Baghdad; and a tourist stream pours in almost daily, but most are disappointed for there is no grandeur such as the reconstruction drawings of Unger would lead us to expect. Perhaps the most informative illustrations in this volume on Babylon are the present-day

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reviews

(Continued from page 196)

photographs of the site.

The earliest mention of Babylon is in a text of King Shargalisharri of the Accadian dynasty (c. 2350 B.C.). The last mention of Babylon, according to Parrot, is on a clay tablet dating from 10 B.C. After that the words of the prophets Isaiah and Jeremiah were fulfilled and it was deserted. Its excavation began in the 19th Century. The Deutsche Orient Gesellschaft, founded in Berlin in 1898, determined upon a systematic investigation of the site. This work was intrusted to Robert Koldewey, an architect, who with many assistants started work in March 1899 and continued until the end of 1917, when, during World War I, the British came into Mesopotamia. Koldewey returned to Berlin to publish his findings with the help of his collaborator, W.



164 WEST 15TH ST., NEW YORK 11

Andrae, until his death in 1925. Babylon as it is now is mostly the work of the excavations undertaken under Koldewey.

Nothing is left of the Hanging Gardens which was one of the Seven Wonders of the Ancient World. Only the bases of the ziggurats remain, the upper construction of which has to be reconstructed from carvings on stele and cylinders. What does remain, which can capture the imagination of an architect, are the miles of walls of brick-the outer and inner walls of the city itself and the walls of the structures inside the city. This sun-dried clay brick is very different from the pink brick of Georgian England and the American Colonies. It is gray in color and fast powdering away, so that the ruins unearthed fifty years ago are becoming ruins of ruins. The crowding, the massiveness, and the complexity of the building in Babylon has similarities with city architecture of this century, even as the sketch of a carving of a "Person with two faces (two-faced god)" (p. 130) seems as if it might have been drawn by Picasso. Perhaps, it is the sense of impending doom that we have in common with Babylon.

Both these volumes have chronological tables which clarify the history of these cities. Both books have a select bibliography which is excellently arranged. Neither has an index but each has a list of illustrations. With brevity, Parrot compliments the Biblical history of these cities with the findings of archeology, and by so doing makes the past seem more real and the present ruins more meaningful.

> AGNES ADDISON GILCHRIST Mount Vernon, N. Y.

popular edition

Pageant of Japanese Art: Architecture & Gardens. Edited by Staff Members of the Tokyo National Museum. Toto Shuppan Co., Ltd., Tokyo, Japan, 1957. Distributed by Charles E. Tuttle Co., Rutland, Vt. 196 pp., illus. \$2.95

Architecture & Gardens is one of six volumes in a new, popularly priced edition of the former, deluxe Pageant of Japanese Art. Other titles in the new series are: Painting, 6th-14th Centuries; Painting, 14th-19th Centuries; Sculpture; Ceramics & Metalwork; and Textiles & Lacquer.

(Continued on page 204)

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reviews

(Continued from page 200)

This volume covers the history of Japanese architecture from the Primitive Period (-552 A.D.) to the Edo Period (1614-1868). Sixty-four pages of text, illustrated with many small photographs and drawings, are followed by 50 fullpage plates, four in color. Each plate has a facing page of captions, description, and occasionally small illustrations, all of which helpfully identify and explain. A Translator's Note in the beginning outlines the historical periods, and a Glossary at the back of the book also aids the reader. The text is well written in an interesting and personal manner—very enjoyable to read. Unfortunately, the poorly reproduced plates and illustrations keep this little volume from being a collectors item; but it is still an important, handy reference to traditional Japanese architecture. A. L.



he BALANCED DOOR

BOOKS RECEIVED

Modulor 2. Le Corbusier. Translated by Peter de Francia and Anna Bostock. Harvard University Press, Cambridge, Mass., 1958. 336 pp., illus. \$8

The Pelican History of Art. Edited by Nikolaus Pevsner. Volume Z15. Architecture: Nineteenth and Twentieth Centuries. Henry-Russell Hitchcock. Penguin Books Inc., 3300 Clipper Mill Rd., Baltimore, Md., 1958, 528 pp., 192 plates. \$12.50

The Exploding Metropolis. The Editors of Fortune. Doubleday Anchor Books, Doubleday & Co., Inc., 575 Madison Ave., New York, N. Y., 1958. 230 pp., illus. \$.95 (paperbound)

Architecture of the California Missions. Kurt Baer. Photographs by Hugo Rudinger. University of California Press, Berkeley, Calif., 1958. 212 pp., illus. \$10

The House Beautiful Treasury of Contemporary American Homes. Joseph Barry. Hawthorn Books, Inc., 70 Fifth Ave., New York, N. Y., 1958. 144 pp., 150 color photographs. \$12.95

