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#### VIEWS

#### Our Readers Debate Validity of Single-Family House Design

[The contention of the twelfth annual Design Awards jury that the design of the single-family house is of questionable validity as an architectural problem has provoked widespread reader reaction. We have held back publishing these letters till this date so that they may be read in the context of this month's issue, which is devoted to houses and is approached in terms of this very question: Does house design constitute a legitimate architectural category?—ED.]

Dear Editor: I heartily agree with your Editorial [JANUARY 1965 P/A] and with most of the comments of the Awards jury. I am deeply troubled, however, by the derogatory remarks on the individual house as an architectural problem.

An architect's job is to bring the best thinking he is capable of to a given project and program. The job of an Awards Program such as P/A's, is, as Mr. Kaufmann implies, to reward architectural excellence, whatever its context. Simply that and no more. Architects are not noted for their sociological comprehension. Their dogmatic manifestos, based on half-baked social clichés, often serve only to make them look ridiculous a generation or less later. Fifty years ago, the architectural establishment considered factories and low-cost housing unworthy of their attention. Today, the new intellectual orthodoxy is busy dismissing the individual house on similar grounds. Has the failure of 19th-Century academicism taught us nothing?

ROBERT B. RILEY Albuquerque, N.M.

Dear Editor: I have the distinct impression from reading the selected quotes that your latest jury did not like its work. If the comments printed are indeed representative, it would seem the group failed to do what was required of it: that is, to examine and judge the submitted works. The process of selection seems to have been a wave of the hand, and the criterion of criticism, for some, was the personal animus born of exhaustion. I am sure it is no easy task to survey hundreds of entries in a contest of this kind, but to hear the members of the jury disgualify themselves on whole categories of architecture is disquieting, to say the least, and can only reflect unfavorably on those architects and designers who received awards under such auspices. I should have imagined

the jury, to a man, would be honored to sit in judgment on his profession, as this contest allows, without indulging, as we see here, in personal ill grace and professional rancor of the most exaggerated sort. Thanks are due to Jan Rowan for suggesting P/A continue to accept designs of all varieties, without regard to the sociological dogmas of individuals, however eminent, and to Edgar Kaufmann for his evident civility in the face of the megalomania around him.

For my part, I plan to construct my "private palace for some remote valley," without regard to Serge Chermayeff's plainly manic utterance, or Paul Kirk's gratuitous moralisms. My architect enjoys my complete confidence, in spite of not having won a prize this year. I trust I may survive blame for not living in a development with my peer group and for not tending to enjoy aquaria and viaducts, or the hospices of the retarded. Who knows, except history, whether it is still the basic function of architecture to put up a man's house, as against communes and utilities? One thing is sure: It will not be this jury that decides, given, as it is, to immoderate glosses, and convicted out of its own mouth as unable to hear evidence, but only to pass sentence. It has both neglected and exceeded its function by casting itself in Delphic role, and has insulted the reader, the profession, and certainly the host magazine in trying to indoctrinate us all with ideas so captious. I hope this fashionable brutishness will pass away another year.

ROBERT B. BROWNE Middlebury, Vt.

Dear Editor: The discussion of singlefamily houses in the January issue appears to me to contain a display of somewhat pompous professional prejudices on the part of the architects involved, with most of the few words of reason coming from Kaufmann, Zetlin, and Rowan.

Of course urbanized housing is socially a "more important" problem! Of course both architects and clients are often guilty of exhibitionism in single-family design!

But I still have not heard the philosophic or artistic rationalization that would deprive all single-family houses of any hope of significance to society, let alone client and architect.

Could it be that the architects who served on the jury deplored small private palaces because they have backlogs of

large corporate palaces in their out TED BOVE Seattle, V. a

Dear Editor: Let's face it. If the Awards jury hasn't the patience and willingness to design houses, it surely doesn't have the desire and understanding to judge them! To house humans singularly or collectively should require the same understanding.

Therefore it becomes evident that the house remains the biggest challenge in our profession! For shame to ignore it.

Your fine defense, in the jury's behalf -was it really deserved?

It is regrettable, especially for those who submitted those arduous plans. I write in their defense.

> DON HERSHEY Rochester, N.Y.

Dear Editor: Surely it is only coincidence that Paris pronouncements on spring fashions in clothes and the P/A Design Awards reach us at the same time.

And yet there is the same stylistic jerking hither and yon, from year to year; and yet there are Decrees handed down, and a great use of "nice," "sensitive," "personality," "pure structure" in jury comments; and yet, for a couple of years after, there are the \$10.98 copies of the originals.

Paul Hayden Kirk intimated part of it in the jury summation this year: an Awards competition like P/A's does incite postured design; it does call forth a manneristic approach that seems to wax on publicity within the profession. But this seems to be only half the difficulty: the remainder being those imitations that competitions spawn. There appear to be too many architects who bolster their contemporaneity by following your yearly form-givers, year by year.

Of course, part of the problem is inherent in the nature of publicity—total anonymity, though (as a corrective), would be both dull and unjust. But it strikes me that a General Judgment like P/A's, having helped lead us into the woods, is in an almost unique position to lead us out again.

Now that a jury has itself fingered the problem, corrective measures should suggest themselves; a publication and power of P/A's status owes it to its professional public to incorporate them into the Design Awards.

CHARLES C. BOLDRICK San Francisco, Calif. Continued on page 8





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#### Continued from page 6

Dear Editor: I'm one of the misguided architects of the 148 "wretched little houses" (Serge Chermayeff) which were all rejected by your Design Awards jury because maybe "it's not a problem at all to design some little custom-built notion of your private palace for some remote valley" (Chermayeff). I'm writing you because your magazine's program provides some opportunity for feedback, and printed some deliberations, unlike most competitions where one can only darkly surmise what bias and narrow vision kept the jury from seeing the brilliance of one's own design. Of course, even a magazine presentation of a jury's discussion is very inadequate. On the printed page, we are unable to see the twinkle in Chermayeff's eyes as he says that "the up-and-coming young architect [is] digging the grave of the profession deeper and deeper," or the philosophical look that Kirk must have had when he explained what the Problem really was-"the community problem, not these individual things."

Since I thought that my problem was to design a weekend house for a film producer and his wife who also needed a place for entertaining business guests, I suppose I wound up with one of those crass "exhibition pavilions." Time after time I tried to "accent" the "community problem," but the house defeated me, always winding up as socially useless as something by Carl Fabergé or Brooks Brothers. I tried to get my clients to buy something from a builder and stop bothering me so I could concentrate on "high densities and close proximities," but they seemed to think that builders' houses had no solutions for what they needed. At length I agreed with them, and so made my naive mistake, deserting the position of most of my fellow architects who have completely abandoned responsibility for places where individuals live.

As I got involved with this unimportant problem, I thought I began to see things about it that had to do with history and eternity and the breathtaking complexity of life. I remembered all the mannerisms of English country houses through their civilized ages, until John Nash broke through with a new idea of a simple villa, and changed people's minds about the real requirements of their lives. The sense and effort of arrival would need to be important in a weekend house. Man's place in nature worried me, and his home as an object in the landscape. What a perfect world it is out there among the trees, and what an agony to build anything at all! A responsibility almost too great for men. But I think, or hope (same thing) that the natural landscape stays with us for a few generations more.

The requirements of life; this image in the landscape; how you make your way to it in a time when the natural world is only obtainable to most men through flight—these all seemed important enough for me to bother with. I'm sure that the jury rejected my design because the house was too clumsy to fulfill these overwhelming requirements, not because (with the exceptions of Messrs. Kaufmann and Zetlin, as your quotations would lead us to believe) they were too bored or lazy to consider what my problem was.

NATHAN SILVER New York, N.Y.

Dear Editor: As a fellow worker in the architectural editorial vineyard, one who has been involved closely with the AIAsponsored Homes For Better Living design awards program, I would like to register a dissent to much of your January Editorial.

Continued on page 12

## **Construction Details**

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month, "to give it an airlike quality. There is a relationship between the form of the building and the form of aircraft,"

When architect Ward first talked to BOAC, he was given a definite list of desirable qualities wanted in a terminal. On their 26-acre site on the north side of Kennedy airport, the client wanted the maximum amount of gate space the site could accommodate. Since BOAC wanted the planes to push off from the gates with their engines running, each gate was to include provisions for fuel, water, food, and air. Besides quick-servicing, this inside housing of service facilities will keep the usual welter of service vehicles off the runway. It seemed important to hold to a minimum all walking distances within the terminal, and to put these areas under cover. Also, the client knew it would help cut confusion in a bustling terminal if layout and traffic flow were almost self-evident from

#### the building's plan.

The architects seem to have been partially successful in meeting these requirements. Pedestrian traffic flow is well defined: all activities having to do with departure, such as baggage checking, ticketing, and newspaper buying are on the second level. On the first level is baggage claim and transportation for deplaning passengers, and on the top level is a restaurant. There are no stairs, only ramps, escalators, and elevators between levels. Passengers are kept under cover from the time they step into the terminal from their car or bus to the time they step onto the plane, and vice versa. But good intentions have failed to minimize walking distances. From ticket counter to the farthest gate is well over 600 ft, which may turn out to be the longest boarding stroll at Kennedy.

Although, in accommodations, the terminal will be as up-to-date as any in the U.S., in plan it is conventional. Before sitting down at the drawing board, the architects toured airports in this country. "This gave us a chance to get the 'funny shapes' out of our system," reports one spokesman. But if the shape is not funny, it was at least in part dictated by restrictions. The marshy ground on which Kennedy rests



precluded digging down. And the need for the central control

tower to see all runways ruled out tall structures. Architect Ward was thus forced to stress the terminal's horizontality.

Main materials will be reinforced concrete and steel. Ward, who is obviously pleased to be building in the U.S., points out, "The nicest thing about working in the States is the variety and quality of materials available."

Directly to the left of the terminal's entrance will be a large hangar-covered weather gate. During New York's freezing winter rains, BOAC can use it to keep at least one aircraft ice-free, and help maintain minimal service. The terminal's facilities will be shared by Air Canada, Quantas, and British West Indian Airways, Ammann and Whitney of New York are engineering consultants.

## Home of Ancestors to Honor Kennedy

DUBLIN, IRELAND Joseph P. Kennedy once complained that although both his father and grandfather were born in the United States, people still called the Kennedys Irish. The Irish evidently agree: The Kennedys *are* Irish. And in honor of the late President they are building a Kennedy Memorial Hall in Dublin. To be constructed in 2½ years between January 1966 and October 1968, the \$5-million Memorial Hall will provide space for concerts, and will also be





used for ballet, theater, and conferences. Designs by architect Raymond McGrath, who is Principal Architect of the Office of Public Works, show two hexagonal-shaped auditoriums, both opening off a large, level foyer. The larger hall, which will seat 1840 persons (in parterre, balcony, and boxes), will also accommo-date a 120-piece orchestra, a 220-voice choir, and an organ, and will have an hydraulically operated platform that can become a series of ramps, steps, a flat floor, or a flat stage and an orchestra pit, according to requirements. There is also provision for showing motion pictures. The level-floored second auditorium, or recital hall, will hold 464 persons (134 of these in a balcony). On this end of the building will be a restaurant, conference rooms, and rehearsal rooms that are located beneath the auditorium and have their own entrance.

After much soul-searching, the Irish government picked a government-owned site on the outskirts of town for the memorial, partly to emphasize its national character and partly to provide greater space at a lower initial cost. The same complex will also house a National Library and an office block for the Departments of Health and Social Welfare. With 14<sup>1</sup>/<sub>2</sub> acres, the site will have enough open space for landscaping with trees and shrubs, and a piazza with a pool and fountain separating the Library and the Memorial. Under the piazza will be parking space for 300 cars.

Although both auditoriums will be of conventional reinforced concrete and frame construction, both will have double shell roofs, to protect performers and audience from traffic and aircraft noise. Acoustical consultant for the project is Professor Lothar Cremer. Ove Arup and Partners are structural engineering consultants; J. A. Kenny and Partners will be consultants on mechanical and electrical details; Desmond MacGreevy and Associates are quantity surveyors; and Dr. Ralph Downes is organ consultant.

#### **Professorial Migrations**

PHILADELPHIA, PA. The University of Pennsylvania Fine Arts School has long enjoyed a reputation for its fine teaching. Such a reputation can be both bane and blessing, for when other schools are trying to staff their architectural departments they think immediately of Penn. In the fall, four Penn professors plan to move elsewhere. Robert Geddes, of course, will become Dean of the School of Architecture at Princeton (see p. 47, FEBRU-ARY 1965 P/A). Thomas Vreeland is leaving for the University of New Mexico, with the agreement that after a year he will become chairman of the architectural department. Robert Venturi has announced his resignation to devote full time to his architectural practice. According to reliable sources, Romaldo Giurgola is being considered by Columbia University for the chairmanship of its Department of Architecture. This exodus leaves Dean Holmes Perkins with some major positions to fill in his architectural school at Penn. One hopes he can find men who will uphold Penn's fine tradition and reputation.

#### New Dean, New School

KNOXVILLE, TENN. When the University of Tennessee opens its long-planned School of Architecture in September, it will have as Dean, Bill N. Lacy, Lacy, 32, moves to Tennessee from Rice University in Houston, Texas, where he was associate chairman of the Department of Architecture. The new architectural school will



be the only one in Tennessee, and will provide training for Tennessee architectural students, who have so far had trouble gaining admission to crowded schools in other states. Only freshmen will be admitted to the U-T program this fall, with one class being added in each of the next four years.

Lacy, an Oklahoman by birth and schooling (he graduated from Oklahoma State), has, while at Rice, established a reputation as a specialist in college and university campus planning. His projects include work on master plans for Duke University and Southern Colorado State College, a science center at the University of Miami, and a Chilean Community Facilities Project. Currently, he is working on a master plan for the Autonomous University of Guadalajara, Mexico. He is also a member of the Houston firm, Todd-Tackett-Lacy, and a designer with Caudill, Rowlett & Scott, Houston architects-engineers-planners.

### **Equal Opportunities**

NEW YORK, N.Y. Back in 1955, a group of concerned New York City architects set up what they called the Council for the Advancement of the Negro in Architecture. They had noticed a dearth of Negroes practicing architecture in the metropolitan area, and, suspecting discrimination, set out to see what could be done about it. As it turned out, discrimination was not the primary reason. Rather, teachers and guidance counselors in schools were discouraging Negro students from studying architecture, telling them there were not many opportunities in that field. The council worked to overcome this myth with lectures and a succesful exhibit of the designs of Negro architects. By last year, enough interest had been generated for the Council to turn over its work to a newly formed committee of the local AIA chapter, the Equal Opportunities Committee. So far, the committee has distributed a host of pamphlets and posters to schools, arranged for talks to students by architects, and raised more than \$12,000 in scholarship funds. Five scholarships have been awarded "on the basis of scholastic ability, financial need, character, and promise." And the Chapter, whose Education Scholarship Committee selects the recipients, hopes to set up a permanent Negro scholarship fund of at least \$10,000. Three more scholarships are to be awarded.

Last month, the five current scholarship holders were given letters of commendation by Manhattan Borough President Mrs. Constance Baker Motley, who, incidentally, is also a Negro. They were cited for the example they are setting by accepting the scholarships, and the letter expressed hope that other professional societies would follow the AIA's lead in helping minority groups. The New York Chapter would like to see other Chapters take up the same work, if they have not done so already. It is to be hoped that national AIA headquarters might interest itself in such a cause, in addition to the narrower goals of lobbying for itself and the profession.

#### **Classic Temple in California Olive Grove**

PASADENA, CALIF. Looking a little like a coolie hat perched on top of a cup cake, Edward Durell Stone's Beekman Auditorium for the California Institute of Technology opened here in late March. Stone has tried to create an environment by treating all elements of the design (interior, exterior, and site as a single problem. And, to an extent, he has succeeded. He has dared to design a building whose outstanding exterior quality is its beauty, in an era when a building's form must be functional first, aesthetically pleasing second. But the beauty of the Beekman auditorium is that of a jewel box that Alice might have found in Wonderland. It may be useful, but is it real? The setting-a broad promenade lined with olive trees-augments this feeling of unreality. While the setting hints at grandeur, the focal point itself becomes a trompe l'oeil of disappointment in scale. The spectator is somehow lead to expect an awesome experience, and instead finds this temple to Artemis, which by its design and form even diminishes its own scale.

The circular hall is encircled by 32 diamond-shaped columns, flaring at the top to form capitals that support the roof overhang. The white roof is decorated with circles enclosed in gold lines, and the walls with gold-enclosed diamonds. This diamond pattern is repeated on a smaller scale inside.

Inside, the building succeeds visually. It is simple and gay and just slightly, charmingly facetious. The circular auditorium will seat 1500 persons for a lecture or film or chamber music. And in the basement are rehearsal and conference rooms. Hanging over the auditorium is an acoustical ceiling of mesh gold medallions, strung like beads, a device Stone first used in 1947 when remodeling the Victoria theater. The mesh ceiling gives the visual feeling of an elegant beach tent at Bath, a feeling the exterior tries to reiterate but does not.









## Initial Library for New California Campus

SANTA CRUZ, CALIF. A redwood-covered site just north of Monterey Bay would be a grand architectural setting for almost any building, except maybe Pan Am or Mont St. Michele. Planned on just such a knoll in Santa Cruz is the Library of what will be the University of California at Santa Cruz. Actually, the building will be the first of three eventual library units, but is designed to stand alone. With construction due to start this summer, the library will consist of two rectangular modules, deeply pierced by a central court, and surrounded by a colonnade that supports the third and top story, which reaches out to meet it. Viewed from the upper stories, the court is, in effect, a monumental light well. On the first floor, it is a partially enclosed, planted reading garden. The cast-in-place columns and exposed structural beams will be bush-hammered. On the upper floor, which will house study carrels, the façade panels will be of precast exposed aggregate concrete. Entrance to the building will be by way of steps to the second level on the north. On one side of the

entrance, which opens onto the reading court, is a bookstore; on the other, the main library. A balcony across the courtyard connects these two parts of the building on the top level. Architects John Carl Warnecke & Associates, who developed the master plan for the entire Santa Cruz campus, designed the library, although other architects will be called in to design other buildings. According to Warnecke's plan, buildings will have some unity of materials, all being built of concrete, with some wood trim.







(LUNALY DOAL PACY SE)



**Cultural Oasis for Ottawa** 

OTTAWA, CANADA When completed in mid-1967, the Confederation Square area of Ottawa will form a sort of oasis in the heart of the downtown business district. One of the public buildings planned for the area is the National Museum, a large, all-concrete building scheduled to get under way this summer. The museum will provide space for exhibit, research, and storage of purely Canadian artifacts, as the Smithsonian does for istrative, research, cataloguing, and staff facilities. Main-display area requirements dictated a long-span grid system.

On the exterior, the main structure will be clad with precast concrete panels; the main exhibit areas will be windowless. Appropriately enough, Canadian limestone will cover the terrace structure and the supporting piers. Running from beneath the building to the banks of the nearby Rideau Canal, the terrace will partly



U.S. objects. A preliminary rendering shows the museum elevated on piers over a terrace, with a portion of interior, terrace-level space housing a temporary exhibit area and a public cafeteria. Above the terrace are the main exhibition floors—a 180,000-sq-ft area out of a total gross area of 600,000 sq ft. Above these floors are two floors of adminfront on the water and will connect the museum with the soon-to-be-built Canadian Centre for the Performing Arts.

Thompson, Berwick, Pratt & Partners is the designer, and working drawings are being done by Crevier, Lemieux, Mercier & Caron. Both firms are working under the Chief Architect of the Canadian Department of Public Works.

Bank Highlights Big D. DALLAS, TEX. Part of the bigness of Texas, like part of the legend of Davy Crockett, is myth. But behind the myth lurks substance. Very substantive indeed is the recently opened headquarters of the First National Bank in Dallas. Rising from a white marble base to a total height of 628', it is the tallest building west of the Mississippi, and was completed after four years of planning and construction at a cost of \$35 million. Its 52 stories contain 1,510,000 sq ft; of this



total, about 240,000 sq ft will provide parking for more than 800 cars on two underground levels.