Color Planning for Business and Industry. Howard Ketchum. Harper & Brothers, 49 E. 33 St., New York, N. Y., 1958. 288 pp., illus. \$5.95

Here, Of All Places. Osbert Lancaster. Houghton Mifflin Co., 2 Park St., Boston, Mass., 1958. 204 pp. illus. \$4

technical

Grounds Maintenance Handbook. Second Edition. H. S. Conover. F. W. Dodge Corp., 119 W. 40th St., New York, N. Y., 1958, 538 pp., illus. \$10.75

Estimating General Construction Costs. Second Edition. Louis Dallavia, F. W. Dodge Corp., 119 W. 40 St., New York, N. Y., 1957. 206 pp. \$8.50

Glass-Reinforced Plastics. Second Edition. Edited by Phillip Morgan. Philosophical Library, Inc., 15 E. 40 St., New York, N. Y., 1957. 292 pp., illus. \$15

Solar Control and Shading Devices. Olgyay and Olgyay. Princeton University Press, Princeton, N. J., 1957. 201 pp., illus. \$12.50

Structural Design in Metals. Second Edition. C. D. Williams and E. C. Harris. The Ronald Press Co., 15 E. 26 St., New York, N. Y., 1957. 666 pp. \$8

art

Arts Yearbook 2. The Editors of Arts Magazine. Doubleday & Co., Inc., 575 Madison Ave., New York, N. Y., 1958. Illus. \$4.50

The Praeger Picture Encyclopedia of Art. Frederick A. Praeger Inc. Publishers, 15 W. 47 St., New York, N. Y., 1958. 584 pp., 192 full-color plates, 416 monochrome illus. \$17.50. Subtitled: a comprehensive survey of painting, sculpture, architecture and crafts, their methods, styles and technical terms, from the earliest times to the present day.



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DESIGN AWARDS PROGRAM

illustrations

Pages 108 & 111 Capitol Towers, California—sketches: Helmut Jacoby.

Pages 112 & 113 Charles River Park, Massachusetts—sketch and plan: Carlos Diniz; photo: Gordon Sommers.

Pages 114 & 115 Terminal Building, Texas—model: Bill Paschall and John Bane; model photos: Dewey G. Mears.

Pages 116, 117 & 161 Tree House, Pennsylvania—renderings: Dick Kaplan.

Page 118 Office Building, Connecticut—rendering: Edmund J. Glenny.

Page 119 Display Building, Michigan—renderings: Denis C. Schmiedeke; photos: Photographers Commercial.

Pages 120 & 121 Oak Park Shopping Center, Pennsylvania—photos: Lawrence S. Williams and Mort Blaustein.

Pages 122 & 123 Form Center, Minnesota—rendering: Stageberg; photo: Meyer Studio.

Page 124 Bank, Pennsylvania-rendering: Dennis I. Page.

Page 125 Furniture Showroom, Florida—renderings: Victor A. Lundy.

Pages 126 & 127 Filtration Plant, Illinois—model: Richard Rush Studios; model photos: Hedrich-Blessing.

Page 129 Court House, California-renderings: Rai Okamoto.

Pages 130, 131 & 162 Public Library, Mississippl—model: Tom Edson; model photo: Frank Lotz Miller; renderings: Kenneth L. Warriner, Jr.

Pages 132 & 133 Forestry Camp-sketches: Joe Blair; model: James R. Smith; model photos: Douglas Baird.

Pages 134 & 135 Calvin Presbyterian Church, Minnesota—model: James R. Smith; model photos: Douglas Baird.

Pages 136 & 137 Psychiatric Hospital, Tennessee—renderings: Schwartz.

Page 138 Dolphin Club, Pennsylvania—model: Joan Roberts; model photo: Lawrence S. Williams.

Page 140 Sportman's Rest, Florida—model: James R. Abney; model photo: Robert H. Ford.

Page 142 Prefabricated Aluminum House, Virgin Islands model: Edward Kouach; model photos: Baltazar Korab.

Page 143 House, West Virginia-model photo: Karl H. Riek.

Pages 144, 145 & 163 House, Tennessee—model: Thomas Nathan; model photo: Allied Photo Illustrators; drawings: Francis Gassner.

(Continued on page 212)

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RIGHT: Three distinctively different patterns are featured here. At left, an eye-catching offset pattern to give your walls new dimension and interesting shadow play. In the background, a stacked pattern to add quiet dignity to the dining area. Running bond pattern at right creates an expanse of flowing motion while wrapping the living room in timeless beauty. Photograph courtesy "Living for Young Homemakers."



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DESIGN AWARDS PROGRAM illustrations

Pages 146 & 147 Desert Community, Arizona-renderings: R. J. Neutra and Hans von Escher.

Pages 150 & 151 Residence Hall, California-model: Architectural Models; model photos: Ernest Braun.

Pages 152, 153, 164 & 165 Dormitories and Dining Hall, Rhode Island-photos: Brown University Photo Lab., George C. Henderson; renderings: Irving B. Haynes.

Pages 154 & 155 Methodist College, North Carolia—renderings: Jacques Shepard; photos: Jerome Drown.

Pages 156, 157 & 167 School of Crafts, Maine—renderings: James A. Howell.

Page 158 Brown Schools, Texas—rendering: Tom Shefelman.

notices

new appointments

ERIE JONES, appointed Educational Consultant to the architectural firm of A. J. DEL BIANCO & ASSOCIATES, Chicago, III.

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NORBERT L. TROLLER, Architect, 230 E. 73rd St., New York 21, N. Y.

R. WILLIAM WILDING, Architect, 2574 Vine St., Vancouver 9, B. C.

LORAND WEST, Architect, 7233 Beverly Blvd., Los Angeles 36, Calif.

ANTHONY J. OLIVA, Architect, 1189 25 Ave., Sacramento, Calif.

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(Continued on page 216)



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(Continued from page 212)

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HARRIS & STRONG, Modern Ceramics, 455 E. 147th St., New York 55, N. Y.

WELTON BECKET & ASSOCIATES, Architects-Engineers, 116 E. 55th St., New York 22, N. Y.

R. DUANE CONNER, Architect, 1219 NW 50, Oklahoma City 18, Okla.

W. C. WEEKS, INC., Architects, 1518 Saemann Ave., Sheboygan, Wis.

FRED H. PRATHER, Architect, 200 S. Michigan Ave., Chicago, Ill.

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KARL GERTEIS, new Manager of Development Engineering Department of Unitary Equipment Division, CARRIER CORPORATION, Syracuse, N. Y.

KENNETH H. CUNNINCHAM, appointed head of New Product Promotion Department of Industrial Materials Division of KIMBLE GLASS COMPANY, a subsidiary of OWENS-ILLINOIS, Toledo, Ohio.

GEORGE W. SUTCLIFFE, new Sales Manager of school equipment manufacturing corporation, Nashua, New Hampshire, a subsidiary of the maine manufacturing company.

M. C. FAIRFIELD, General Sales Manager for Insulite Division of MINNESOTA & ONTARIO PAPER COMPANY, Minneapolis, elected President of INSULATION BOARD INSTITUTE, Chicago, Ill.

R. C. SMITH, new Sales Manager of A. C. HORN COMPANY, LTD., a subsidiary of SUN CHEMICAL CORPORATION, New York N. Y.

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(Continued from page 216)

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F. JAMES ROBINSON, new Sales Manager of Commercial and Industrial Products for BRIGGS MANUFACTURING COMPANY, Detroit, Mich.

FREEDOM H. AINSWORTH, new President of AINSWORTH LIGHTING INC., Long Island City, N. Y., and GEORGE L. GREEN, new Executive Vice-President.

MARION ALLISON, new Assistant Director of Decorator-Design Division for Amtico Vinyl and Rubber Flooring, a division of AMERICAN BILTRITE RUBBER CO., Trenton, N. J.

ANTHONY J. FARANDA, appointed Assistant Manager of Architectural Sales for ALUMI-NUM COMPANY OF AMERICA, Pittsburgh, Pa.

ROBERT G. MOLLOY, appointed Sales Manager for A & F TILEBOARD CO., INC., Alexandria, La.

New Committee Chairmen for Iron and Steel Division of NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS: RICHARD E. STITT, ACORN WIRE & IRON WORKS, Advisory Promotion Committee; J. ROBERT HAVEN, HAVEN-BUSCH COMPANY, Safety Committee; MARVIN D. ROSENBERG, MIDWEST IRON WORKS, INC., Equipment Committee; J. D. WILKINS, JR., J. D. WIL-KINS COMPANY, Plant Layout Committee.