Rising from a full block site (200' x 375') in downtown Dallas, the building looks a little as though New York's Time-Life building were growing from a section of Atlantic City's Steel Pier. The ninestory base is distinguished by 40 six-story columns supporting a three-story windowless slab that will house most of the bank's business operations. Above this garden-topped base rises a 43-story, glass-sheathed tower. Measuring 75' x 225', it contains (the bank announces proudly) 81/3 acres of glass, and is slightly thicker at its center (95') than at its ends, making the tower hexagonal rather than rectangular. Tower mullions, of white marble and plexiglass, hold fluorescent light tubes; when lit at night, these lights give the building a pyrotechnic accent, as if it were shooting skyward.

In all, over \$1,000,000 was spent on exterior marblemarble that comes from the same source as the Parthenon's, mined at Marathon, a good 26 miles run from Athens, and shipped to Dallas. The only native Texas material connected with the building is the pink granite used in the sidewalk planting boxes.

Because mechanical equipment is located on the building's top three floors, the façade is uninterrupted by the bands of louvers that customarily circle a building marking intermediate mechanical floors.

According to the bank, visitors to the fiftieth floor observation terrace can, on a clear day, see Fort Worth 40 miles to the west.

Architects were Thomas E. Stanley and George L. Dahl of Dallas.

#### **Kling Throws Another Curve**

FARMINGTON, CONN. Vincent G. Kling seems to be showing an increasing propensity for designing buildings that are as curvilinear as the waves in his hair. We have seen his American Baptist Convention Headquarters in Valley Forge, the American Cyanamid offices in New Jersey, and, last month, the operations offices of TVA near Chattanooga (pp. 222-

223, APRIL 1965 P/A). Now, Kling curves will crown a hilltop in Farmington, Connecticut, to provide quarters for the University of Connecticut Health Center.

The center will house the University's Medical School and School of Dental Medicine, with in-patient and outpatient facilities, hospital, and medical and dental research

uly Spelel



offices, classrooms, and labs. These elements will be situated in four "curving and interlocking buildings" around an inner, elliptical courtyard. Kling feels that the hilltop site will be "a symbolic gesture to the community" that says, "Here one arrives at the summit for health care." The basic science teaching facilities and research center will be completed in the first phase of construction, scheduled to open for the fall term of 1968. Completion of the out-patient department and hospital is scheduled for a year later.

## Secret Weapon Proposed

NEW YORK, N.Y. Instant architecture seems to be looming in the news as a diplomatic or Cold War weapon these days. Last month, we revealed plans for a Levittown in France, with more to come throughout Europe, and now columnist Russell Baker of The New York Times has unveiled the "Disposable Embassy." For use in those foreign capitals whose most popular native sport is wrecking the American Embassy, or letting students from other countries do it, the Disposable Embassy has the advantage of immediate replacement after a spell of rioting. Baker states that the "design under test in Nevada is 88 per cent plastic and goes to pieces as effortlessly as the average Christmas Toy. . . . The engineers have built in cheap glass windows, which give a rewarding tinkle when smashed, and added quantities of old newspapers and rags to gratify the student rioter's normal yearning for a bout of arson." For the young rioter to feel "that he had done a good day's work against the United States . . ." the embassy's third floor windows "are equipped with clever spring devices which, upon being struck by bricks, eject plasticene effigies of Dean Rusk, Carl Rowan, and Robert S. McNamara, all suitable for easy hanging." Other amenities include dummies of American correspondents that emerge from the embassy's front door for stoning at the first cry of "Imperialist swine!," and a few frozen, spun-candy replicas of the American emblem "for the more primitive countries whose rioters may want to vent spleen by eating a flag." Baker reports that there are those who

consider the Disposable Embassy "too brutal a weapon" that would "callously take all the meaning out of a good Embassy bash. If we do that, they believe, nobody will ever love us."

#### More Norfolk Renewal

NORFOLK, VA. With the driving of what the poets of press agentry described as a "golden pile," construction was begun last month on a new headquarters for the Virginia National Bank. Rated as the hundrethlargest bank in the nation, with



assets of almost half a billion dollars, the Virginia National is aiding the redevelopment of downtown Norfolk. Its \$12million headquarters will be located on Commercial Place, a three-acre site cleared in the downtown redevelopment area that was, for over 350 years, the commercial heart of Norfolk. Designed by Skidmore, Owings & Merrill, the building will rise 24 stories from a raised 4' plaza, and, when completed, will provide about 410,-000 sq ft of gross space, onethird of it to be used by the bank. Load-bearing exterior reinforced concrete columns will give the building a strongly articulated façade. The columns are to be covered with precast facings of crushed stone and concrete. Recessed 6' from these structural columns will be tinted glass panels set in aluminum. Mechanical and service facilities will be located on the building's top two floors. Structure is scheduled to be completed by early 1967.

#### Completing the Canadian Cultural Complex

OTTAWA, CANADA Like the new national Museum Building that will soon rise near it, the Canadian Center for the Performing Arts, now being built in Ottawa, will rest on a As seen in the model photo, the three buildings will have an exterior form dictated by their interior arrangement. Instead of providing a box or a shell for culture, their forms



series of stepped terraces that will provide differing views and create space for varying activities. One area will be landscaped; another will provide shelter; and still another area will have facilities for outdoor concerts. Spilling down to the banks of the Rideau Canal, the terraces will also add a sculptured setting for the three buildings in the Center, highlighting them as a flat site would not. will act more like a stocking, or glove. Facilities include a 2300-seat Opera-Concert Hall, a 900-seat theater, and a small experimental theater that will include a salon for receptions and recitals. Also included will be a restaurant, a café, underground parking, a few boutique stores, and office space for performing arts organizations. Affleck, Desbarats, Dimakopoulos, Lebensold & Sise of Montreal are Consulting Architects.

#### Eavesdroppings

"Any damn fool can build homes. What counts is how many can you sell for how little." *William J. Levitt*.

"The building [The Rayburn House Office Building] has taken seven years and \$22 million more to complete than originally estimated, largely as the result of expensive miscalculations; change orders have reached 300 per cent over Government average; bid estimates on contracts have been as much as \$4.5 million off. . . .

"Architecturally, the Rayburn Building is a national disaster. Its defects range from profligate mishandling of 50 acres of space to elephantine esthetic banality at record costs....

"It is quite possible that this is the worst building for the most money in the history of the construction art. It stuns by sheer mass and boring bulk. Only 15 per cent of its space is devoted to the offices and hearing rooms for which it was erected....

"It is hard to label the building, but it might be called Corrupt Classic. Its empty aridity and degraded classical details are vulgarization without drama, and to be both dull and vulgar may be an achievement of sorts....

"The structure's chief 'design features' are hollow exercises in sham grandeur. A supercolossal exterior expanse of stolid, Mussolini-style pomp is embellished with sculpture that would be the apogee of art in the Soviet Union, where overscaled muscles and expressions of empty solemnity are still admired.

"... The Rayburn Building is the third solid gold turkey in a row to come out of the office of the Architect of the Capitol, J. George Stewart, who is not an architect, but who picks them for Congress.

... He is also responsible for the ill-advised remodeling of the Capitol's East Front and the construction of the new Senate Office Building." Ada Louise Huxtable, writing in "The New York Times."

"The time has come for us to use the taxing powers of Government as a creative force for conservation. Why not tax the owners of ugliness, the keepers of eyesores, and the polluters of air and water, instead of penalizing the proprietors of open space who are willing to keep the countryside beautiful?" Stewart L. Udall, "The Quiet Crisis."

"We have the choice of building a new nation and a new culture to rival ancient Greece and Imperial Rome, or to create the most appalling, frightening, and ruinous ugliness the world has ever seen. It is a paradox worth noting here that many of our people become inured to the ugliness in the familiar streets and environs of their communities, that the reality of their environmental ugliness comes as a revelation when seen through the camera's eye.

"Ugliness is ruinously expensive. It depresses the human spirit as surely as it flattens the community pocketbook." Arthur Gould Odell, speaking to the 14th Australian Architectural Convention of The Royal Australian Institute of Architects. "The only way to compete with the automobile is to offer a ride that's competitive. In this country, 1920 model transit now is trying to compete with the auto traffic of the mid-60's." Bill R. Stokes, general manager of Bay Area Rapid Transit District, San Francisco, Calif.

"... Our buildings are a chain of a time, a chord of memory, connecting us with a venerable segment of our national past." James D. Van Trump, Editor of "Charette."

#### **Obituaries**

Walter W. Ahlschlager, architect of the Roxy Theater in New York, died March 28 at the age of 77.

#### Scruffy But Nice

BLADON, ENGLAND Visitors to the grave of Franklin D. Roosevelt at Hyde Park, New York, are often disgusted by the intrusion of commercial concerns that hawk cheap food, souvenirs, and open-air movies on the highway outside the gate of the shrine. The little village of Bladon, whose churchyard cemetery recently received the remains of Roosevelt's wartime brother-in-arms Winston S. Churchill, has decided to ban such vulgarisms. Citing the screeching commercialism of Shakespeare's birthplace, Stratford-on-Avon, the parish councilors of Bladon voted to oppose the intrusion of big commercial tourist "attractions" and to prosecute vendors and pitchmen who set up stands in their town. One of the councilors said: "Bladon has never claimed to be a place of beauty, but it looks right even if it is scruffy and that is the way we like it."

Good show, Bladon! We hope your American cousins will follow your lead.

#### Competitions

California State Polytechnic College, San Luis Obispo, has a new awards program, offering a no-strings-attached \$1000 to a student of architecture or architectural engineering at the college . . . The American Association of Nurserymen have announced the Annual Industrial and Institutional Landscape Awards Competition. Entries must be submitted by September 1. Further information is available from Curtis H. Potterfield, Executive Vice-President, American Association of Nurserymen, 835 Southern Bldg., Washington, D.C.

## Preservation Solution: Find a Use

NEW YORK, N.Y. Giorgio Cavaglieri, architect and president of New York's Municipal Art Society, is a prominent defender of the Just and Right in causes dealing with the quality of architecture and planning in New York. Recently, when it was announced that the old Friends' Meeting House on Gramercy Park would be demolished to make way for a new apartment building, he told P/A that, of course, such losses are tragic, but that vir-



tually the only way these older structures can be saved is to find a way to make them useful. If the meeting house were converted into an off-Broadway theater, or a corporation were to take it over in a public relations gesture as a place to hold large meetings, it might have been spared. Cavaglieri practices what he preaches, as you saw last November when we presented his plan to renovate the old Jefferson Markct Courthouse in Greenwich Village into a branch public library (pp. 49-50). Now, Cavaglieri has turned the Colony Club building on Madison Avenue (designed by Stanford White in 1907) into the quarters of the American Academy of Dramatic Arts, a drama school. The façade of the building, cleaned up, remains much as White designed it, except





that its original porch was removed several years after it was built and replaced with white pilasters against the wall. (W. Whitehill was the architect for this change.) Inside, in space originally graced with décor by Elsie deWolf but more recently occupied by a Vic Tanny grunt-and-groan emporium, Cavaglieri has provided an amphitheater-style auditorium where once there was a dining veranda facing a back garden. A system of movable panels acts as backdrop for the stage. The architect says: "It may seem strange that the audience enters the auditorium from the side and the actors can reach the stage by what appears to be the main door, but this is a classroom theater, not a commercial one." In addition to the theater, there are offices for the academy and ballet classrooms. ("In this one, some rather debatable lighting fixtures inherited from Vic time." Tanny's Cavaglieri says.) The building bears a bronze plaque of the Community Trust designating it a New York City Landmark Building. Consultants to the architect were Robert Mitchell for theater design and Tharon Musser for theater lighting. Nicola Ginzburg was the mechanical engineer.

The importance of private owners performing this kind of saving operations for older buildings was not lessened by the passage, at long last, of New York's Landmarks Preservation Bill. Although Mayor Wagner signed the bill into law late last month, it remains to be seen whether it will actually be used to preserve some small part of the architectural heritage New York still retains, or whether it will be allowed to molder peacefully in a municipal cubbyhole until everyone, to the relief of the real estate speculators, has forgotten about it.

#### OLD BUILDINGS: NYET

NEW YORK, N. Y. When Nikita Khrushchev spent almost a month in New York City in 1960 attending a U.N. meeting, he was distressed to see Americans pulling down many perfectly good buildings and said so. Now, less than 8 months after Khrushchev himself was pulled down, the lyrics in Moscow have changed. Speaking at the conclusion of a U.S. tour that included brief visits to New York, Philadelphia, Washington, Los Angeles, San Francisco, Chicago, and Detroit, Mikhail Posokhin (Chairman of the State Committee for Civil Engineering and Architecture by the Gosstroy of the USSR, and Chief Architect of Moscow) saw nothing wrong with tearing down old buildings to make way for new ones. "We do that all the time in Russia," he explained.

In Moscow, they are beginning to. Ever since Stalin did some renewal at the center of town during the 30's, removing old wooden shacks and putting up office buildings, most of the new building has consisted of apartment developments on the city's outskirts. Now, however, urban transportation difficulties have caused the Russians to start thinking about limiting the size of cities both in area and population. (One of the main reasons for Posokhin's trip was to study this problem.) And now, like an Indian fakir who turns from contemplating the horizon to contemplating his navel, Moscow is again renewing its midsection. According to one source, Moscow plans this year to construct 38 million sq ft of apartment space in the center of town, and in addition to build 10 movie theaters, 42 schools, and 25 clinics. Slated for destruction are buildings older than 40 years. Since no land is privately owned in Russia, the urban renewal task there is more direct than it is in the U.S. But the supermaze of their bureaucracy and the quality of construction have so far made the end result less appealing. Currently, Moscow has increased the number of architects in train-

ing. When asked what changes we might expect to see in Russian architecture and planning as a result of his trip, Posokhin answered that he would have to go home to think over what he has seen. What did he see here that might be useful in Russia? "Nothing, except maybe freeway cloverleaf interchanges, and . . . Levittown."

#### **Crawfish Cantilever**

JACKSONVILLE, FLA. Sitting atop a broad podium on a riverfront site and peering across at Jacksonville, the home office of the Gulf Life Insurance Company is starting to rise to

its full 430 ft. At 27 stories, this will make it the tallest building in town, and also the tallest precast, post-tensioned concrete structure in the U.S. Its completely exposed structural frame is as distinctive as a Florida crawfish's. One wishes Gulf Life had realized this distinction and omitted its name in the story-high letters at the building's top. Eight tapered, concrete columns, two on each side of the square tower, together with the cast-in-place



central core, support the building. Joining between core and frame are prestressed concrete double-T units. These T units fit onto arms that reach out from both sides of each column, cantilevered a remarkable 40 feet. Beneath each arm is a haunch that tapers as it stretches away from the column, lending the building much of its character. Each of these cantilevered arms comprises 14 precast units, strung together with high-strength steel rods, then placed in tension by tightening fasteners on either end.

glass window Dark-gray walls are set back 15" from the structure. The building's first three stories are stepped down from the glass curtain walls. The first level is a glassenclosed lobby; the second and third levels are occupied by a bank; beneath podium level will be a concourse floor housing a 600-seat cafeteria that overlooks the river, an employee lounge, and a large kitchen.

The 505,000-sq-ft tower is part of a \$25-million Gulf Life Center, designed by Welton Becket & Associates. Other structures on the 12-acre site will be a luxury motor hotel, and a 6-level parking structure for 1,100 cars. Much of the site will be covered with landscaped walkways and recreation areas. A combination boat dock and gazebo will extend into the river.



#### Schools

The George Washington University School of Engineering and Applied Science in Washington, D.C., will offer from June 14 to 25 a Fallout Shelter Analysis Course, from June 28 to July 9 a Protective Construction Course, and from June 28 to July 2 an Environmental Engineering Course. Interested persons are urged to apply immediately. Requests should be sent to Director, Training and Education, Office of Civil Defense in your Region, or to Region 2, Riggs Road, Olney, Md. ... ARCHITECTURE PLUS, a student publication at Texas A & M University's School of Architecture, will have in its fall issue a study of Poland: 1945-1965. This is the beginning of a series which explores architecture and allied fields in foreign countries . . . A European New Towns Seminar will be held under the auspices of the Department of City and Regional Planning of the University of Pennsylvania from August 5-19 in Scotland, Sweden, and Finland. Those interested in attending should contact Dr. William G. Grigsby, Institute for Urban Studies, University of Pennsylvania, 3400 Walnut Street, Philadelphia, Pa. . . June 21-25 are the dates of the course on the dynamics of shell structures to be held at the University of California, Los Angeles. Inquiries should be sent to Department K, University of California Extension, Los Angeles, California . . . The annual seminars on American culture sponsored by the New York State Historical Association in Cooperstown, New York, will be held from July 5 to July 18 . . . The Williamson School, Media, Pa., has announced a new course in building construction technology, to be initiated in 1966 . . . "Changing Concepts of Human Habitations" will be the theme of a symposium to be held in the first week of December under the sponsorship of Central Building Research Institute in Roorkee, India. Under this general theme, four topics will be discussed: Human and Social Needs; Planning Concepts and Bye-Laws; Architectural Concepts and Values; Building Materials and Techniques. Further information is available from General Secretary, Symposium Organizing Committee, Central Building Research Institute, Roorkee, India . . . Each year, the National Association of Women in Construction offers scholarships to qualified students who intend to study some phase of construction and who reside in cities in which there is a chapter of Women in Construction. The scholarship, awarded for four years, is determined by NMSOT scores and the decision of the trustees of the NAWIC Founders Scholarship Foundation.

## ERRATA

· Associated with Edward Larrabee Barnes on the winning design of Boston's "Parcel 8" building (p. 51, MARCH 1965 P/A) was Emery Roth & Sons. The associate of Marcel Breuer & Associates in the same pro-



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# **OK. Now forget it.**

(Only until your next job, that is.)



gram was Samuel Glaser. The Kelly & Gruzen/Pier Luigi Nervi team had as consultants Seelye, Stevenson, Value & Knecht, Engineers, and Sasaki, Walker Associates, Landscape Architects. Herman Herrey was coordinating architect.

• The William Penn Memorial Museum and adjoining Archives Building, described on p. 60, MARCH 1965 P/A, as having "windowless walls of Indiana limestone" have, in fact, walls of Alabama limestone from the Georgia Marble Company. Our erroneous information came from Authenticated News International, who, in turn, got it directly from the client.

#### Calendar

"The Architect Chooses Art" is the title of an exhibition to be held from May 3-28 at the Architectural League of New York, 115 East 40 St., New York, N.Y. Co-sponsor is the Artist-Craftsmen of New York. . . The Mayflower Hotel, Washington, D. C., from May 17-21 will blaze with fire protection experts gathered there for the Annual Meeting of the National Fire Protection Association . . . Topic of the annual Carnegie Conference to be held June 5 at Carnegie Institute of Technology, Pittsburgh is "The City-Challenge and Change" ... National Lighting Exposition will be held June 6-9 at the New York Coliseum . . . "Modern Wood Structures" will be the theme of the American Society of Civil Engineering Conference to be held from June 9-11 at the Pick-Congress Hotel in Chicago. Architect Victor Lundy will give one of the keynote addresses. For further information, write Prof. Kenneth P. Milbradt, Department of Civil Engineering, Illinois Institute of Technology, IIT Center, Chicago, Ill. . . . Meeting of the American Society of Certified Engineering Technicians (ASCET) will be held June 18-19 at the Schroeder Hotel, Milwaukee, Wis. Those wishing more details should write ASCET, 2029 K St., Washington, D.C. . . . The Western Skies Motor Hotel, Albuquerque, New Mexico, will hold the Annual Meeting of the National Society of Professional Engineers . . . NAWIC (National Association of Women in Construction) Convention to be held in San Diego, Calif., at the El Cortez Hotel from September 16–19.