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ľ	ere are some of the conclusions	The or
1	awn from the book.	on the
	Building materials are good of themselves, it is misuse that causes trouble. Therefore, a basic knowledge of the nature of building materials is necessary.	tenance How The co
	Exact and complete plans and specifications should be drawn for the construction of the building. A good set of plans usually will encourage better and more exact bids. Careful selections of the time for taking bids will help keep costs down.	we will not con nothing Mail th
	Concrete construction is subject to volume changes because of variation in moisture as well as tempera- ture and should be designed accordingly.	P
	Walls are less expensive to build and maintain than windows. However, esthetic factors frequently govern this feature.	
	The maintenance of floors becomes the main factor in determining the most economical floor finish to use and not the initial cost of that material.	
	Acoustical treatment of a building is not economical nor is the unrestricted use of acoustical materials desirable from the educational standpoint.	WORK
	Structural walls, roofs and framing designs were examined. Wall bearing structural systems seem more economical for one-story construction than other types.	REI 430
	The performance type building code is a step toward economy in school building.	
	Thermal comfort conditioning of occupied school rooms is as much a cooling problem as it is a	ti a
	of solar gain. Heat cost evaluation indicates that insulation is economical, although a long range investment.	
1	Daylighting is desirable but difficult and uneconomi- cal to control. Artificial light is required for night- time use of the school and in most cases can be	NAM
	furnished more economically on a long-range basis with fluorescent lamps than with incandescent.	ADD
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Mahon, R. C., Co5	4, 55	
Mastic Tile Corp. of America23, 2	4, 25	
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Presstite-Keystone Engineering Products Co. 173 einhold Fublishing Corp. 228, 230, 232 tilco Laminated Products, Inc. 102 ixson, O. C., Co. 233 obbins Flooring Co. 60 obertson Mfg. Co. 32 toebling's John A., & Sons, Corp. 195 olscreen Co. 22 ussell & Erwin Div. 186 argent & Greenleaf 228 edgwick Machine Works 200 even Arts Book Society 97 implex Ceiling Corp. 44 loan Valve Co. 172 iolux Corp. 96 Steel Joist Institute 181 Swedish Crucible Steel Co. 57 Thiokol Chemical Corp. 14 Trade Wind Motorfans, Inc. 44 United States Ceramic Tile Co. 101 229 United States Plywood Corp. 47 Universal Atlas Cement Co. Uvalde Rock Asphalt Co. 62 93 Wasco Products 90 Wayne Iron Works 216 Webster Electric Co. Wiley, R. & W., Inc. 230 Wilson Engineering Corp. 230 Youngstown Sheet & Tube Co. 78

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Don Kilps discusses the planned telephone facilities of his 1958 "Parade" home with Al Braun, of Wisconsin Telephone Company. At right, he points out one of the 16 telephone outlets going into his own new home, now under construction.

"90 per cent of our prospects want a telephone-planned home"

-SAYS DON KILPS, CUSTOM BUILDER OF MILWAUKEE, WISCONSIN

"We build for discriminating buyers who want custom advantages in their homes," says Mr. Kilps. "So we provide plenty of telephone outlets—for portable as well as permanent phones —and with wiring fully concealed.

"Telephone planning is a first-rate sales feature. Prospects can see the virtues of hidden wiring and planning for growing telephone needs. In fact, 90 per cent of them comment on it. And, working with the telephone company, we find it costs us so little to offer it."

Mr. Kilps is General Chairman of Milwaukee's 1959 "Parade of Homes," which will feature exhibit homes by more than 60 registered builders in the area, His contribution to the 1958 "Parade" is shown above.

Wm. Kilps Sons build about 50 units a year in the \$12,000 to \$50,000 price range—and telephone planning is a feature of every one.

Your local Telephone Business Office will be glad to help you with telephone planning for your homes. For details on home telephone installations, see Sweet's Light Construction File, 8i/Be. For commercial installations, Sweet's Architectural File, 32a/Be.

BELL TELEPHONE SYSTEM



BUILDERS: Attending the NAHB Convention in Chicago? Be sure to visit the Bell Telephone System exhibit, Conrad Hilton Hotel—booths 15 and 16.

mid-victorias



Last August, George Qualls, Philadelphia architect, provided a P.S. page for me by supplying a group of drawings of hypothetical architect-designed automobiles the Breuerbuggy, the Wright Wrambler, the Corbucruiser, the Miesmobile, and the Stone Scooter. There was a good amount of response, including requests to reprint; the most recent reaction is in the form of additional suggested designs reproduced on this page. Andre B. Buehler, of the office of Garfield, Harris, Schafer, Flynn & Williams, of Cleveland, sent them to me, with this explanation; "Everyone in the office enjoyed your column and the drawings of George Qualls. His interpretation of architectdesigned cars is unique, we do admit. However, some of us reasoned that the bulk of our building industry is still on a rather conservative basis, particularly in the Cleveland area. I am enclosing some further suggestions and I am sure the residential builders will be delighted with our ideas of Early American cars. They would go nicely with a great many houses, especially since a garage could be dispensed with, as some of the models would look like an attached garage, anyway. I hope you enjoy our contribution."

I do enjoy them, and I am glad to pass them along for others to enjoy. The proposed names for these models are: the Henry Hope Racer, Jr.; the Hudson River Packarded; the F. Scott Fitzmobile; the Royal Barry Willys; the Honest Yeon Lincoln.

Numas H. Leightan