#### Personalities

New president of the Associated General Contractors of America is Ira H. Hardin from Atlanta, Ga. . . . Charles H. Atherton of Wilkes-Barre, Pa., has been appointed secretary of the Fine Arts Commission ... Samuel Lunden, Los Angeles architect, has been elected president of Town Hall, a men's civic organization . . . Arthur Gould Odell, Jr., Morris Ketchum, Jr., and Samuel Inman Cooper have been made members of the Venezuelan Society of Architects . . . Douglas F. Trees, a fifth-year student at Ohio State University, is the winner of the 1965 Reynolds Aluminum Prize for Architectural Students. His design of a botanical display building of aluminum and transparent plastic brings a prize of \$5,000 to be divided between him and his school . . C. Randolph Wedding, Florida architect, has been retained by M.G.M. to design, supervise construction of, and landscape the H.M.S. Bounty exhibit to be shown at the New York World's Fair . . . The Michigan Society of Architects has awarded its Gold Medal to Robert F. Hastings, current AIA Treasurer . . . The New York Chapter, AIA, has named L. Bancell Lafarge and Edgar Tafel as representatives to the Fine Arts Federation of New York; other representatives are Marcel Breuer, Philip Ives, Alfred Easton Poor, and G.E. Kidder Smith . . . The American Academy in Rome has announced its Rome Prize Fellowships for this year: in architecture, William E. Pedersen, Jr., with the firm of Eduardo Catalano of Cambridge; and in landscape architecture, Jon S. Emerson of Sasaki, Walker & Associates . . . French Sculptor Francois Stahly is artist-inresidence at Stanford University this year . . . Hubert B. Owens, Chairman of the Division of Landscape Architecture at the University of Georgia, has been elected president of the American Society of Landscape Architects for 1965-67 . . . Charles Eames, artist, designer, and film-maker has received the President's Medal of the Art Directors Club.

## WASHINGTON/FINANCIAL NEWS

#### BY E. E. HALMOS, JR.

The bureaucratic fuss that has brought a number of architects out fighting over the position and prerogatives of the General Services Administration's top architect could well be no more than a teapot tempest. It depends on one's point of view.

What's actually happened is that Karel Yasko—hired under the Kennedy Administration some years ago as Assistant Commissioner for Design and Construction of GSA—has now been shorn of the word "construction" in his title. A new Assistant Commissioner of Construction will be appointed on an equal basis with Yasko —whenever the President gets around to it.

Actually, the President had a couple of far more important appointments (from his viewpoint, anyway) to make to GSA before he got around to construction: an Administrator to replace long-resigned Bernard Boutin, and a Commissioner of Public Buildings.

Whether Mr. Yasko's changed title really means a downgrading of architecture in GSA, as has been charged by several writers, is a matter of argument.

Undoubtedly, Yasko's efforts will soon result in new Federal buildings that will be a credit to the profession (see pp. 188– 195, MARCH 1965 P/A). And the new Federal court and office building in Chicago, built under his aegis, has already been widely noted. There's also no doubt that Yasko has taken seriously the Kennedy directive that "the finest architectural thought" should be applied to Government work.

But there are also a few points on the side of Acting GSA Administrator Lawson B. Knott, a 30-year career man (a lawyer by training). He argues that the administration of a building program nearing \$700 million yearly is too much to add to the duties of Yasko's job as design supervisor.

Flying about in the tempest are some political implications —charges, in fact, that the Democratic National Committee itself is now making the actual selection of architects; and charges that trimming Yasko's title is a move intended to downgrade some of the Kennedy objectives.

#### **Urban Chances Improve**

Both houses of Congress now have before them perennial bills to create some sort of a "Department of Urban Affairs" at cabinet level. Chances for enactment are better this year than in the recent past, though it is no sure bet even now.

All of the bills seem to be vague on the one point that's of most concern: Just what would such a department do, and what functions could it perform that are not now being handled somewhere else in Government?

An example is Senator Ribicoff's bill (with 11 co-sponsors)-S.1599-which calls for a Department of Urban Affairs. It sets out the necessary machinery for assembling personnel, paying them, reporting to the President and Congress, and the like. But it doesn't define the duties and powers of the department, and what sort of a takeover of other Federal agencies would be required or authorized. It contains some generalities about cooperating with local and Federal agencies, offering advice and clearing-house service, etc.

This has been the real stumbling block to previous legislation: Congress and the public are aware that increasing urbanization is posing more problems daily. But a method for creating a "voice for the cities" at the Presidential table —and at the same time avoiding the anguish and infighting that will be caused by overlap into many established areas has not been solved.

#### AGC Joins, Tentatively

Associated General Contractor members gave a somewhat grudging assent to membership in two liaison committees with the American Institute of Architects and others. AGC —like engineer groups—isn't really happy with a compromise it feels was forced on it. But the group's annual meeting at San Francisco okayed membership for one year.

#### **Highway Pork Barrel**

Highway news—most of it concerned with the twin problems of added costs and "what to do after '72"—continued to



## What do these shapes have in common?

They are the shapes of major spaces that have played critical roles in man's progress through the ages. (See answers below.) Man's employment of major spaces is the intriguing, adventurous theme of the June issue of PROGRESSIVE ARCHITECTURE.

From ancient baths to the Houston astrodome, from medieval cathedrals to the doomed domes of New York's Penn Station; the P/A story explores the past, the present and the exciting future of spatial design. Ten months in preparation, "Major Space" is another outstanding journalistic "first" for architecture's most imaginative editorial staff.

There's an unusual reading adventure waiting for you in the June P/A. Send your \$5 check immediately and you'll receive the June issue plus eleven more, including the exciting January Design Awards issue. Address Circulation Department, PROGRESSIVE ARCHITECTURE, Reinhold Publishing Corp., 430 Park Avenue, New York, N. Y. 10022.

"Major Spaces" pictured above: 1. Stadium, 2. Cathedral, 3. Exhibition Hall, 4. Airplane Hangar.

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be discussed prominently. The added charges, stemming almost entirely from new estimates of right-of-way costs and newer designs, mean that Congress must find more than \$200 million a year in new revenues for the Highway Trust Fund (if the program is to be kept on a "pay as you go" basis). The reference to "'72" is a reference to the statutory ending of the Interstate program in 1972; most legislators don't like to think of the end of 90 per cent Federal monies. And there are many schemes to continue the program.

The long-dormant House investigations into alleged skulduggery in highway construction came to life suddenly on the last two days of March, when a special House committee began looking into what has happened in Louisiana. Of special concern were the socalled secondary road programs (the ABC programs), for which the Federal Government provides 50 per cent of the costs.

#### **Construction Picketing**

The sudden Congressional attention to matters such as voting rights, and the fact that this bill and other special Presidential concerns have held up consideration of appropriations, seems to dim chances for a pet project of labor unions: so-called "common situs" picketing, now prohibited under the Taft-Hartley law.

Labor has long argued that it should be permitted to picket (thus effectively shut down) an entire construction project, even though the dispute may be with only one of many contractors on the job. A halfgross of bills to permit such picketing are in the hoppers.

#### **Taxing Concerns**

Professional groups—and states —finally lost the battle in their year-long go-round with the Internal Revenue Service over tax treatment of so-called "professional associations."

Such "associations" are permitted in more than 25 states, under strict controls, as a device to give architects, engineers, attorneys, and others the advantages of corporate treatment—even though these professionals are expressly forbidden to incorporate. However, they are allowed to form "associations" to render services, issue stock, etc., but they must retain individual liability and must not let stock be con-

#### a specification from Hillyard ...

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#### **DESCRIPTION:**

CEM-SEAL is a modified chlorinated rubber in a volatile aromatic solvent. It forms a clear membrane surface barrier that holds the moisture in the mix for a prolonged curing period to complete hydration. Produces water-tight, dense, hard concrete. At the same time, it protects against the penetration of moisture, stains or other soil as other trades complete construction. CEM-SEAL can be used on vertical installations.

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One man, who need not have special training, can apply CEM-SEAL with a sheepskin applicator or ordinary sprayer. CEM-SEAL can be applied as soon as the slab can bear weight, and dries traffic-ready in four hours.

#### COVERAGE:

500 to 700 square feet per gallon. Only one coat needed.

#### **ADVANTAGES:**

Resilient floor tile, paint or surface finish may be applied when slab is thoroughly dry (free from moisture) and providing that preparatory steps are carefully followed.

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Man hours and material costs are greatly reduced when compared to curing methods using—wet spraying, covering with building paper, wet sand, straw, burlap or plastic membrane.

#### **EXCEPTIONS:**

Do not use Cem-Seal on concrete slab that is to receive Bonded or Monolithic Terrazzo.

#### **TECHNICAL DATA:**

NVM – 20%. Complies with ASTM C156-55T, water retention efficiency of liquid membrane-forming compounds for curing concrete. Also conforms to ASTM C309-58 Type I as required by the National Terrazzo and Mosaic Association. Pittsburgh Testing Laboratory: Water Retention at 3 days-Average of 3 controlled tests-98.38%.

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#### **MAINTENANCE:**

This is not a wearing surface but will leave concrete smooth and easy to maintain and free from "dusting" and efflorescence.

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Hillyard A.I.A. File No. 25G A.I.A. Building Products Register Sweets Architectural File.

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70 P/A News Report

trolled by nonprofessionals.

A year ago, IRS took a look, said it didn't see why such "associations" should be given corporate tax treatment, since they weren't corporations in fact. Professionals argued at great length about their need for the tax advantages, and their inability under state laws to operate as legal corporations. They thought they had won their point.

But in mid-February, IRS published a final ruling that stuck right with its original contention. Said the ruling: Unless a professional service organization has "sufficient corporate characteristics (including free transferability of stock, corporate liability) to be classifiable as a corporation," it won't be so treated.

Net result: You can get some tax advantage on state taxes by forming such an association, but none on Federal taxes. Most professionals feel there's little point in forming professional associations.

#### Financial

Private housing construction rates continued to ring an alarm bell in a generally slower-moving early-year construction economy.

While estimated value of total construction put in place rose sluggishly (4 per cent over last year) to \$4.3 billion in February, a number of privately-owned housing units started dropped 14 per cent below a year ago, to touch an adjusted annual rate of 1.422 million in February.

Most of the rise in the total put-in-place figures came out of private industrial and commercial construction (up 3 per cent), and new public construction (up 6 per cent).

There was continuing evidence, however, of support for construction from private enterprise and public works.

The Department of Commerce said that its latest survey of business intentions indicated that capital expenditures for new plant will continue to rise "substantially" through the year, to reach \$50.2 billion.

And the monthly reports of the Investment Bankers Association showed continuing strong voter support for most public works. In February, voters okayed 73.1 per cent of all public works bond issues presented to them, for a total of \$187.6 million of new money.



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"No breakdowns allowed" was the basic design requirement for lighting and controls in the single studio designed by RCA for continuous transmission of color TV programs (1) hours every day) during the 1964-65 New York World's Fair.

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Kliegl designed compact quartz-iodine units and 4scene SCR® solid state dimmer control (above) to deliver sustained periods of uninterrupted service.

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#### **NEW PRODUCTS**

#### **Electric Blanket** for Ceilings

UL-approved "Sun-Glo" radiant heating can be rolled onto flat or vaulted ceilings like wallpaper. It consists of a net of knitted nylon interwoven



with thin resistance wire, which is laminated between two layers of decorative vinyl (.060" thickness). Panels are available with embossed matte finish and plain white and in several nondirectional "con-sumer" designs. Special custom feature is that the nylon fabric can be laminated under clear plastic (top sample), exposing the copper-wired mechanical system to create an aesthetic effect. Installation is accomplished in four steps: drill hole in ceiling for lead wire; apply mastic to ceiling; put wire through hole, connect it to junction box, and unroll panel onto ceiling surface; roll to assure bond. Sun-Glo operates at 100 F and on 240 w. It has an output of about 17 w per sq ft. Standard panels come in 2' widths with lengths ranging from 4' to 14'. Custom panels are plain surface modules in sizes from 26" x 50" to 36" x 144". These are installed in random fashion and then covered by paint or an acoustical spray. Temperature in each room is controlled individual by thermostats.

Goodyear Tire & Rubber Co., Akron, Ohio. On Readers' Service Card, Circle 100

> Air/Temperature **Purified Air** For Large Areas

"Apsee" air charger purifies air by neutralizing static electricity within selected area "up



to several thousand sq ft." Dust, mists, sprays, and odors settle to floor and do not rise again. Static problems in paper, film, acetates, and carpeting are removed. Air charger can be located near specific equipment, placed in supply or return air ducts, or used as plug-in portable unit. It uses 110 a-c at 225 w power. Apsee Co., 17957 Karen Drive, Encino, Calif.

On Readers' Service Card, Circle 101

## Construction **Channel Glass**

"Profilite," the American version of Western Europe's "Profilit," is a glass channel. It can be used without cross bars in unusually long lengths for day-lighting installations in roofs, walls, partitions, and screens. Double-glazed units provide good heat- and sound-insulation. Glass weighs about 4.34





lbs per lin ft, and measures 11 13/16" in width, 15/8" in height, and 1/4" in thickness. Each channel with sealant is 1' wide when installed. Profilite can be installed in any length up to 20' or longer. Standard case lots contain 30 channels, each 12'1" long. Mississippi Glass Co., 88 Angelica St., St. Louis, Mo. On Readers' Service Card, Circle 102

#### **Plastic Panel** Wins Award

At recent 20th Annual Reinforced Plastics Exposition, The Society of the Plastic Industry



presented its annual Blue Ribbon Award for Building Construction Applications to Di-mensional Plastics Corpora-tion for "Krinklglas." This is a structural panel consisting of glass fiber combined with acrylic modified polyester resin and blends of color with a surfacing of multiple facets. It is noncombustible and erosionfree. Krinklglas is employed for all forms of glazing-in room dividers, canopy covers, fixtures, etc. As structural panel, it reduces exterior heat and remains color-true without fading. Dimensional Plastics Corp., 1000 E. 26 St., Hialeah, Fla. On Readers' Service Card, Circle 103

#### **Custom Bas-Relief Metal Panels**

Forming technique creates basrelief on metal panels "without considering high-cost of machined metal dies." Process



can be used for doors, interior partitions, fascia, and spandrels for curtain walls. Panels are fabricated in aluminum, bronze, and stainless steel from architect's design. All finishes are available, including oxi-dized colors for bronze and "Kalcolor" finishes for aluminum. Hupp Corp., Flour City Architectural Metals Div., 2637 27 Avenue South, Minneapolis, Minn. On Readers' Service Card, Circle 104

#### **Stress-Rated** Wood/Steel Truss

"Trus-Joist" is combination of electro-mechanically stressrated wood and steel tubing web members. It provides flat, curved, or low-pitched engineered joists for spans up to 100'. Two types are made. One is regular Trus-Joist that utilizes 2" x 4" horizontal members in flat positions and steel tubing webbed triangularly into slots and pinned. It is available in flat-joist designs as well as in pitched, tapers, arches, double-pitches, and combinations. Webbing between the two horizontal members allows adequate space for duct work



and conduits with depths from 14" to 38". The second type is Hi-Load Trus-Joist, which uses two members on edge as each top and each bottom chord plus heavier tubing for webbing. Joist depths range from 30" to 66". Trus-Dek Corp., Boise, Idaho. On Readers' Service Card, Circle 105

#### **Wood Fasteners**

Structural wood fasteners now available include: (1) Adjustable post anchor designed to hold  $4'' \ge 4''$  wood posts to concrete slabs. It resists uplift re-





sulting from high-velocity winds. (2) "Type 24 U-Grip" is used to hang joists and beams with joist sizes ranging from 2" x 4" to double 2" x 4". (3) "Fas-Lock" floor bridging can be installed after subflooring is in place, from beneath the floor joists, rather than in conventional two-step method. It is available for  $2'' \ge 8''$ ,  $2'' \ge 10''$ , and  $2'' \ge 12''$  joists with spacings of 12'', 16'', and 24". (4) "Ty-Down Sr. and Jr." framing anchors resist uplift resulting from winds blow-ing against roofs. Ty-Down Sr. is 118" wide and 103/4" long and is used for rafter to plate to stud anchorage where rafters or roof trusses fall in line with the wall studs Ty-Down Jr. is 1 th" wide but only 51/4" in length, and is used in conjunction with larger Ty-Down where the rafter or truss does not fall in line with the stud. Timber Engineering Co., 1619 Massachusetts Avenue, N.W., Washington, DC. On Readers' Service Card, Circle 106

Electrical Equipment Relocatable Receptacles "Electrostrip" is a continuous

multi-outlet strip containing instant relocatable receptacles rated at 20 amp and 125 v a-c. Outlet can be inserted at any spot along Electrostrip's length by snapping in or twisting in a receptacle after the strip has been mounted on wood, metal, plaster and dry wall, concrete, brick, cement, or cinder block surfaces. Both 2- and 3-wire units are made of extruded, rigid vinyl and are formable. They do not support combustion and have continuous slits that permit access to movable receptacles on conducting or nonconducting surfaces. Electrostrip is available in stain black or natural ivory white finishes. I-T-E Circuit Breaker Co., Box 177, Detroit, Mich.

On Readers' Service Card, Circle 107

## Strip Lighting

Low-cost, strip fluorescent lighting fixtures, called "Qwik-Strip," have no parts extending beyond the channel dimen-



sion, thereby permitting them to be mounted to the ceiling surface or in corners. Same part may be used as an end cap on an individually mounted fixture or as a channel joining plate for continuous row mounting. Parts such as lampholders, end plates, prewired sockets, and wireway covers snap into place easily. Series is available in a variety of lengths, widths, and lamp types for use in any open fixture application. Qwik-Strip also features high-temperature baked white "Miracoat" enamel finish for high-light reflectance, availability of broad selection of ballast types, conformance to all electrical safety requirements, and numerous knockouts for variations of wiring or mounting. Sylvania Electric Products Inc., 730 Third Avenue, New York, N.Y.

On Readers' Service Card, Circle 108

### **Cylindrical Lights**

"3 Line Cylinder Post Lights," made of cast aluminum, are both weatherproof and corrosion-resistant in satin-anodized or matte-anodized finish. Housings in 10" or 14" depths include integral cast open baffles, prismatic lens, louver guard, or reflector intensifier. Incandescent or mercury vapor in single, twin, triple or quad-



ruple units can be specified on 8', 10', or 12' poles, all furnished with a base. McPhilben Lighting Inc., 1329 Willoughby Ave., Brooklyn, N.Y. On Readers' Service Card, Circle 109

Finishes/Protectors One-Ply Roofing

## One-ply roofing system forms a continuous resilient mem-

a continuous resilient membrane that expands or contracts with roof deck or insulation. System consists of a roll roofing membrane that is a laminate of "Du-Pont Hy-palon" and neoprene-bound asbestos felt. Each roll covers full three squares of roof area. By using a special solvent ad-hesive and "BFG Joint Welding Tape," the rolls of roofing material are bonded together to form a continuous, waterproof covering. System offers resistance to degradation from ozone, oxygen, and sunlight. It does not stiffen or soften at temperatures normally found on a roof surface. Abrasionresistant material resists damage from oils, chemicals, fly ash, and atmospheric conditions. Roof leaks that are hard to locate with slag and graveltopped roofs are easily found with this smooth-surfaced material. Damage can be easily repaired by solvent-welding a patch of flashing to the roof membrane. It can be employed with concrete, asphalt, plywood, metal and other substrates used for decks, and can be easily installed on flat, sloped, or barrel vault roofs. B.F. Goodrich Co., Building Products Dept., Akron, Ohio. On Readers' Service Card, Circle 110



## **Aggregate Coating**

Aggregate surfacing material can be applied on the job to vertical walls of block, brick, concrete, plaster, wood, steel, asbestos, and other substrates. Architect can select unlimited combinations of stone, marble, quartz, or even glass aggregate in a variety of sizes as well as on different colored back-grounds with matte or highgloss finish. Surfacing does not burn, discolor, fade, or chalk. Basic method of application consists of trowelling special bed coat onto the substrate. Then aggregate is sprayed on with special air guns that control color intensity or density. Larger aggregates can be handset. Top sealer and glaze coat are applied to finish coating. Finestone Corp., 11355 East McNichols Rd., Detroit, Mich. On Readers' Service Card, Circle 111

## Furnishings **Finn Juhl Cabinet** Combos

Finn Juhl's flexible design for a free-standing wall system is based on the combination of simple box cabinets of uni-



form height and length (26" x 18"), which come in two depths (12" and 18"). Boxes assemble side-by-side and stack flush or stepped, depending on depth. Connecting shelves come in four sizes, permitting variable spacing. Cabinet units can accommodate different drawer combinations or hinged doors. All components, con-structed in Denmark, are of walnut, teak, or rosewood; glass shelves are alternates. Brochure illustrating assembly combinations is available. John Stuart Inc., 205 East 58 St., New York, N.Y. On Readers' Service Card, Circle 112

## **Shallow Bench**

Edward Wormley and Roger Sprunger have designed a neat, space-saving banquette of dark-stained walnut. Legs tap-



er slightly to top. Bench comes in both single and double lengths, as well as custom sizes. Dunbar Furniture Corp., Berne, Ind.

On Readers' Service Card, Circle 113

## 25 More in Dux Line

Lounge chairs and sofas predominate in Folke Ohlsson's latest designs. Among them is



a "scoop" lounge chair with chrome base and foam-rubber padding, Besides Ake Nilsson's sofa, which has a walnut frame, and chairs by Ray Zimmerman, the line includes three reduction fired stoneware tables, a stacking chair and cases, sideboards, tables, and a high-back rocker. Dux Incorporated, 1633 Adrian Road, Burlingame, Calif. On Readers' Service Card, Circle 114

## **Furniture by Peabody**

Tables and seating in the "Formula Pi" series designed by Lawrence Peabody have as bases arc-shaped horizontal members and vertical, slender,



polished-chrome rods; this arrangement produces a motif like the character "Pi" re-peated three times in each base. Coffee table has 38" cantilevered glass top. Richardson/Nemschoff, Sheboygan, Wis.

On Readers' Service Card, Circle 115

## **Armchairs Stack Too**

Jens Risom's addition to stacking-chair design is of white ash frame with laminated walnut



seat and back. Designs are available as both armchair and sidechair and with lightly padded upholstered vinyl seat. Dimensions: 22" x 22" x 32". Jens Risom Design, Inc., 444 Madison Ave., New York, N.Y. On Readers' Service Card, Circle 116

#### Insulation

### **Pressure Vent**

"Foamglas-Board" roof insulation features a built-in pressure vent system. Small 1/4" bevel on the long edges of the bottom side of each board allows moisture pressure to be vented at the perimeter of the

roof, thereby preventing small quantities of trapped moisture from building up pressure and causing roof blisters or wrinkles. Rigid 2'x4' board-type insulation is made from multiple sections of cellular glass





sandwiched between specially laminated sheets of kraft paper. It is available in three thicknesses: 1<sup>1</sup>/<sub>2</sub>", 1<sup>3</sup>/<sub>4</sub>", and 2". Pittsburgh Corning Corp., One Gateway Center, Pittsburgh, Pa.

On Readers' Service Card, Circle 117

## Sanitation/Plumbing W-C Seat

Plastic toilet seat features "Unified Design" which com-bines seat and cover to hide hinges. Semiconcealed offset hinges hold seat and cover in "up" position without special mechanisms usually required and prevent the seat and cover from striking the closet tank or valve handle. Four models are



available in wide range of fixture colors, including black and white. Beneke Corp., Columbus, Miss.

On Readers' Service Card, Circle 118

## **Special Equipment** A Mazing Ceiling

"Squiggle," a closed ribbonlike loop of light-stable polystyrene, is used as luminous ceiling. One Squiggle assembly



hung in place equals 8" x 24" ceiling unit. Assemblies are hung from white enameled steel channels suspended 2' o.c. in one direction only. Channels are made in 8' lengths and are notched and indexed for precise positioning and hanging. They are easily removed for cleaning or relamping. Luminous Ceilings Inc., 3701 N. Ravenswood, Chicago, Ill. On Readers' Service Card, Circle 119

#### **Tungsten Carbide Pen Points**

Tungsten carbide is now being used in the manufacture of pen points. Abrasion-resistant metal points are primarily used on film in programmed automated drafting machines but they can also be used by draftsmen. Points are available in all seven point sizes. Koh-I-Noor, Inc., 100 North St., Bloomsbury, N.J.

On Readers' Service Card, Circle 120

#### Surfacing

#### **Knock-Down Carpet**

Flexibility in carpeting is the keynote of "RugTiles." These 12" x 12" polystyrene-backed squares have faces of nylon pile or vinyl wood-grains and coordinated colors; they appear to be one-piece flooring when assembled. The squares are installed merely by fitting their dovetail edges together. No mastic is used; thus the flooring can be easily removed in its entirety, or portions of it replaced when worn or soiled. Another advantage of RugTiles is their design flexibility, which permits combinations of textures to be assembled; hard surface tiles might



surround nylon tiles to give an area-rug effect; a desk-chair mat of hard-surface tile could be used in an office with wallto-wall nylon pile surrounding it; for commercial or residential interiors, random patterns can be created from a selection of six piles, using varied colors. Brochure illustrating installation techniques is available. Roxbury Carpet Co., Saxonville, Mass.

On Readers' Service Card, Circle 121

#### **Op Art Plastics**

effects-Dizzying optical shimmering moire patterns, stardust sparkles, and deceptive depth-of-field images-all produced by three-dimensional plastic sheeting, are waiting to be exploited by designers. Rowlux "multilens" sheeting is molded with thousands of parabolic lenses per sq in. on both surfaces; minute variations in registration produce the dramatic effects (see draw-





ing). Sheeting is available in variety of colors, some twocolor effects; it comes in translucent form or with one surface metallized, i.e. mirrored. Already used for sculptures (photo), paintings, and displays, Rowlux is an uncommon material that can enjoyably be put to new uses. Rowlux Division, Rowland Products, Inc., Kensington, Conn. On Readers' Service Card, Circle 122

#### Adventuresome Textures

From the world of women's fashions comes a new development with the euphemistic name "Deep Pile Fabrics." They started as crazy coats, but the fiber blends-acrylic and modacrylic, including Eastman's Kodel polyestersuggest service as area rugs,



pillows, perhaps even upholstery and wall coverings. They merit imaginative consideration. Textures vary (the bathmat look is not mandatory): "Alska" (like Santa's beard,



sample shown); "Skön" (a tamer, denser Alska); "Cordapile" (long-haired corduroy); "Glenotchka" (like sheared lamb); "Spoofer" (like wellcombed gorilla); others available to the inventive designer. Some pop colorings are questionable, but blacks, whites, grays, and browns have rich potential. Glenoit Mills, Inc., 111 W 40 St., New York, N. Y., 10018. On Readers' Service Card, Circle 123

## **Glass** Fiber **Wood Panels**

"Ridgewood" is translucent, glass-fiber weather-resistant panel with natural wood ap-



pearance. Panel does not shatter, fade, warp, rot, rust, craze, or mildew. It is available flat or ribbed. Photo shows Ridgewood at left and actual wood strip on right. Alsynite Div., Reichhold Chemicals, Inc., 525 N. Broadway, White Plains, N.Y.

On Readers' Service Card, Circle 124

## HOW WELL DO YOU KNOW YOUR BUILDING?

# He's doing 4 operations in 1-

# homasote FLOOR DECKING

with

modern



Weatherproof, all wood-fibre Homasote Floor Decking eliminates separate cutting, fitting and nailing. Carpet and pad can be installed right over "4-Way"-resilient floor covers need only an additional layer of hardboard or plywood. Write for Bulletin 4-212.

May 1965

#### FOR GARDEN AND LOW-RISE APARTMENTS, MOTELS AND BETTER-QUALITY HOMES

The minute a 2' x 8' panel of "4-Way" Floor Decking is nailed to floor joists you have (1) sub-flooring; (2) underlayment for wall-to-wall carpeting; (3) sound deadening\* and (4) weatherproof protection. No separate, costlier operations. Carpet and pad can be installed right over "4-Way." Panels are  $1^{11}/_{32}$ " thick, T&G on long edges, termite-protected and rugged. For technical data, engineering test results and names of nearby installations, write to Dept. E-4.

\* INR+9 and STC 47 with ceiling of 5%" gypsum on resilient channels and 40 oz. pad and carpet on Homasote Floor Decking. Tested according to FHA #750 and ISO-R-140.



#### **MANUFACTURERS' DATA**

## Air/Temperature **Blending Air**

"Bonded Line" of heating and air-conditioning equipment is described in 16-page booklet. Features and specifications for more than 100 heaters, furnaces, air conditioners, and heat pumps are given, as well as information on "Blend-Air" pre-engineered air-distribution system. In conventional systems, registers take air from the furnace and deliver it directly into the room. In this Blend-Air system, patented "Blenders" are used as mixing chambers within which heated or cooled air from the furnace is blended with room-temperature air. Blended air is then delivered at a comfortable temperature. Adjustable Blenders can be installed in the ceiling, floor, baseboard, or wall. The Coleman Co., 801 E. 37 St., Wichita, Kan. On Readers' Service Card, Circle 200

#### **Certified Air-Moving Equipment**

Seventh edition of "Who's Who," a 60-page directory, lists 665 air-moving products of 60 manufacturers licensed to use the Air Moving and Conditioning Assn. "Certified Rating Seal." Products include centrifugal fans, axial fans, propeller fans, power roof ventilators, and steam and hotwater unit heaters. Each product is licensed only after AMCA technical staff have checked test results and calculations against those published in manufacturers' catalogs. Air Moving and Conditioning Assn., Inc., 205 West Touhy Ave., Park Ridge, Ill. On Readers' Service Card, Circle 201



Motorized air distribution system for retail stores, supermarkets, and shopping centers is described in 4-page folder. Unit consists of a conventional circular air diffuser that contains a small propeller-type fan. Air diffusers are installed in the ceiling. System permits conventional building construction to be used, including insulated roof deck and standard ceiling tile or panels. According to the manufacturer, elimination of up to 90 per cent of insulated ductwork can result in savings of 50 per cent or more in the initial air-distribution system. Carnes Corp., Verona, Wis.

On Readers' Service Card, Circle 202

## **Multizone Units**

Recently developed packaged, water-cooled and air-cooled multizone air conditioners that circulate, heat, cool, dehumidify, and filter air are reviewed in 32-page manual (No. 96-573). Units are available with normal capacities from 20 through 60 tons and handle air volumes ranging from 6000 to 24,000 cfm. Information includes mechanical specs, capacity data, selection procedures, and system data. In addition, 21 quick-reference charts, graphs, and tables are presented, as well as numerous cross-sectional diagrams and drawings. Acme Industries, Inc., 600 North Mechanic St., Jackson, Mich. On Readers' Service Card, Circle 203

#### "Brick" Vents

Brick-size vents in anodized extruded aluminum are shown in 4-page bulletin. Stock size selector chart gives dimensions and free areas of 50 modular vent sizes for brick, block, and precast panel construction. Vents can be used for air-conditioning units, ventilation of roof spaces, bank vaults, boiler and incinerator rooms, pump stations, and unexcavated areas. Construction Specialties, 55 Winans Avenue, Cranford, N.J.

On Readers' Service Card, Circle 204

#### **Terminal Controls**

How to select and specify proper terminal control systems and devices to provide temperature sensing, seasonal change-over, low-voltage supply and control, water-flow control, and fan control for multiroom high-rise or singlestory structures are described in 36-page booklet. Covered are line- and low-voltage controls for 2-, 3-, and 4-pipe airconditioning systems. Total of 75 hook-ups or arrangements are schematically shown. Over 200 illustrations are included. Requests for manual should be submitted on letterhead stationery. American-Standard, Controls Div., 5900 Trumbull Ave., Detroit, Mich.

#### Humidification

Guidebook, 28 pages, describes need for humidification, humidifiers for air-handling systems, and humidifiers for area humidification. Manually controlled and evaporative pan humidifiers are presented. Data on selection, sizing, location, and installation is also included. Armstrong Machine Works, Three Rivers, Mich. On Readers' Service Card, Circle 206

### Construction **Gypsum Wall Board**

"Celotex" gypsum wall board systems for wall, partition, and ceiling-floor constructions are covered in 28-page booklet. Detailed are over 70 wall, partition, and ceiling-floor assemblies in selector guide form that allows for quick comparison of constructions. Fire rating, sound-transmission class, cost index, thickness, weight, and other data are given for particular systems. Celotex Corp., 120 S. LaSalle St., Chicago, Ill.

On Readers' Service Card. Circle 207

#### **Glass Masonry**

Types and colors of glass masonry are described in 12-page brochure. Typical details for variety of applications are given. Data is also given on structural strength, lateral strength, solar heat gain, sound reduction, surface condensation, heat loss, finishes, specs, and installation procedures. Color photos of various installations are given. Owens-Illinois, Toledo, Ohio.

On Readers' Service Card, Circle 208

#### **Modular Dome**

"Domesystem," a diversified modular structural system consisting of a tubular structural member, a connector, and an exterior covering is discussed and illustrated. Extruded alu-

minum tube (manufactured by Kawneer Co.) is anodized. Additional custom extrusions are secured to tube to hold cover panels and to drain off any condensation. Connector is four-pronged unit of malleable cast aluminum that inserts flush into tubular members.



Flush locking device fastens tube to connector, maintaining constant pressure. Exterior covering (transparent, translucent, or opaque) consists of "Plexiglas," glass-fiber reinforced plastic, aluminum, glass, or other materials. Types include full hemisphere, semi-hemisphere, barrel vault, and flat or curved bubble grid. Ickes-Braun Glass-houses, 1733 N. Western Ave., Chicago, Ill. On Readers' Service Card, Circle 209

#### **Natural Colors for Porcelain Enamel Panels**

"Nature-Tone" matte colors for porcelain-enamel curtain wall sandwich panels are illustrated in 4-page brochure. Among the 16 colors are five grays, three greens, four browns, and three blues. An additional eight colors will be added at a later date. Colors were selected by Architects Advisory Council consisting of Harris Armstrong of Kirk-wood, Mo.; Morris Ketchum Jr. of Morris Ketcheum Jr., & Associates, New York City; Ralph E. Myers of Kivett & Myers, Kansas City; and Philip Will, Jr., of The Perkins & Will Partnership, Chicago. Porcelain Enamel Institute, Inc., 1900 L Street, N.W., Washington, D.C. On Readers' Service Card, Circle 210

## **Cavity-Wall Metal Ties**

"Effect of Type of Metal Tie On the Horizontal Flexural Strength of Cavity Walls" is the subject of 8-page bulletin (No. 64-2). Covered are comparative test data on the flexural properties of cavity walls built with rectangular wire ties and two types of masonry-wall joint reinforcement. Charts, photos, and details are included. Dur-O-Wal National Inc., Box 150, Cedar Rapids, Iowa.

On Readers' Service Card, Circle 211

#### Self-Supporting **Folding Partition**

"Unispan" self-supporting folding partition system is described in 6-page folder. Unispan is a single module consisting of a steel truss, two end posts, and a "Hufcor" folding partition. System is tied to the ceiling for lateral support only and can be readily disassembled and relocated to



any alternate area of comparable size. "Unilift" device is a lever located in one or both of the two supporting end posts. Lever raises the entire Unispan partition system off the floor by telescoping it into the ceiling channel. Unilift breaks the acoustical seal and permits opening and closing of the folding partition with a maximum of 25 lb pull. Hough Mfg. Corp., Janesville, Wis. On Readers' Service Card, Circle 212

#### **Stainless Tubular Steel**

Types of seamless and welded stainless tubular steel are presented in 52-page booklet. Discussion includes analysis of various grades of the metal, typical properties of the types, and corrosion resistance. Charts, graphs, and photos are included. Allegheny Ludlum Steel Corp., Mellon Square, Pittsburgh, Pa.

On Readers' Service Card, Circle 213

## Hard Maple Flooring

Revised grading rules established by the Maple Flooring Manufacturers Assn., effective July 1, 1964, are given for Northern hard maple, beech, and birch flooring. Brochure includes information on physical characteristics of the species used in flooring manufacture, quality control, thicknesses, face widths available, and uses of the different grades. Suggestions are given for underfloor construction, waterproofing on or below grade, finish carpentry, sanding and finishing. Maple Flooring Manufacturers Assn., 35 East Wacker Drive, Chicago, Ill. On Readers' Service Card, Circle 214

## **Nuclear Shielding**

Brochure, 26 pages, describes development, properties, materials, formulae, and protective values of "Cerma-Shield" nu-clear shielding materials. It provides protection against damaging radiative and particle energy. Shield can be com-bined with a variety of building materials such as plastics, portland-cement concretes, and refractories as well as being used in its natural state. Advantages include low cost, light-weight, and greater effectiveness per inch of wall thickness as compared to conventional concrete shielding methods. Osborne Industries Inc., 2636 S. Grand Ave., Los Angeles, Cal. On Readers' Service Card, Circle 215

#### **Fall-out Shelters**

Technical Report 27, 104 pages and entitled "New Puildings With Fall-out Shelters," contains descriptions, photos, plans, sections, and cost analyses of 34 structures designed with built-in fall-out protection. Special section entitled " 'Slanting' in Design & Construction" discusses techniques for enhancing and maximizing existing fall-out shelter potential in buildings without adversely affecting cost, function, or aesthetics. Director, Office of Civil Defense, Department of the Army, Washington, D.C. On Readers' Service Card, Circle 216

### **Partition Selector**

Technical information on sound and fire ratings and physical characteristics of partition assemblies, such as weight and components required, can be found on slide chart entitled "Sound-Control Partition Selector." Slide chart clarifies the values associated with interior partitions used as sound control elements in building construction and shows what a partition can be expected to do as a sound barrier. U. S. Gypsum Co., Dept. 122, 101 S. Wacker Dr., Chicago, Ill On Readers' Service Card, Circle 217

#### **Steel Platforms** for Hillside Sites

According to a recent report published by Kaiser Steel Corp., "Difficult hillside lots can be made economically feasible using steel-framed platforms with costs as low as \$2 per sq ft." Cost data examined in this report is based on the simultaneous development of 10 sites. Suggestions range from the single-column supported platform to schemes involving suspended floor systems from large welded rigid frame bents. Once the steel platform is in place with its wood or concrete deck, any type of residential construction can be employed. Designs and cost summary and engineering data are given. With data obtained from actual construction



experience, combined with larger quantities of sites, ultimate savings might accrue in a range from 10 to 15 per cent. Inquiries are invited from the Western states only. Kaiser Steel Corp., Kaiser Center, Oakland, Calif. On Readers' Service Card, Circle 218

## Doors/Windows **Flush Doors**

Full flush and seamless doors are shown in 20-page catalog. Featured is "Pyro Dor" line made of combination of solid structural mineral core with zinc-coated, bonderized steel. Door, 13/4" thick, has rating of 35 db at average frequencies of 125 to 4000. Door types



(stainless, aluminum, and rigidized metal surfaces), sizes, construction features, louvers, frames, UL chart, specs, details, and photos are included. Dusing and Hunt, Inc., 59 Lake St., LeRoy, N.Y. On Readers' Service Card, Circle 219

#### 1965 Door Line

1965 line of "Roddis" architectural doors is presented in illustrated 16-page brochure. Types of doors, finishes, construction details, cost comparisons, and specs are described. Weyerhaeuser Co., Box B 271, Tacoma, Wash. On Readers' Service Card, Circle 220

### **Steel Doors/Frames**

Steel doors and frames are presented in 28-page catalog. Elevations, size and availability charts, suggested applications, construction features, and details of each major steel door line are covered. Special sections deal with UL and Factory Mutual Approved Fire Doors. Steel-frame selector, recently developed anchoring system, and sections on transoms, borrowed lights, and side lights are also included. Amweld Building Products, 880 Plant St., Niles, Ohio. On Readers' Service Card, Circle 221

### **Thermal Barrier Window**

1965 catalog features line of double-glazed casement windows that have patented thermal barrier construction.

Extruded aluminum trame and sash are permanently interlocked by high-impact rigid vinyl that is non-structural. Assembled window has a Ufactor no greater than .455. Unit is designed for factory or site glazing with single panel or insulating glass. Other types of windows are shown in detail. DeVac Inc., 10130 Highway 55, Minneapolis, Minn. On Readers' Service Card, Circle 222

# Electrical Equipment

## **Street Lighting**

Lighting distribution patterns and recent applications of "Ballux" outdoor lighting fixtures made of aluminum and "Plexi-



glas" are shown in 6-page brochure. "Ballux 1" gives a square lighting pattern from a round fixture. Four color-corrected mercury vapor lamps are positioned in a 38"-diameter, spun-aluminum housing in such a way that light reflects off the mirror finish in an almost square pattern of sym-"Ballux 2" gives metry. elliptical light pattern when equipped with two mercury vapor bulbs or an almost triangular pattern from a three-bulb model. "Ballux 3" is used for lower mounting heights and uses either mercury or incandescent bulbs. Steel or aluminum anchor and transformer base poles are available in nominal heights of from 10' to 40'. Peerless Electric Co., 576 Folsom St., San Francisco, Cal. On Readers' Service Card, Circle 223

### **Lighting Big Areas**

Revised 1965 guidebook (GEA-7223C), 36 pages, provides facts and figures on how to light industrial and commercial areas, building façades, and signs. Detailed in tables and diagrams are recommended footcandles, lamp watts per sq ft, mounting heights, spacing, and beam dimensions. Additional data is also given for lighting shopping centers, parking lots, walkways, malls, and sports and recreation areas. Complete line of mercury filament, and fluorescent luminaires for area lighting and recommended type and model to be used for various applications is included. Lamps, ballasts, controls, adapters, brackets, and poles are described. General Electric Co., Outdoor Lighting Dept., Hendersonville, N.C.

On Readers' Service Card, Circle 224

## Swivel Outdoor Lights

Complete line of outdoor lighting units with UL approval is presented in booklet divided into seven sections. All units are made with spring-tension swivel that provides adjustment throughout 90° vertical and 350° horizontal range. No tools, wing nuts, or set screws are necessary. Extensive internal gasketing and special kiln-baked acrylic epoxy finish over zinc phosphate pri-mer produce weatherproofing. Shown are die-cast aluminum shade units, die-cast aluminum lamp-holders, spun aluminum



lampholders, adjustable basic components, iodine quartz adjustable lighting units, spike units, and boxes, covers, fittings, wiring troughs, slip fitters, and adapters. Swivelier Co., Inc., Department P, 30 Irving Place, New York, N.Y. On Readers' Service Card, Circle 225

### Weatherproof Ballasts

Fluorescent lamp ballasts for indoor, outdoor, and weatherproof applications are presented in 28-page manual. Complete electrical and physical characteristics, sound ratings, application data, rapid selector, replacement charts, and cross-reference index are given. Jefferson Electric Co., Bellwood, Ill. On Readers' Service Card, Circle 226

## **Industrial Lighting**

"Modern Trends in Industrial Lighting" discusses fixture selection, operating costs, general and task lighting. Covered are advantages of incandescent, fluorescent, and mercury lighting; importance of a planned lighting program; group relamping for better lighting; and lower maintenance costs. Sylvania Electric Products Inc., 730 Third Ave., New York, N. Y.

On Readers' Service Card, Circle 227

## Furnishings

#### Silicone Sealant



Revised 1965 brochure gives data on properties, performance, suggested joint design, application practices, and suggested architectural specs for a one-part silicone sealant called "780 Building Sealant." Also described is five-year warranty covering the 780 sealant. Dow Corning Corp., Midland, Mich. On Readers' Service Card, Circle 228

## Wall Matrix/Aggregate

"Tuff-Lite" epoxy based wall matrix for interior and exterior surfaces uses 3/8" layer that replaces heavy precast con-crete base for aggregate. It can be applied at job site or in lightweight panels that do not require crane for installation. Matrix bonds aggregate to concrete, brick, wood, and other surfaces. It can be installed over concrete blocks, around corners and columns. Plywood, foam, and other materials are used in forming lightweight aggregate panels. Panels can be installed with adhesives, nails, or other conventional techniques. Brochure illustrates in color several installations of Tuff-Lite. H. B. Fuller Co., 1150 Eustis St., St. Paul, Minn.

On Readers' Service Card, Circle 229

## **Coating Systems**

Spec guide covers coating systems for protection from general weathering, dense industrial fumes, dust, abrasion, humidity, dampness, salt spray, as well as water, acid, and chemical immersion. Specs are given for surface preparation and application of primers and finish coatings for steel, aluminum, galvanized metal, masonry, wood, and wrought iron surfaces. Color chips for



all systems and short form specs for all applications are included. Rust-Oleum Corp., 2799 Oakton Ave., Evanston, Ill.

On Readers' Service Card, Circle 230

## Aggregate Surfacing

Handbook, 60 pages, describes "Granolux" trowel-applied marble surfacing for brick, block, concrete (precast, poured-in-place or prestressed), cement plaster, cement asbestos board, and many other construction backings. Contents include design considerations, technical data, recommended specs, and complete product information. More than 40 installation photos and 25 details are given. Cement Enamel Development, Inc., 18656 Fitzpatrick Ave., Detroit, Mich.

On Readers' Service card, Circle 231

## **Executive Furniture**

Executive and residential furniture designed by Jens Risom is presented in 75-page catalog and price list. Furniture includes a variety of chairs and tables, desks, cabinets, headboards, benches, and ottomans



P/A News Report 83

# 7 MATOT DUMBWAITERS SPEED MEDICAL AID AT

**ST. FRANCIS** 



At St. Francis Hospital, Evanston, Illinois, 7 dumbwaiters in combination with an inter com system are being used to increase hospital efficiency. With a new addition increasing their capacity from 385 to 516 beds, the new system was introduced to relieve the added burden on their staff.

#### The lifts are used in different areas:

- · Surgery to pathological specimen
- · Surgery to blood bank
- In-Patient specimen lab to
   4 patient floors
- X-ray film storage to filing
- Pharmacy to store room
- · Lab clean-up to store room
- · Medical records to store room

**BENEFITS:** The new dumbwaiter with the intercom system provides St. Francis with 4 important benefits: 1.) Service is speeded up in critical areas; 2.) Closer infection control can be maintained during surgery; 3.) More patients can be serviced with less help; 4.) Efficient operation ... no frenzied corridor dashes, less breakage and thefts.

Matot specializes in developing units to solve any problem, and provides free engineering services, too.

Write for descriptive brochure!

D. A. MATOT, INC. 1533 W. Altgeld Avenue · Chicago, Illinois 60614

312 Lincoln 9-2177 Specializing in Dumbwaiters since 1888

See our catalog in Sweet's  $\frac{23a}{Mat}$  S

as well as hardware and accessories. All wood is American black walnut, and all veneers are selected sliced American black walnut over either solid lumber core or particle board. Walnut is treated with oil finish or lacquer. Special finishes are available. Fabrics, vinyl, and leather are used as cover materials. Line perspectives and front and side elevations are used to illustrate each piece of furniture. Jens Risom Design Inc., 444 Madison Ave., N.Y. On Readers' Service Card, Circle 232

**Office Furniture** 

Brochure contains data sheets that give information on office furniture. Included are table bases, store-away tables (flip top), seats, sectional tables,



table base components, executive chairs, molded and upholstered chairs, chair components, conference tables, threeseat settee, and two-seat settee. Shown is #55 seat with #89 base called "Executive Posture Chair" which is available in square tufted or plain upholstery. Dimensions: seat, 20"x 24"; back rest, 16" x 24"; over-all, 24" x 26" x 21"; seat height, 16". Each data sheet includes photo, isometric sketch, available components, and price list. Chicago Hardware Foundary Co., 2500 Commonwealth Ave., Chicago, Ill. On Readers' Service Card, Circle 233

inclucio berrico cura, circle i

### Insulation

#### **Glass Insulation**

"Bulletin FB-114" describes addition of a ¼" bevel on both long edges of the bottom side of each "Foamglas-Board," which is a cellular-glass insulation for roofs, floors, promenades, and parking decks. This passage provides a builtin pressure vent for the release of any trapped moisture. Given are details, U-values, and



#### CONTACT THESE REGIONAL DISTRIBUTORS FOR MORE INFORMATION AND YOUR LOCAL SOURCE OF SUPPLY

ALABAMA BADHAM SALES COMPANY, INC. 1909 First Avenue, Birmingham CALIFORNIA VERTEX, INC. 4206 Charter Street, Los Angeles 58 850 S. Van Ness Avenue, San Francisco COLORADO STYRO PRODUCTS, INC. 70 W. 6th Avenue, Denver 80204 70 w. on. FLORIDA ROWELL-VAN ATTA, INC. 273 E. Oakland Park Boulevard F. Lauderdale 3660 South Westshore Boulevard, Tampa GEORGIA BADHAM SALES COMPANY, INC. 1145 Peachtree Street, N.E., Atlanta 30309 ILLINOIS JONES & BROWN & CO., INC. 230 N. Canal Street, Chicago 6 STETSON BUILDING PRODUCTS 614 North Fairview, Mt. Prospect 112 Second Street, Moline IOWA STETSON BUILDING PRODUCTS 512 Southwest 9th Street, Des Moines KANSAS STYRO PRODUCTS, INC. 1401 Fairfax Trafficway, Kansas City MARYLAND R. T. GUMPERT COMPANY 5615 York Road, Baltimore 12 5708-B Frederick Avenue, Rockville-MASSACHUSETTS REFRACTORIES & BUILDING SPECIALTIES, INC. 767 Concord Avenue, Cambridge 02138 HOLMES ASSOCIATES, INC. 1221 E. Nine Mile Road, Ferndale 20 MINNESOTA EDWARDS SALES CORPORATION 2916 Girard Avenue South, Minneapolis 8 MISSOURI STYRO PRODUCTS, INC. 1590 Page Industrial Boulevard, St. Louis 32 33 Kiewitt Plaza 3555 Farnam, Omaha NEW YORK CHEMICAL BUILDING SUPPLY, INC. 250 W. 57th Street, New York City 10019 CONSTRUCTION PLASTICS CORPORATION Box 73 Eastwood Station 4016 New Court Avenue, Syracuse 13206 NORTH CAROLINA BADHAM SALES COMPANY, INC. 538 Hollis Road, Charlotte OHIO O THE R. L. WURZ COMPANY 13320 Enterprise Avenue, Cleveland 44135 955 Proprietors Road, Box 209, Worthington DURBROW-OTTE ASSOCIATES, INC. 1426 Clay Street, Cincinnati 10 1426 Clay Street, Cincinnair 19 PENNSYLVANIA TOM BROWN, INC. Library Road & Killarney Drive Box 10313, Pittsburgh 15234 G. & W. H. CORSON, INC. Joshua Road & Stenton Avenue Plymouth Meeting 19462 TENNESSEE STYRO PRODUCTS, INC. 471 Tennessee Street, Memphis 3 TEXAS THE EMERSON CO., Box 10913, Dallas THE EMERSON CO., Box 2114, Houston 77052 WASHINGTON WILEY-BAYLEY, INC. 3310 Meridian North, Seattle 3 WISCONSIN EDWARDS SALES CORP, 321 N. 121 St., Milwaukee GENERAL 🛞 ELECTRIC

May 1965



#### "Using G-E Silicone Construction Sealant our cost was 16% less..."

Stanley A. Fredrick, President, Hall Aluminum Products, Inc., Fort Wayne, Indiana

"We ran a cost study of porcelain panel installation on two identical schools. Installing 198 panels with a two-part polysulfide cost \$665. Installing 198 panels with G.E. Silicone cost \$555.

|          | Polysulfide | Silicone |
|----------|-------------|----------|
| Material | \$331.50    | \$450.00 |
| Labor    | 333.50      | 105.00   |
|          | \$665.00    | \$555.00 |
|          |             |          |

"These panels were installed before the windows were erected. If the panels were field installed the cost would have been about the same." (Today, Hall Aluminum uses G.E. Silicone for all panel installation field or shop.)

According to Mr. Fredrick's cost study, labor savings more than offset material costs. That's because onepart G.E. Silicone Sealant needs no mixing, heating or chilling. It flows on and bonds securely to all common materials even at extreme temperatures.

Once it's on, you can forget about costly call backs. G.E. silicone rubber retains its flexibility for at least 30 years. It resists severe strain, sunlight, ozone, weather, hot and cold temperatures. So it won't ever sag, shrink, crack or crumble. The Sealant comes in standard caulking cartridges and 5-gallon containers, in white, black, aluminum, neutral, translucent and 18 new colors.

For more information, contact a G.E. distributor listed on the opposite page. Or write: General Electric, Silicone Products Department, Section. Q 5149 Waterford, New York.



specs for monolithic concrete, precast concrete, steel, and wood roof decks. Foamglas-Board is available in three thicknesses: 1½", 1¾", and 2". Pittsburgh Corning Corp., One Gateway Center, Pittsburgh, Pa.

On Readers' Service Card, Circle 234

#### How to Weatherstrip

Interior and exterior weatherstripping are discussed in 24page revised and expanded 1965 guidebook. Jamb weatherstripping, astragals, underdoor weatherstripping, thresholds, and window weatherstripping are covered in relation to protecting against drafts, noise, dust, leaks, light, and humidity. Charts show types and subtypes of materials, advantages, disadvantages, material costs, and installed costs. Pemko Manufacturing Co., 5755 Landregan St., Emeryville, Calif. brochure. Properties: meets

National Board of Fire Under-

writers and UL codes, has

built-in K-factor of 0.51, traps

up to 85 per cent of incident

noise, and is available in five

factory-primed pastel ceiling

colors. Charts, details, and in-

stallation photos are included.

The Flintkote Co., 30 Rockefeller Plaza, New York, N.Y.

On Readers' Service Card, Circle 236

**Insulating Decks** 

All weather "Crete" deck insu-

lation, which is a combination

of expanded volcanic glass

rock and thermoplastic binder,

On Readers' Service Card, Circle 235

#### Cement/Wood Fiber Deck Insulation

"Insulrock," a portland-cement and wood-fiber roof deck material, is presented in 12-page

The timeless beauty of redwood helps the architect create the feeling of serenity so desirable in church interiors. For a copy of "REDWOOD IN ECCLESIASTIC ARCHITECTURE" write, on your letterhead, to Department 73-A, California Redwood Association, 617 Montgomery St., San Francisco 11.



This mark identifies a wide range of quality products made to exacting standards by the member mills of the CALIFORNIA REDWOOD ASSOCIATION. is described in 12-page booklet. Advantages are: absorption volume does not exceed 4.5 per cent, impervious to common acids, no capillary action, "excellent" load indentation, and thermal conductivity factor of .40-k. Among contents are U-values, thermal calculations, vapor transmission, metal decks, parking decks, ice rinks, plaza decks, and winter applications. Silbrico Corp., 5901 West 66 St., Chicago, Ill. On Readers' Service Card, Circle 237

## Sanitation/Plumbing Roof Drainage

Brochure provides information on standards for roof drainage products. Topics include FHA requirements for gutters and downspouts; how to tell which gutter and conductor pipe sizes to use; and how to compute the size of conductor pipe required for various installations. Roof



Drainage Manufacturers Institute, 22 West Monroe St., Chicago, Ill. On Readers' Service Card, Circle 238

## **Flexible Pool Design**

Recently developed circulating system for commercial, competitive, and institutional pools is described in 16-page pamphlet. According to manufacturer, system eliminates all buried and inaccessible perimeter pool piping, thereby per-




75 Years of Leadership in the Electrical Industry

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#### May 1965 PROGRESSIVE ARCHITECTURE

"Personally, I have small respect for the mere human animal, and no enthusiasm for homilies upon the purity of the social state emanating from those whose personal belongings are nasty with ignorance, whose homes are a fashionable tangle of meaningless things and whose persons are freaks of fashion. The homes of America need the application of intelligent interest that is rare, if they are to have an artistic, and, therefore let it be said, in a spiritual sense, the 'airing' that will make them fit for the souls to grow in."

FRANK LLOYD WRIGHT



Higher and higher buildings are inevitable because population expansion creates an ever-increasing shortage of land in metropolitan areas, and because advances in construction techniques make greater heights easily achievable.

Office buildings, long the pacesetters for building-height records, have recently spurted to greater dimensions. The two towers of the World Trade Center in New York, for instance, if built, will be taller than the Empire State Building. But apartment houses are also growing in height. Fifty and sixty stories is no longer unusual in apartment construction, and, if a German proposal comes to fruition, the environs of Bonn will be graced with a 3750-ft structure in which 25,000 people will be housed on 365 floors. Chicago, perhaps wistful of the "mile-high" proposal by Frank Lloyd Wright, will soon add to its skyline a mixed-use, 1100-ft tower by SOM where stores, parking, offices, and apartments will occupy alternate sections of its 100 floors. Thus the city of the future, in which people live, work, shop, and play further from the ground and closer to the sky, is slowly arriving.

But what kind of life shall this new life be? Are we going to end up with merely bigger and better beehives, or will there emerge a new design approach to what might be called "space living"?

In recent years, many proposals have been put forward for high-rise structures in which platforms and terraces up in the air offered a substitute for the earth. From factual urban renewal housing submittals to visionary city projects, they all attempted to provide a breathing space close to the confines of the restraining shelter. Unfortunately, nearly all such proposals fell by the wayside, pushed over by the unrelenting laws of economics—for it always *does* cost extra money to build more than the acceptable minimum.

But what should be the acceptable minimum?

In computing a standard of living, official statistics are compiled on an index of certain material goods. Americans, therefore, most of whom own cars, refrigerators, TV sets, and all the other accouterments that are supposed to make life more enjoyable, have a so-called high standard of living. The peoples of the underdeveloped nations, to use the currently fashionable term, who might not have even electricity in their homes, have a low standard of living.

It is interesting that all those statistics do not include many items that are more important to human well-being than all the gadgetry with which we surround ourselves. Breathing foul air, swimming in polluted waters, suffocating in crowded subways, enervation in traffic jams, inability to easily reach open country, and so many other nuisances of our civilization make life not only unpleasant but also detrimental to both the physical and mental well-being. Yet these factors do not appear in official computations of a happy life.

If we continue on the perverse road of constantly decreasing natural amenities while increasing artificial amenities, we shall keep on diminishing our *true* standard of living—a standard which is not indexable because it takes into account the *total satisfaction* of living. Outdoor spaces adjacent to indoor spaces are a physical and psychological necessity. They are not a pie in the sky even when created in the form of platforms up in the air in buildings that are reaching closer and closer to the sky. So if it is true that our economy really cannot afford them, then we are not as rich as we think we are—but very, very poor indeed.

Jan C Rowan



# HOUSES: Private Palaces?

In January of this year, P/A announced that, for the first time in a dozen years of Design Awards history, no single-family houses were among the winners. We reported some of the jury's remarks—one of them that the houses submitted were "exhibition pavilions of the crassest, vulgarest, stupidest kind." Whether or not these "150 wretched little houses" were indicative of the general level of architect-designed houses in this country would be difficult to prove, and is in any case not germane to the following discussion.

In his Editorial in the January issue, Jan Rowan turned to another question, asking why so many houses are "strained, overcomplicated, often ridiculous concoctions that can hardly be called houses at all." He suggested that the young architect, with a house as his only commission, tends "not to design a house at all but a miniature version of some hypothetical building." By treating the house as a "major design project," he produces a design out of all proportion to its meaning.

The jury raised the further question of whether the singlefamily house is a "genuine architectural problem" at all. Easy enough, said one juror, to design your notion of a "private palace for some remote valley," but the real problem—the overwhelming problem—is "how to live with high densities and close proximities without losing your humanity."

Although there are not many architect-designed houses built each year, in terms of the total number of dwelling units built, many architects are nevertheless involved in the game—either by deliberate choice (the fun, the challenge, of it), or because this happens to be the kind of practice that has evolved for them. A number have sent us acerbic reactions to the January issue as is evident in the statements quoted in the house presentations that follow (see also, VIEWS, this issue).

To continue the discussion of whether or not the singlefamily house is a valid problem-and, if it is, to define that problem further-an essay by Sir John Summerson is pertinent. (Titled "The Mischievous Analogy," it was originally read before the Architectural Association in 1941, and was reprinted in 1963 by W. W. Norton & Co., in a paperback collection of Summerson's essays called Heavenly Mansions.) Summerson writes: "The social history of our times seems to be moving simultaneously in two opposite directions. On the one hand there is a drastic flattening out of society, a reduction to uniformity in opportunity and reward based on an old conception of social justice which is only now beginning to beget its full realization. On the other hand, there is the enhanced evaluation of the individual and his life and it is in this direction that we must look for the fruitful development of modern architecture. The point where architecture chiefly touches the individual is in his home. The home is, today, no less the stronghold of the individual than it was in Victorian times. In one important respect [through radio, TV] it is, more than it has ever been in history, the place where a person's cultural life is centered."

Summerson continues: "To talk about the home as a center of architectural interest seems tragically absurd today, when to have the use of a weather-tight and commodious apartment obsolete in form, character and equipment is as much as anybody dare expect. Still, I believe that the dwelling-place of the individual and the family is the clue to architectural evolution in a democracy; assuming, of course, that our interpretation of democracy is one which insists on the cultivation of the individual within the grand framework of society. That framework being, inevitably, the desperately colorless one of equality and uniformity, the life of the individual must be enriched and colored to the greatest possible degree—and architecture must play its part in this process. The home, whether it is a house or a flat, constructed *in situ* or in a factory, must be the chief creation of the architects of this age."

At this point in his argument, Summerson concludes, "If we give primacy to the individual dwelling in our view of the architectural future it follows that we are giving primacy to human scale in the category of architectural values." The only test that is worth anything, he says, is whether the architecture we are making "is or is not adding something to the experience of living."

This argument shifts the focus away from the question of multifamily vs. single-family. The problem of "high densities and close proximities" remains, of course, one of the central architectural problems of modern times. Compared to that problem, the single-family house (whether "private palace" or subdivision split-level) is anachronistic in many ways-economic, demographic, technological. But in our society, the single-family house is still too prevalent, too widely encouraged and desired, for architects to dismiss it or be dismissed from it. When an architect undertakes to design a house, however, he should establish for himself the limits of the problem and the extent of its possibilities. There are many challenges inherent to it, some of them (as Summerson suggests) basic to the creation of any architecture. Perhaps, to return to the questions raised in our January issue, the architect who overworks the house has failed to understand the real problem of a house, or has failed to be content with the problem as he defines it. A house is, of course, a serious design project-an exercise in form. But it is also a place to live in, and if it does not add to what Summerson calls "the experience of living," it is merely an art form, even less related to life in the 20th Century than most housing now is. Architecture has been essentially humanistic in its orientation, and must remain so-not only when the exigencies of practicality threaten to take over completely, but also when the more esoteric forms of "art for art's sake" threaten to exert their own kind of domination.

Each of the houses presented on the following pages is, we think, a valid interpretation of a valid architectural problem. Each adds, in its particular way, to "the experience of living" for particular people. They *are* particular houses; to judge them for not being mass housing is unfair. They *are* private palaces, but how different from Olana (pp. 184–189), built when a private palace was indeed fit for a king. We are still inclined toward romantic individualism but it is becoming increasingly difficult to enthrone 20th-Century man in the equivalent of a palace. If, instead, he is frequently installed in an "exhibition pavilion," this is perhaps a commentary on the way in which architect and client alike tend to think of "the experience of living" today.—E.P.

## Privacy at All Levels

Architect: John Fowler. Site: Weston, Connecticut. Well-wooded rolling land, 21/2 acres, leading down to the east branch of the Saugatuck River. Land slopes gently to the river, except for an abrupt drop near the top of the site. Predominant view is toward the river. Program: A house for a doctor, his wife, and their two sons (aged 10 and 12), with complete separation of the boys' activities from those of the parents. Specific spaces: a common meeting area, to be the dining room, and a large open area for entertaining, which can be subdivided into smaller areas for more flexible use. Structural System: Wood "platform" framing throughout; no steel except for one Lally column in the garage. Mechanical System: Hot-water heating on five circuits, oil-fired; standard fin-tube convectors. Major Materials: Western red cedar clapboarding, inside and out: oak strip flooring; sheetrock ceilings; 4-ply bituminous felt roof; duckboarding for all roof terraces. Consultants: John Altieri, Mechanical Engineer; May Festa, Interior Furnishing; furniture supplied by Stendig, Inc.; rugs supplied by Kebabian of New Haven; sculpture to LR and MBR terrace by John Matt. Photography: David Hirsch.

"I cannot accept a thesis condemning the house as an irrelevant factor in the urban environment," comments John Fowler. "The private house will not only continue to exist as an architectural problem through the persistence of public demand, which would seem clearly to be the case, but it should continue as a vital part of the urban fabric because it forms the logical and necessary extreme of what should be found in a balanced system: its potential provision of isolation and privacy, which under all circumstances should be provided."

This doctor's house would seem to offer precisely the isolation and privacy that Fowler mentions. It is on land that is sufficiently expansive and sheltered to give privacy from the few close-lying neighbors; and the whole theme of the house is the practical and imaginative attainment of privacy for each member of the family.

First, the site. Houses adjoin the site on the north, south, and west. The main view is to the east, toward the branch of the Saugatuck River that borders the site; part of the program was that all main rooms of the house expose this view. For various reasons, it was decided to place









Openings, for the most part, are of fixed plate glass; ventilation is provided by adjoining units with two-piece wood vents, or by heavy wood casements. Sunshading is provided by overhangs of the main structure, or by plywood hoods applied directly to the frame. Specially formed copper gutters discharge rainwater directly. An unusual lighting system is employed: lights are recessed in exterior soffits, so that the interior can be lit without the use of interior light; and surrounding trees are floodlit from sources on the structure, further defining the building as an independent object on the site. Total building costs were \$52,000, including landscaping and driveway, but excluding site.







SECTION B



UPPER LIVING ROOM

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the house at the head of the site, in the "lee" of the sharp drop, and to construct it as a tower. By so doing, the site was minimally disturbed, and the building "correctly became a distinct object on the site, responding to it, rather than becoming part of it." Verticality within the building has created a distinct separation of functions, also has given entrances at different levels—a "front door" that communicates with the heart of the house, the living room floor; and a "back door" that provides secondary entry from the carport.

Organizational core of the house is the stair—"a very economic circulation system," says Fowler—around which rooms are distributed at half-landing intervals. "The elements are expressed as directly as possible in relation to this organization. Hence the kitchen, demanding more space and a particular view, juts out beyond the line of the bathrooms above and below it, and the closets to the master bedroom and hallway protrude to permit a simple internal volume. No attempt is made to obscure any of the elements; the plan reveals its own form."

Fowler explains that "spaces relate programmatically" in three sets of levels. The lower levels contain the children's bedrooms, bathroom, and playroom. The latter will eventually become a bedroom for one boy, and their present rooms a bedroom for the other. Above this, the next set is made up of the dining room and kitchen, and-half a level higherthe living room. (The living room is divided into two areas around a sunken fireplace area; one is a high space with 11'-3" ceiling, the other is a low 7'-3" studio that serves variously as library, reception hall, and guest room.) The third set of levels comprises the master bedroom and bath; the bath is midway in level between living room and master bedroom, to accommodate guests. Already isolated from active areas of the house, the master bedroom has further places for retreat-a terrace immediately adjoining it, and another terrace on the roof (accessible only by ladder from the room itself).

The structure is very simple. "For the most economical structural resolution, the traditional timber 'platform' system was adopted. The characteristic of wood frame construction was such, it was discovered, that it could offer great flexibility in the provision of openings, much akin to, and almost more flexible than, monolithic concrete. Walls and floor could function as bracing membranes, with great interdependency, rendering any absolute recognition of one against the other impossible and irrelevant. "Attempts made to emphasize this monolithic quality are particularly apparent in the fenestration of the living room and stair tower, the whole being tightly controlled by the discipline of the clapboarding. Further definition of this characteristic resulted in identical internal and external surfaces of cedar clapboarding."

Fowler is convinced that "the 'house' must stay within the range of our consideration." In his view, "the architect should expand and develop the influence he has on the house, and on housing in any shape or form, since only he should be able to place it in its correct context. As it is, he seems to be withdrawing from the field, often through no fault of his own."

Taking responsibility for architectural quality in housing can often be difficult, even (or perhaps especially) in the private house. Fowler reports that there were no conflicts with this client, since the program "was interpreted as immediately as possible." The client accepted the appearance of the house "after initial surprise, and now finds it most pleasing; its logic persists." The architect admits that this house is not as dramatic a spatial object internally as other of his works, but feels that this is because the program did not permit it. Instead, "what has evolved is a very exciting external relationship with the site, which develops as one moves around it." Program, Fowler points out, "is the basis of all organization and hence 'architecture,' which in turn at its best should represent the clearest manifestation of the salient functions of the building."











## Conscious Contrasts



Architects: Mitchell/Giurgola, Associates. Site: One-half acre at the edge of Fairmount Park, Philadelphia, Pa.; distant views from promontory above Wissahickon Creek. Program: The owner-a woman artist of many interests — wanted simple, strong spaces; rooms were to flow into each other to facilitate entertainment of large numbers of guests; also required were a painting studio and service quarters. Structural System: Reinforced concrete foundations; concrete block bearing walls; wood joists; built-up roofing; stud partitions. Mechanical System: Gasfueled, warm air distributed through ducts; return air through plenum below floor to maintain warm surface underfoot. Major Materials: Outer finish of stucco on concrete block, inner surfacing of plaster or wall board; oak parquet or brick flooring; natural redwood window frames. Consultants: Frederick W. Schwarz, Engineer. Photography: Rollin R. La France.

The house is an interesting study in contrasts—as the stark, precise volumes of the building stand in relation to the random forms of nature; as the powerful contemporary interior spaces set off the delicate, elegant furnishings of other periods; as the masculinity of the architectural shell contrasts with the femininity the owner has impressed on the house. And yet, house and nature, house and content, house and inhabitant, are surprisingly at peace.

As a design approach, this conscious contrasting of elements is seldom used in custom-house architecture, where the client quite naturally looks for homogeneity. Such contraposing is successful in rare instances only. Too often, contrast becomes contradiction and confusion.

In this instance, however, architect and owner have managed to balance their contributions to a remarkable degree, supplementing each other with sensitivity.

The "simple, strong spaces" the owner requested, here serve to tie together the many diverse and ornate elements within. As in baroque architecture, the house provides the large, unifying framework for the busy details. And, not unlike baroque structures, there is in this piece of architecture evidence of a carefully developed relationship between minor and major spaces; of meticulously determined proportions; and of the thoughtful manipulation of natural light to underline the architecture.

High clerestory windows and narrow, tall view windows, for example, emphasize the verticality of the living room—the dominant space in the house. Elsewhere in the study/library and the owner's bedroom—light is ingeniously funnelled into the room past diagonally placed walls, which serve to absorb and reflect light and also to direct views outward.

Quite obviously, this is a highly individual solution for a unique client. The resulting piece of architecture argues strongly that custom house design is still a valid architectural problem today. "It is not enough to provide typical solutions for typical man," says Romaldo Giurgola; "it is the task of the architect to fulfill each individual's experience."

The three major areas of the house are clearly recognizable as squares in plan: the living room, a 27' square with 20' ceiling; a unit of two bedrooms with low ceilings; a group of service spaces, including kitchen, pantry, and servants' rooms. Between these are two smaller rooms-the dining room and study/ library-which serve as links and have intermediate ceiling heights. The high-ceilinged vestibule connects all of the parts and also holds the free-standing stair that leads up to the studio. As originally requested, all of the living spaces flow easily into each other, yet each room is individually defined, has its own distinct character, and a certain degree of privacy.

 entrance hall; (2) up to studio; (3) guest suite; (4) master bedroom; (5) study; (6) living; (7) dining; (8) cocktails; (9) pantry; (10) kitchen, laundry; (11) servant room; (12) down to basement; (13) studio.













### Grotto and Geometry

Architect: Euine Fay Jones. Site: Eden Isle, an island in Greer's Ferry Lake near Heber Springs, Arkansas. A three-acre sloping hillside overlooking part of a new, man-made lake. A stone outcropping or low bluff about 10 ft high runs the full 200 ft width of the property along the higher east side; large moss-and-lichen-covered boulders are scattered down the slope. Similarly, trees of several varieties have a random and irregular quality, which is typical of the entire area. The site is part of a 1400-acre island development; surrounding parcels are expected to be occupied by somewhat larger houses than this program required. Program: The house serves as a branch base of operations for two Little Rock landscape architects who will be doing considerable work on the island development for the next several years. Structural System: On the lower level, curving, irregular solid stone walls, varying in thickness from 5 ft to 16 in.; on the upper level, exposed wood framing, 24 in. o.c.: floor joists (paired 2 x 12's); walls (paired 2 x 4's); roof (scissor trusses of 2 x 4's); outdoor deck (paired 2 x 12's over two built-up wood beams supported by steel square tubing framework). Major Materials: Lower bearing walls and floors of native natural stone. Exposed upper framing, decking, and 3/4" board-and-batten siding, all of redwood. Roofing of Western red cedar shingles. Ceilings and interior walls surfaced with exposed fiber sheathing. Mechanical System : Gas-fired, forced air heater. All ductwork is below lower-level flagstone floors; heat rises through open spaces to upper levels. Return is by a grille at the equipment room. Ducts sized for future air conditioning. Consultants: Robert L. Shaheen & Curtis E. Goodfellow, Landscape; Eden Isle Building, General Contractor. Photography: Balthazar.

Like the nest of a haughty, delicately plumed bird, Fay Jones's latest house is perched high above a level approach road along the lower part of the sloping site. The base on which the house is raised is a naturalistic grotto, replete with waterfall-shower and pools. It gives the structure the height required as a vertical element to counterbalance the horizontal bluff and the broad slope, and by its irregular form and natural stone construction provides a transition between the boulder-strewn hillside and what architect Jones calls the "precise, geometric, man-made structure" above.

That upper portion of the house is an exposed, natural redwood construction a taut, long, narrow rectangle of high proportions that is sheltered by a roof with broad eaves and is gracefully fringed with ranks of delicate battens, which give



it an affinity to the treetops with which it merges.

The sitting of this picturesque house high above the bluff line also gives it prominence so that it will not "be dwarfed and upstaged by larger houses to be built on adjacent sites." The blind walls on the long sides, windowless except for clerestories, will shield the interior from future neighbors; the lifting of the structure further made it possible to open an entire end of the house to the northwest view of the lake, for the projecting deck screens the interior from the approach road.

The view was all-important to the landscape-architect clients. Since one or other of them would have to spend several days a week working on the island, they needed living quarters and a studio that would serve as a place to work, that could be used to confer with and entertain clients, and that would permit them to demonstrate their landscaping. They also wanted the house to serve as "a retreat from the city, a place for relaxation, reflection, and inspiration."

The challenge that was consequently presented to Fay Jones was for "a relatively low-cost, distinctive, and rather unusual multipurpose building." Furthermore, as designers, the clients had some specific requests to make of their architect. They asked him to keep space simple, open, and flexible and to keep cost low and maintenance to a minimum.

Economy was served by using lightweight framing with small spans and a small roof; by a three-story concept, which kept activities divided by levels; and also by the single-space concept, which both eliminated partitions and doors, and also answered the requirement of "space unlimited and flowing freely within a very simple form."

Another request of the clients was to provide a room for indoor planting, but not a typical greenhouse. Fay Jones kept the upper structure narrower than the stone-walled base and filled the gaps on each side with clerestories; these provide adequate natural light for a lower-level garden room, which is by no means reminiscent of a greenhouse but rather of a 20th-Century grotto even more fanciful than the garden room in Jones's own house (MAY 1962 P/A).

A third, and significant, request of the clients was that all manufactured items, such as furniture, fixtures, and equipment, be visually eliminated as much as possible—"anything that looked like it was bought and stuck on." They wanted to conceal switches, plumbing fixtures, knobs, and handles so that they might have "a building with everything integrated into a oneness," as Jones says. "Consequently," he continues, "I was called upon to design in simple, economical terms almost everything but the watercloset and kitchen unit (and these are out of sight even when one is in the



All wood in the house is stained a natural redwood color—including framing, siding, decking, lighting fixtures, and furniture. The ceiling and wall sheathing are painted a brownish gold, and all metal work, including the chimney flue, which runs up a corner of the living area, is painted with a terra cotta metal primer. Fabrics are mostly golds and oranges, with splashes of other color in pillows and occasional objects. Green plants abound throughout the interior.







Natural light is admitted both through the two open end walls and through clerestories, which, on the upper level, are operated by strings and pulleys. Artificial lighting is indirect—diffused through wood fixtures and reflected from the gold and redwood surfaces.

The route from the sleeping balcony to the bathroom is somewhat circuitous: by ladder and spiral stair, across the grotto and through the storage passage, till one arrives at the most romantic of effects, the waterfall-shower.

The complexity of the dining-area end of the house is not immediately apparent from the photographs. There, the upper structure projects beyond the grotto below by two joists; the upper level is enclosed not by the perimeter wall, which has a center panel of battens and screening, but by a glass wall with operable glass doors set two joists inside the perimeter and on line with the enclosing wall below. The upper space is open to the level below for the next two joists; a rail separates the dining area and the glass wall. The well of the spiral stair is covered by a table-high slab at the upper level. The dining table is planned for seating on one side only. Beneath the stair is a pool for water plants. The rail at the end of the dining table has a fringe of battens that hang down into the space below, recalling the outdoor deck.







ance from interior and exterior furnishings to exposed interior and exterior structure. These elements are familiar ones in Jones's work—the combination of stonework and redwood detailing, the grotto effect, corrugated steel ceilings (here, in

work and redwood detailing, the grotto effect, corrugated steel ceilings (here, in the bath and storage area), and the special furnishings showing a direct descendancy from Mackintosh and the Austrians of the 90's through Frank Lloyd Wright, under whom Jones studied. But in this house, which the owners call "Stoneflower," there is an atmosphere of spatial and linear refinement that gives the building an almost mystical atmosphere, like that of a chapel. Perhaps this is apposite to the clients' love of nature.

bathroom or kitchen)." Thus, as he frequently does, Jones also designed all furniture, which was built on the job. This gives the house a consistent appear-

As Fay Jones observes about the validity of the free-standing house today: "There may be architects for whom the house is the one architectural problem that has the most potential for becoming a work of art. It is a building type less encumbered by the many forces that influence nonarchitectural decisions (building committees, realtor logic, complex finance, etc.), and in it all of the purely architectural problems exist."

"The manner in which these problems are solved is the difference between a creative work of art and one of the 'strained' non-houses. Certainly an architect creates his own frustration when he tries to treat a house as a smaller version of a larger architectural conception equating size and complexity with increased potential for quality.

"In all of the classic definitions of architecture that I know about, I cannot remember types or sizes of buildings being mentioned. I refer to definitions that speak of space and light and form, of spirit and transcendence.

"It is possible to approach the design of even a small house for a single individual in that special way of working, sometimes called art, whereby one is ever-striving to give to the thing he is doing certain qualities beyond the mere requirements of the type. This way of working tries to harmonize material and non-material things. It tries to establish a reference and a radiance for living, a unique, yet universal, experience.

"This is the creative process in architecture. The process that attempts to transcend utility and technology and express something of greater human meaning. It is just as applicable to the problem of a small house as it is to a great hall."

## Romantic Formality



Architect : Herb Greene ; Associate Architect : Robert Alan Bowlby. Site: Oklahoma City, Oklahoma. A prairie site that slopes down to a ravine at the edge of a golf course. Surrounding builders' houses are Tudor style, "Chinese ranch," colonial, etc. Program: A home, in close proximity to their country club, for an orthodontist and his wife. They have two children living at home, aged 12 and 18, and a married son at medical school. The wife recently owned a bookstore and took with her much of the stock when she sold it. Clients are not particularly domestic in the "cozy" sense. They wanted "an impressive work, but one that caused a minimum of controversy." Structural System: Brick bearing walls and wood frame. Mechanical System: Forced warm air, with two gas-fired furnaces. Electric air conditioning. Major Materials: Common red brick made from the local Oklahoma clay; stud walls faced with Western red cedar, rough sawn; brick or hardwood floors; laminated beams for roof; steel trellises. Interiors: Wood for ceiling and all walls facing the glass-dark-stained at the soffit and graduating to natural at the interior where more reflectivity is desired. Walls perpendicular to glass are plaster. Owner wanted a variety of materials in order to complement the variety of her furnishings-Finnish rugs and ceramic pieces, and representative pieces by Saarinen, Eames, Nelson, and Noguchi. Photography: Julius Shulman.

"I think most of us realize," says Herb Greene, "that high-density housing is upon us with an unprecedented and staggering importance. But many architects do not have commissions for high-density architecture, and even if they did, significant projects are not necessarily a consequence unless significance is to be equated with sheer timeliness. It would be incautious for anyone to say that the resolution of time, place, and circumstance into architecture for an individual family is of too little consequence to warrant professional attention."

This house, on which Herb Greene has lavished his professional attention, is vastly different from the shingled fantasy he built for his own family in nearby









Living areas are recessed into the sloping site for a feeling of privacy. The owner did not want grass on an embankment; thus the brick escarpment replaces a retaining wall. With its two-story colonnaded elegance, the house is proportioned in the grand manner. There was particular concern that artificial light be warm in color and indirect in source; thus light forms are integrated into plaster walls, and ceiling coves with incandescent lights are extensively used.











Norman, Oklahoma (see May 1962 P/A). The spatial organization, the mood and materials, are different—the other was rough and natural; this is polished and elegant. There is a kind of romanticism common to both, but this house has a formality that sets it apart from the vernacular of the other.

The dominant element of this designthe roof form-derives in part from what Greene calls "the attempt to evoke a certain kind of aspiration." He tells how Bruce Goff used to give a one-week problem at Oklahoma, "requiring the student to execute an architectural design whose main objective was aspiration-a notion that would get short shrift at most schools." Greene feels that it is important for the architect "to attempt such attitudes when they seem commensurate with his client's views and his own objectives. The ethics of materials and functional attainment must not be sacrificed in this process, but in addition to elegance or strength, there are, after all, other qualities which may need expression."

Describing the house further, Greene says that it "is composed of several elements (roof, walls, trellises, etc.), which derive from particular problems, but the character, or individuality, of the elements is determined before the application of a harmonizing geometry. I am influenced by Whitehead when he says, 'Speaking from my own frame of mind, I revolt against this concentration upon the multiplication table and the regular solids: in other words, against the notion that topology based on numerical relations, contains in itself the one fundamental key to understanding the nature of things. Surely we should start from principals which are larger, more penetrating. Arithmetic and topology are specialties.""

Turning to particular features of the house, Greene explains some of the reasoning behind them. The severe street elevation is "one recourse to the environment of builders' houses"; inside, the house opens up into an astonishingly different house. Spaces are disposed in a fairly standard layout-kitchen, dining, and living room on the main floor, bedrooms above-but there is nothing standard about the ways in which Greene opens up some spaces, rounds out and encloses others. The voluptuous forms of horizontals and verticals sweep into each other with a controlled poetry. In addition to softening and modulating the space, these curved forms have acoustic advantages, and provide indirect light sources.

Another unusual design element—esoteric but still functional—is the repeated steel trellis on the rear façade. The client



wanted a view of the ravine and golf course, with some sunlight penetrating to the recesses of the interior. The brick piers and trellises, which will eventually be vine-covered, are angled to give maximum protection from the setting sun, while still permitting an open view of the grounds. These trellises were fabricated at a cost of about \$350 apiece (they are of regular steel, painted, following the steel company's last-minute decision not to furnish weathering steel in these small shapes). Because of the architect's estimate of difficulties in obtaining bids at the time, the construction techniques were to be mainly within the range of familiar residential work in the area. He reports that the butt joint for cedar siding was not successful, as shrinkage of certain boards proved to be excessive. More care in moisture control, harder wood, and boards not exceeding 8 in. width, would be necessary to insure full success with this particular detail. Total cost of the house was "slightly more than \$100,000," excluding landscaping.



An upstairs reading nook (top) and master bedroom (bottom).


#### Neutral Container

Architect: Tivadar Balogh. Site: Plymouth, Michigan. Three acres thickly wooded with maple, oak, bass-wood, and beech. The only two possible building locations were both on high ground on either side of a low marshland. Program: A small residence for the architect's family; the usual spaces and facilities, plus a study-office that could be converted into a third bedroom in the future. Budget: approximately \$30,000. Structural System: Wood frame; half of structure resting on masonry basement, other half supported on steel columns and beams. Mechanical System: Forced warm-air; oil-fired furnace. Major Materials: Laminated wood beams; Chicago common brick; plywood panels for spandrels and soffits; vertical 1x4 T&G V-edge redwood siding; built-up pitch and gravel roofing; aluminum sash. Interiors: natural cedar or fir paneling; white plaster walls and ceilings; ivory-colored ceramic tile floors and walls. Subdued and natural coloring throughout, with concentrations of bright color on doors and small panels, in curtains and furniture. Consultants: Robert G. Caughey, Mechanical Engineer. Photography: Balthazar.

As a previous Design Awards winner this house received a Citation in the Fourth Annual P/A Design Awards Program (see JANUARY 1957 P/A)—Tivadar Balogh reports that he is "stunned" to find no houses honored in the most recent judging. "It may be that housing of the future will be of a high-density type," he says, "but we aren't there yet."

On the jury's question of whether the individual house is ceasing to be a "valid architectural problem," Balogh comments: "Many of my commissions are for single-family houses. I treat them as 'valid architectural problems.' How else? If I didn't, I doubt that they would be successful solutions to the programs involved. There still are site problems involving view and privacy, access and egress, topography, drainage, etc. There still are considerations to be made in the selection of materials, equipment, etc. And there certainly still are budgets to be considered. Most of the houses I have designed have been built on moderate budgets. The owners may call them their 'palaces,' but most of them, I think, happily feel that their needs have been objectively met and manifested in a structure which at the same time is singular and an example of good architecture."

Balogh's own house is one example









where the special considerations have been met with special distinction. He has created a more neutral container than most. It is essentially quiet despite occasional bright colors and an occasional spatial exuberance. There is little decorative embellishment beyond what derives from the purity of form and simplicity of surface. There is little faddishness in the details with which the idea has been carried out.

"In establishing the general architectural character of the house," says Balogh, "I had decided that the structure should be a light-looking frame hovering among the trees in tree-house fashion; that it should be a rather precise structure to complement the trees by being a foil to them. Aside from these broad considerations, two of the main design requirements we set were that the house must have a high-ceilinged living room and an inviting and interesting entrance approach." (He explains the wish for height as a reaction to their having lived, for several years, in a converted garage.) "Being committed to the high-ceilinged living room, it seemed logical, as a matter of economy, that the structure be developed as a two-story scheme. I find it interesting, in retrospect, that the resulting assembly bears some resemblance to a traditional 'center-hall' type of plan which I have grown to feel has great merit in its circulation pattern. . . . The house thus began to take on the shape of a simple



As owner, the architect is more familiar with this house than with other houses that come from his drafting board; yet if doing it over again, he would make only a few practical changes — to radiant panel heating, for

warmth, among other things. He also reports that he may build a garage on the northwest side (a carport is inadequate in the cold Michigan winters). The carport would then be developed as an elaborate stone garden.



ENTRY COUR

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box, not very interesting in itself, but I was intrigued with the thought that, with some careful and judicious use of transparent and implied planes, a cube of this sort, with all of its economical compactness, could be made to be an elegant structure. In this respect, the tall, exterior entry court within which the main stair rises is the essential key to the success of the scheme. It is here that most of the curse of the box is alleviated and the entrance is developed."

The sequence of visual and spatial experiences was an important consideration, and was carefully developed in the design stage. Balogh describes the approach: "The elevation as seen in approaching the house from the northwest side is purposely severe, almost medieval. Its sheer verticality is punctured only by four closely grouped, narrow windows, not unlike archers' ports. Although the visitor is given a glimpse of the entire house through the trees as he proceeds up the drive, his first full view of the house is of this northwest wall sheathed in vertical redwood siding. To gain entrance, the visitor must then pass under the house, through the carport to the high entry court and the stair. In mounting the stair, he rises away from the house, looking out toward the trees and then finally turns for the last flight of stairs. Only here does he get his first, full view of the living room and the balcony above it."

Total cost of the house was \$32,000, including all labor and material except their own (the Baloghs did a lot of work themselves-interior finish, carpentry, cabinet work, ceramic tile surfaces, painting; and the initial removal, on weekends, of some 80 trees to make room for the house and drive). Although the building was not completed until 1961, it was built to precisely the same design for which it received a Design Awards Citation in 1957; stylistically, too, it is at home in the 50's. The architect stayed with a simple idea and executed it simply. Practicalities may have been partly responsible, but the discipline of appropriateness was undoubtedly at work also. In Balogh's opinion, "The young architect who tends to treat a house or any job as a major design project simply hasn't matured. The true test comes quickly. When the bids come in some several thousand dollars over the budget and he finally sits down and proceeds to redesign the job and grind out another set of working drawings, he will mature, in spite of himself. And, if he is worth his salt, he will come up with something within the budget that is architecture he can be proud of."









## Clustered Pavilions

Architects: Geddes\*Brecher\*Qualls\*Cunningham. Site: Bryn Athyn, Pennsylvania. A wooded 30-acre plot surrounded by similar parcels. With the exception of planted areas and lawns close to the house, the site was left undisturbed. The access road, which is almost a quarter of a mile long, follows an existing bridle path. Pheasants and deer come right up to the house. Program: Family living quarters to include three bedrooms, one of which doubles as a study and guestroom, a family room that could become a teenage living room in the future, and a two-room suite for live-in staff. Potential for expansion, which will provide another wing containing bedrooms and a studio (see plan). Structure: Except for steel framing in the living room, the house is of frame construction with brick veneer exterior walls. Completed December 1962. Major Materials: Copper, standingseam roofing with matching fascias and gutter spouts above brick walls; sliding sash painted cordovan color; bronze hardware. Interior walls are walnut paneled or off-white painted plaster; maple floors. Mechanical System: Oil-fired hot-water heater; three-stage, 15-ton special chiller with humidifier, multi-zoned; floor grills; 7.5 kw emergency generator. Consultants: David Bloom, Structural Engineer; Vinokur & Pace, Mechanical Engineers; Robert Bauer, Electrical Engineer; Robert Mackintosh, Landscape Architect; George Synnestvedt, General Contractor. Photography: Louis Reens.

"Many a modern house wears an air of pretension that comes from employing concepts that transcend the domestic scale," says architect George Qualls. "I cannot believe that anyone, even the architect himself," he continues, "can really be happy living in the constant presence of an 'architectural idea.' On the other hand, when generalized architectural principles are successfully fused with the lives to be led in a house, architecture results."

Architect Qualls does not single out either architectural "idea" or "generalized principle" in connection with the Cooper house, but several of them are apparent. First is the "village" image—still *In* these days—which is conveyed by the grouping of tentlike, roofed, pavilion units and cupolas, skylights, and chimneys of different sizes and emphasized heights. Second is the geometrical exercise with the hexagon that is plain from the plan. Also, and this is something the architects have never openly hinted at, the plan may be an expressionistic idea that relates a



cluster of brilliants with faceted crowns to the lives of a jeweler, for whom the architects had previously designed another gem—the F. J. Cooper Store in Philadelphia (p. 152ff, OCTOBER 1962 P/A).

The adoption of the hexagonal geometry is explained by architect Qualls in relation to the site: "The plan attempts to reach out into the surrounding tree masses, and bring them into close contact with the enclosed spaces. The hexagonal geometry was chosen as a further means of diffusing the structure into its setting."

For similar reasons, because of its ability to be introduced directly into the ground, brick was chosen as the basic material, thus "reinforcing the concept of a meandering structure attempting to unify itself with its setting." The copper roofs, which were selected for weathering capacity and visual compatibility with the brick, have standing seams that also help to diffuse the geometrical form. Flagstone terraces surrounded by brick walls of different heights and planting beds and boxes of similar shapes gradually disperse the motif into the surrounding lawn (see plan).

For these reasons, the geometry of the plan is not the immediate impression one gains from the exterior. Even as one approaches the entry, where the "family of external forms" gradually encloses an entry court, the primary awareness that is heightened is not of the hexagon but of the "village" cluster.

On the interior, also, the geometry is not obtrusive-as one might expect from the plan. Naturally, it is strong in the major interior spaces-living, dining, and family rooms-but it is diffused by changes in scale and by the connecting hallways, which feel somewhat mean by contrast. Certainly, it is fairly unsuccessful in the bedroom wings, where the overall form is subdivided rather than repeated in units of different scale-an economic decision. The architects recognized "some real problems in the smaller subdivided areas of the house." "At first," they explain, "it was felt that the angular attitude of the structure would offer a certain freedom. This did not prove to be the case."

In the major spaces, however, each of which occupies a complete hexagonal pavilion, the reiteration of the form in a suspended ceiling, a baffle below a cupola, and a slender steel inner structure break down the geometry and reinforce it in wholely successful ways.

The interior furnishing, which was conducted entirely by the clients, still appears to the architects "to be an uncomfortable contrast to the intent of the house design." Owing to the previous successful collaboration with the client, this



The entire fireplace and chimney stand free of the living room (right) with connecting spacers of narrow window strips, which admit light onto the hearth and the andirons.











Living room pavilion (facing page and below) has a tentlike inner structure of slim, cordovan-colored steel columns with ribs separating almost imperceptibly concave ceiling segments. A walnut baffle in the cupola reiterates the basic geometry and the wall paneling. Louis XIV and 18th-Century English furniture, all covered in sage green, golds, rust, and salmon, are combined with Oriental pieces. Recessed spotlights in the perimeter soffit are focused on the jewelry of the room -Oriental jades and bronzes, an 18th-Century English portrait, and a pair of silver andirons. Dining room (right) has a suspended walnut honevcomb with incandescent tubes in its spokes reflecting a soft, distinctive light. A central downspot highlights the red-lacquered table and the chairs painted in the Venetian manner. Both rooms open through 12-ft-high glass doors onto terraces and the park beyond.





situation had been unforeseen. However, except for the round carpet in the hexagonal living room (which is an utter defeat to the room), the furniture seems to provide a combination of distinctive personalities with the house.

As George Qualls says, "Perhaps in no other type of building is there the possibility for so much variety. Without seeming arbitrary or unnatural, each room can display a different personality. This, coupled with the fact that few if any other spaces architects construct are subject to the intense use and reflective observation of those within a house, make it a constantly changing challenge. The answer has always seemed to lie within a design discipline that produces order with diversity and leaves room for the owner to express his own personality." The Cooper house seems to have met that answer admirably.

Speaking of residential design in relation to over-all architectural practice, Qualls says: "I feel that the private, specifically designed, home will always have a special, though diminishing, place in the architect's concern, As most architects get busier with the critical problems of urban growth, they find it difficult to expend energy on the demands of the house. They look over their shoulders at the problem (as they keep the other wary eye on the computer), but continue to work with the larger, more important scale.

"This is a loss that has had an effect upon the quality of our work in general, for the private house requires an attention to detail and a concern with intimate scale that should not be dismissed. With the pressure of an industrialized way of building behind us and design problems of expanding scope before us, we are developing an architecture of anonymity. Much of this is inevitable (and even healthy when one considers some of the unbridled leaps at personal expression taken by some designers), but if the design of an apartment house, a public housing project. a school, or even an office building were tempered by studying a house at the same time, our larger work would become a bit more human. Wright, LeCorbusier, and Mies began this way: in fact, modern architecture gained much of its initial momentum with the free-standing house. It is, after all, a beguiling problem.

"Certainly, the private house on the open half-acre lot is a disaster. It has become an ever-present false image of the mansion in the park. A solution might lie in cluster housing. The Cooper house, of course, stands aside from the dilemma. It is the latter-day mansion in the private park."

#### Complexities and Contradictions







Architects: Venturi & Short, Site: Chestnut Hill, Pa. A flat, open interior site in a suburb of Philadelphia, enclosed at its boundaries by trees and fences. The house sits near the middle of the site, like a pavilion, with no planting near it. Program: A house for the architect's mother. The architect has a small bedroom for himself on the ground floor, and uses the large room above as a studio. Structural System : Concrete-masonry bearing walls; wood-frame floors and roof. Mechanical System: Forced warm-air. Major Materials: Stucco surfacing on exterior of concrete-masonry units, plaster on interior; oak-strip flooring; terne standing-seam roof; steel sash. Consultants: George Patton, Landscape Architect; Keast & Hood Co., Structural Engineers; Vinokur-Pace Engineering Service, Mechanical Engineers. Photography: Maris•Ezra Stoller Associates, except as noted.

To some, at first sight and afterward, this house will seem willful and ugly—even offensive, ugliness often being considered on a par with the seven deadly sins. To others, even after careful exploration, the house will seem fresh and vital, whimsical and humorous. To children, it is immediately and continuously all that a house should be—from the front elevation with its basic elements of houseness: roof, door, and chimney—to the adventurous interior with its unusual places and surprising events.

To the architect himself (whose firm is now Venturi & Rauch), the house "recognizes complexities and contradictions: it is both complex and simple, open and enclosed, big and little; some of its elements are good on one level and bad on another; its order accommodates both the generic elements of the house in general and the circumstantial elements of a house in particular. It achieves the difficult unity of a medium number of diverse parts over the easy unity of a few or many motival parts."

Architects often explain verbally what they wish their work to transmit on an intuitive level. In many cases, they claim a meaning for their architecture that is not present in the finished building; in other cases, their words are as dull as their buildings. But in this house, without the architect's words and on the level simply of experience, one can feel the polarities and tensions of the architecture. It has a serious whimsy, a rational ambiguity, a consistent distortion. Some people could not live in this type of house, having little wish for more inconsistency when life is already filled with inconsistencies. In many ways, the house seems to be parallel to some of the newest art forms, where various levels of perception weave in and out, overlap, and return, and where the whole, in its studied disjointedness, appears to express the discontinuity and fragmented quality that characterizes contemporary life. Whether or not it succeeds on these terms, and whether Venturi's rationale for this house forms a defensible aesthetic, is debatable. Theory aside, however-when experienced as a living entity -the house has an undoubted impact.

Describing the house, Venturi says: "It contains things within things in plan: an interior multiplicity distorted to fit its rigid bounds and forced to accommodate its exterior symmetry. It contains things behind things in elevation: an interior multiplicity appropriate for a house protruding beyond the parapets of its two parallel walls, and manifesting itself in the irregular positions of its windows."

The contradictions between inside and outside are quite intentional. In Venturi's words: "The inside spaces—represented in plan and section—are complex and distorted in their shapes and interrelationships; they represent the complexities inherent in the domestic program as well as some whimsies not inappropriate for an individual house. On the other hand, the outside form—represented by the parapetted wall and the gable roof which enclose these complexities and distortions —is simple and consistent; it represents this house's public scale."

But, continues Venturi, the contradiction between inside and outside is "not total: inside, the plan as a whole reflects the symmetrical consistency of the outside; outside, the perforations in the elevations reflect the circumstantial distortions within. Concerning the inside: the plan is originally symmetrical with a central vertical-core from which radiates two symmetrical diagonals separating two end spaces in front from a major central space in back. This almost Palladian rigidity and symmetry is distorted, however, to accommodate to the particular needs of the spaces: the kitchen on the right, for instance, varies from the bedroom on the left." The interior partitions are "essentially rectangular in their relationships, but they compromise into di-









The rain leader that plunges haphazardly across this facade will outrage architects who have always taken pains to keep such elements under control. Venturi takes a different point of view: "Life is like this," he maintains, adding that there can't be a single order to cover everything, because there will always be something that won't fit.





SECTION B



PHOTO: ROLLIN LA FRANCI



agonals and segments at difficult places of circulation and entry."

"A more violent kind of accommodation occurs within the central core itself; two vertical elements, the fireplace-chimney and the stair, compete as it were for central position. And each of these two elements—one essentially solid, the other essentially a void—compromises in its shape and position: that is, inflects toward the other, to make a unity of the duality of the central core they constitute. On one side, the fireplace distorts in shape and moves over a little, as does its chimney; on the other side, the stair suddenly constricts its width and distorts its path because of the chimney."

Further discussing the fireplace and stair, Venturi says: "This core dominates as the center of the composition at this level, but at another it is a residual element dominated itself by the spaces around it at its base. On the living room side its shape is rectangular, parallel to the important rectangular order of the important space there. Toward the front, its shape is diagonal to accommodate to the also important unique directional needs of the entrance space which competes for center position here. The stair, considered as an element alone, in its awkward residual space, is bad; at another level-in relation to its position in a hierarchy of uses and spaces-it is a fragment appropriately accommodating to a complex and contradictory whole which is good. At still another level, its shape is not awkward: a stair at the bottom is a place to sit as well as to ascend and to place objects later to be taken upstairs. Also, this stair, like those in Shingle-Style houses, wants to be bigger at its base to accommodate to the bigger scale of the first floor." (Venturi feels that the house is actually in the Shingle Style, although it is, incidentally, surfaced in stucco.) "The little 'nowhere stair' from the second floor similarly accommodates 'awkwardly' to its residential core space: on one level it goes nowhere and is whimsical; on another level, it is like a ladder against a wall from which to wash the high window and paint the clerestory. The change in scale of the stair at this level of the house further contrasts with that change of scale in the other direction at the bottom."

In Venturi's design, the walls have a special aesthetic rationale. "The protrusions above and beyond the rigid outside walls also reflect the complexity inside. The walls in front and back are parapetted to emphasize their role as screens behind which these inner intricacies can protrude. The indentations of the windows and porch on the sides at all but one of the corners increase the screenlike quality of the front and back walls in the same way the parapets do at their tops."

When Venturi calls the house both open and closed as well as simple and complex, he is referring to these contradictory characteristics of the outside walls: "first, their parapets, along with the upper terrace in the back, which emphasize horizontal enclosure yet permit an expression of openness beyond and above them where the chimney-clerestory protrusion occurs; and second, their consistent shape in plan, which emphasizes rigid enclosure, yet their big openings often precariously close to the corners, which contradict the expression of enclosure. This method of layered walls for enclosure, punctured for openness, occurs vividly at the front center where the outside wall is superimposed upon the two other walls housing the stair-all with openings of different sizes and positions. Here is layered space rather than interpenetrated space."

When he calls the house big as well as little, he means that it is "a little house with big scale. Inside, the elements are big: the fireplace is 'too big,' the mantle 'too high' for the size of the room, doors are wide, the chair rail high. Another manifestation of big scale inside is a minimum of subdivisions of space; for the sake of economy as well, the plan minimizes purely circulation space. Outside, the manifestations of big scale are the main elements which are big and few in number and central or symmetrical in position, as well as the simplicity and consistency of the form and silhouette of the whole which I have already described. In back, the lunette window is big and dominating in its shape and position. In front, the entrance loggia is wide, high, and central; its big scale is emphasized by its contrast with the other doors and with its shallowness, and with the size and expediency of position of the inner entrance behind it. The applied wood molding over the door increases its scale too. The dado increases the scale of the building all around because it is higher than you expect it to be. These moldings affect the scale in another way: they make the stucco walls even more abstract, and the scale usually implied by the nature of materials more ambiguous or noncommital."

The main reason for the scale, however, "is to counterbalance the complexity. Complexity in combination with small scale in small buildings means busyness. Like the other organized complexities here, the big scale in the small building achieves tension rather than nervousness, one appropriate to such architecture."

The house has a complex system of aesthetics behind it. "The abstract composition of this building combines almost equally rectangular, diagonal and curving elements. The rectangles relate to the just dominant order of the spaces in plan and section. The diagonals relate to directional space at the entrance, to particular relationships of the directional and nondirectional spaces within the rigid enclosure on the first floor and to the enclosing and water-shedding function of the roof. The curves relate to the directional spatial needs at the entry and outside stair and to spatial-expressive needs in section in the dining room ceiling contradictory to the outside slope of the roof, and to the symbolism of the entrance and its scale in the moulding on the front elevation.... These complex combinations achieve not the easy harmony of a few motival parts based on exclusion, that is, on 'less is more,' but the difficult unity of a medium number of diverse parts based on inclusion and on an acknowledgement of the diversity of experience."



PHOTO THIS PAGE: ROLLIN LA FRANCE





Upstairs room (right) has a long terrace overlooking the backyard; it also has the "nowhere stair" (facing page, top; and above).

The architect is an admirer of Palladio and Michelangelo, and the house undoubtedly bears the influence of Venturi's study in Italy (he was at the American Academy in Rome, under a Rome Prize Fellowship). A more recent award has been a grant from the Graham Foundation, for work on a theory of architectural design; his book, "Complexity and Contradiction in Architecture," will be published by the Museum of Modern Art.









Architect: Huygens & Tappé. Site: Wayland, Massachusetts (see text). Program: Bachelor living quarters with potential for conversion to family use: the present studio would become two children's rooms, the dressing room a future bathroom. Major Materials: Poured concrete walls, sandblasted on exterior; wall caps are smooth-finished precast concrete; cedar shingle roofing; fascias and gutters of redwood stained to match shingles. French doors and gable window frames are thin-rolled steel sections. Interior walls, ceiling are sand plaster. Concrete floor is scored on module lines, stained slate gray, and waxed. Bathroom floor is slate. Built-in couch is polished concrete. Mechanical System: Warm air through floor slab (Airfloor system) with open trough registers on perimeter. General lighting built in, with fixtures mounted at every other module line on lintel beams; one rheostat controls all lights. Consultants: Souza & True, Structural Engineers; Osmond Bros., General Contractor. Photography: Phokion Karas.

In one way, the design of the private house is, properly, like the painting of miniatures: the physical scale is smaller than in larger works, yet the aesthetic vision of the architect remains as broad. In discussing the validity of the private house today, therefore, Dutch-born Remmert W. Huygens expresses an over-all aesthetic concept that is obviously more comprehensive than his own small house yet directly applicable to it. Bridging this discrepancy between broad vision and attention to detail-and doing so in a logical and unforced manner-is what makes the design of private houses still valuable to many architects.

"Architecture is the creating of an environment," Huygens proclaims. "It can do this on a regional scale, on an urban scale, on the scale of a street or a square —on any scale. It creates a building as part of this environment; it creates an interior space as part of a building. A building not conceived as a part of this environment is only a design exercise."

Huygens' own house, which he designed with his partner of French ancestry, architect A. Anthony Tappé, is patently the product of this philosophy. It is also a product of the environmental backgrounds of its designers; this latter influence is more subtle and personal and is a design factor too infrequently acknowledged.

The site of the house is on the side of a hill flourishing with conifers and birches, overlooking the Sudbury River valley toward the hills of New Hampshire. Below, and across the street, is a large white frame house with a red barn built in the 18th Century as "Reeve Inn" to serve the Connecticut post-coach route to New York. In a deed restriction, the previous owners

#### Tradition Restudied

of the land insisted that any new house harmonize with its historic neighbors. Thus the environment that the Huygens house had to become a part of required a somewhat traditional aspect.

Huygens & Tappé elected to work with "simple, clearly defined elements," adopting a single geometric form-a narrow rectangle suggested by a platform on the site-which they oriented to the view and sheltered with the almost mandatory gabled roof. Then they made a game of the pitched roof, deciding not to support the ridge at the ends and expressing this condition with glazed gables. This is further emphasized by projecting rain gutters, which carry water off into sunken cisterns beyond the four corners of the building. The effect, within the given environment, is one of very subtly articulating several traditional elements in a contemporary idiom. In this way, the house meets Huygens' requirement that "a building fulfill a function as part of an environment."

"A building also fulfills a function within itself," Huygens continues. "Whatever it expresses of this function, it must do within the framework required by the environment of which it is a part. Fulfilling its interior functions, therefore, is only one of the requirements of a building."

The interior needs of Huygens' house were only a one-room space for bachelor living, but with the possibility of conversion to family use in the future. Corresponding to the adopted envelope, a narrow, in-line floor plan was developed to open all rooms to the morning sun on one side and to the afternoon sun and the western view on the other.

The "one-room" effect was achieved by dispensing with tie rods and center vertical supports for the roof: interior walls stop at door height with wood grilles above them  $(1\frac{1}{2}" \times 1\frac{1}{2}"$  slats with 1" spaces); these give the semblance of separation of the spaces yet continue the impression of an uninterrupted volume.

Then, in order to support the roof, the architects provided battered concrete walls that absorb lateral thrust. The rugged character that they feel these walls give the building seems to them reminiscent of a "French farm house"—their European backgrounds, no doubt, influenced the design.

However, the walls are broken into sections of varying U-shaped depths and are placed somewhat at random within the uniform 2'6" module as a series of separate masses. To emphasize the sculptural quality, the voids are filled by visually minimal, single-pane, slim-frame French doors—29 of them in all. The U-shaped wall sections will receive built-in storage units on the interior, but, primarily, they seem designed to articulate the traditional over-all exterior form of the house and to give it an up-to-date sculptural quality.

This is entirely consistent with Huygens' thinking, and thus the architects are gratified that the negihbors "are pleased with the way the house nestles against the hill to suggest it has been there for years."

"There are indeed many examples of houses that are miniature versions of some large building complex," Huygens concludes. "This approach has little to do with architecture. This is model building by designers. Hopefully, much of the housing in the future will be of a higher density type, and will reduce the uncontrolled growth of endless housing developments. However, with the increase of the national wealth, demand for individual houses will remain. Thus, the individual house will be a continuing architectural problem, requiring attention of architects."





Virtually no new planting was necessary on the site. The driveway follows an existing path climbing the hill through a birch grove, low blueberry, and other shrubs. Earth banks (right, top) have ivy and myrtle ground cover. The top of the geometric platform on which the house sits has a carefully maintained lawn that emphasizes its geometry.





Interior cabinetwork and doors are black with oak trim; overhead grilles are oak slats. In the living room (left and above), a concrete couch is cantilevered over the sunken floor area. The fireplace has a hibachi shelf also accessible from the dining room. The glazed gable ends (below) have one pane that extends down to counter height, providing a view slit. Inverted U's shield vent openings for stove and dryer. Battered concrete walls are purposely low so that one 8-ft plywood sheet could provide the entire height of a form from head to footing. Running the length of the house are wood lintels, tied through walls into footings (see detail).









### Play of Volumes



Architect: Edward D. Dart. Site: Barrington, Illinois, Five-acre, oak-covered knoll offering views over adjacent lake. Limited tableland required that house be arranged on four levels. Program: Couple with two small boys wanted architect to make the most of fine views and site; interior spaces for privacy as well as for social occasions. Structural System: Reinforced concrete foundations; brick bearing walls; wood joists built-up roof; stud and plaster partitions. Mechanical System: Oil-fueled warm or cool air. Major Materials: Chicago Common brick laid with bagged unpointed joints; slate and composition tile flooring; oak woodwork, stained dark; wood frame windows. Consultants: Samartano & Robinson, Engineers. Photography: Balthazar.

If this house had been submitted to this year's Design Awards Jury, it would probably have been considered an invalid architectural exercise, an isolated private palace. "It is exactly this," says Dart, "and a luxurious one too. It bears no relationship to other buildings or any environment other than its wooded, steeply contoured site. To this, however, it belongs unequivocally. And, even more important, to the people who occupy it, it holds a meaning and significance, which, to me at least, more than justifies its architectural validity." Dart believes that the architect's involvement must not in any way be limited to certain specialties, and that major problems can only be solved by an understanding of the minor problems. He



feels certain that high-density housing will benefit from such individual exercise, for in the design of the individual house the architect is taught to deal with real clients-not room counts. "If high-density housing is to be at all successful," he says, "we must find a way to suggest that human beings do in fact inhabit it."

The 1963 Design Awards Jury, which gave this house a Citation, frankly admired the individuality of the solution-"the play of volume against volume within the interior, and the orderly relation of plans and elevations."

These are also the strong points of the completed house. Inside, a continuous movement has been created as the interior spaces flow into each other both vertically and horizontally. They are, however, kept in check by strong visual axes, which give a sense of order and discipline. The interior spaces are arranged around the entry. This space serves as circulation nucleus, separating the various functions on the main floor; the children's bedrooms from the master bedroom on the second floor; and the completely private study and solarium on the third floor from the rest of the house. A recreation room and servant's quarters are at grade level.

On the exterior, the volumes are expressed by strong vertical piers and bearing walls. In most cases, these extend above the roof line, forming parapets. Where sun and weather require, a pouredin-place concrete slab rests on top of the parapet or on the brick piers. Rough joining of the brick and its warm colors, ranging from salmon to mustard, keep the near-monumental forms of the house from being ponderous.





westerly to northwesterly.















The major axis of the house extends from the canopy and front door (facing page, bottom) to the dining room (left). Original twostory ceiling height of dining room (as shown in JANUARY 1963 P/A), which made this axis even more pronounced, has unfortunately been lowered to normal height, to make addition of another bedroom possible. Vertical nature of the house is especially apparent in the entrance hall (facing page, top), where two levels of bridges (above) are visible.





Olana, the 19th-Century home of Hudson-River-School painter Frederic Edwin Church, at Hudson, New York, is a little-known private palace in its own private park that has only recently come to public attention due to the unsettling fact that its preservation now hangs in the balance. The 327-acre estate is significant for two reasons: first, for its associations—it would be the only large studio of an American painter to be preserved in this country; and second, for its intrinsic merits—the hillside is a model of romantic landscaping, and the house (1) is a perfectly preserved example of the Persian-Moorish-Eclectic style of 1870-90, having been lived in by the daughter-in-law of the original owner until last summer.

Author-editor Russell Lynes commented recently, "The taste for the last part of the 19th Century is only just beginning to flow.... In another 20 or 30 years, I believe we are all convinced, there will be no question about the importance of Mr. Church's splendid mansion.... It will be taken for granted as one of the great houses in America on what may be the greatest site occupied by any American mansion."

Similarly, art historian James Thrall Soby wrote of Olana in 1948, "Nowhere else that I know of is there so grand and complete a monument to later American romanticism in the fine arts. Nowhere else, amid our 19th-Century architectural remains, do the American painter and nature stand so aggressively together."

Smith College art history professor David Huntington, whose interest in Church led to the present Olana Preservation Inc. (now under the chairmanship of Alexander Aldrich), has described Church's work in the following way: "He was one of the great painters of his generation; he realized the dreams of that generation in painting, as the great painter of manifest destiny. Like Whitman, who said, 'I sing the American continent,' Church celebrated in his paintings the great, beautiful, unknown continent of America as it was seen in that era (2).

"His paintings are really natural apocalypses," Professor Huntington continues. "He places us in the Maine wilderness, confronts us with a fiery sky, and presents us with the spaciousness of America, with the breadth of the continent, and the newness of it. In his 'View of Niagara Falls' of 1857, he shows us that archetypal landmark of the continent, and we feel like a new Noah before a New World."

Olana is Church's ideal new world realized, and it stands virtually as it stood in 1900. Named with an Arabic word that means "our place on high," the estate occupies one of the highest points on the east bank of the Hudson; it looks down the river valley and across to the Catskills 15 miles away (3). This magnificent panorama, which Church watched from his windows (24), appears in many guises in his paintings (15, 25). And therefore the preservation of the site, the house, and the world of Frederic Church's paintings are all intimately connected.

Contributions great or small to Olana Preservation Inc. should be sent to James Biddle, Treasurer, 1001 Park Avenue, New York, N. Y. 10028. The distinguished art historian of Yale University, Professor Vincent Scully, who has recently given his time to this preservation effort by lecturing on the architectural significance of Olana, has set down his appraisal in the following article prepared especially for P/A.

#### BY VINCENT SCULLY

Frederic Church's beloved Olana is an outstanding example of the country villas of its period, a splendid painter's essay in the picturesque. It is one of the most spectacularly sited houses in America, lifted high above the Hudson, on what Church called "the center of the world." So placed, it is designed both to



FREDERIC CHURCH : "ERUPTION OF COTOPAXI, EUCADOR, 1862."

2



culminate its immediate site and to offer vast views of river, mountains, and sky (3). The curvature of the earth is perceived from it, and the continental air masses can be seen from far off as they move ponderously across it, mounting up in squadrons of cloud while rain and sunshine drench the earth in their passage. It is a panorama, like one of Church's paintings themselves, where only the vastest scene, most complete in "eternal genesis," could satisfy the painter's passion to grasp and depict nature as a whole.

In search of such views Church traveled throughout much of the world, to Greenland for icebergs; for volcanoes to Ecuador (2) and Peru. Sometime on his travels in the Near East he fell in love with the architecture of Islam. Nineteenth-Century critics thus tended to call Olana "Moorish"; Church always referred to it as "Persian." In reality, beneath its excellent exotic detailing, it is a solidly conceived and boldly massed Italian villa of the type first popularized in America by Andrew Jackson Downing in the 1840's (58). Church did a good deal of the design himself, and in later years he tended in conversation to forget his architects, who were Calvert Vaux and F. C. Withers for the major campaign of 1870–72, and an obscure local man, whose name has not yet been discovered, for the wing added in 1888–89.

Church's early watercolors of the entrance side (59) show the development of his conception (8). Broad and dumpy at first, the tower finally thrust up, the pavilion on the other side was clarified, and the doorway in the center stepped forward close to the major plane. In this intensification of massing, the



































1.E













The hillside between the lake and house (4) has been opened up by removing trees, but originally, as an old photograph shows (5), the planting was a perfect example of the picturesque landscape. The house afforded Church variously calculated vistas



and the





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**N**<sup>1</sup> 10





the axial plan, and of cold and warm light in the same room (33), sensitive placements of furniture and sculpture so that light and shadow will fall on them to best effect (36, 37, 38, 40, 48, 50), and great variety of paintings, furniture, and objects (28-54) many exactly

where they were when photographed 75 years ago (49). The many Persian and Moorish-style decorations—stencilled doors and borders and patterned pieces—give the interiors the polychromed effect of Eastern opulence. (Photos this page, courtesy Prof. David Huntington.)



















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conception moved away from the looser groupings of Downing word a tough compactness like that of Richard Upjohn's F word King House at Newport, of 1845–47 (60). But Olana's

ased verticality is symptomatic of its later date and recalls that of the contemporary Wetmore House at Newport, of 1872—"Chateau-sur-Mer," by Richard Morris Hunt (61). The high, mansarded roof of the tower in Olana, and of all the masses in the Wetmore House, is evidence of French Second-Empire influence upon both, while Olana's polychrome detail (17, 19), though here "Persian" in derivation, shows the building's relationship to the mid-century Gothic Revival in its most Ruskinian guise. One thinks of earlier examples, such as William Butterfield's, All Saints, Margaret Street, London, of 1859 (62). Butterfield's color was bichromatic, though savagely conceived in tigerish stripings; Church's is richer and gentler, stretched across tower and pavilion like a hazy carpet (20, 11).

Olana is therefore as eclectic as one can imagine. It is no less decisive and forceful for that. The interior space crosses the entrance axis (26) twice, first for a dining room (57, 30, 31) and library, next for a hall (56, 48, 49) which opens one way to the stair (55, 28, 29) and another to a side porch and the view. The dining room and the hall are the most Islamic of the spaces, the former with its windows high (57), the latter articulated into four Moslem-arched compartments which face each other across the central area (56). In this confrontation of bays, the hall, though low and ceiled in the center, recalls an open madrasa; this may be why Church sometimes referred to it as a "court." The detailing throughout is bold and big in scale, in the approvedly "masculine" manner of the mid-century, and the interior as a whole is somber and heavily enclosed.

In the addition of 1888–89, all this was changed. The entrance axis was extended through an airy studio to open finally upon a lacily constructed porch (27). The windows are large, the moldings small, so that emphasis is given to open space, largely directed toward the outside and flooded with light. Here one is reminded of the Shingle Style of the 80's (63); so that once again the ostensibly "Persian" building can be seen as embodying the more general characteristics of its period. True enough, the addition is hardly as successful as the original block. The little cupola-study (13) is too complicated for its size, the elements overly effeminate in scale, the polychrome tired and ineffective. But the whole does open the house much more fully to its great landscape views than the earlier work had done, and there can be no doubt that those views were the building's primary reason for existence.

All of Olana's siting was worked out with endless calculation and care by William Law Olmsted, according to verbal

tradition. The extensive grounds of hill, forest, and ravine were shaped, cut, planted, and pathed according to the most elaborate principles of picturesque design. The use of an artificial lake, natural in form, goes back to 18th-Century practice, while the curving roads, designed to enhance the complication of contour and to provide changing views of the house, were again first popularized in America in the 40's by Andrew Jackson Downing.

A road curving through the forest finally reaches the artificial lake (4), and from this point the towers of the house are enframed above a carefully cleared and planted slope. Two roads lead gently upward, One drives back into the woods and approaches the height from behind, past gloomy ravines; on this route the house is revealed again only at the last moment. The other road skirts the slope, shows the house from constantly changing angles (6), loses it behind trees, slides below it while its towers wheel (7), eventually loses it again, circles through the edge of the woods back toward it, and finally, joined by the other, bursts out on the height with the marvellously flat-cut entrance facade, wholly revealed on the right hand, standing clear with empty space and open sky before it (8). Along the lawn here, Church's descendants built a little axial garden in the 1920's-understandably enough, since there is a strong diagonal pull toward the door that one instinctively wants to frame. But the entrance drive is not done; as it curves further along (9), masses of evergreen mask the house once more, to reveal it again in the last climactic view, which is directly toward the angle of its corner tower (10).

The admirable lift and force of that mansarded mass is most striking in this three-dimensional view, as is the sense of masonry solidity with which it is endowed by the clarity of its deep voids and the insetting of its panels. To the left of it stretches the long façade toward the later addition (1)—the longer the better, because its plane frames the staggering void which falls off there. To the right, the open, unsheltered porch (18) emphasizes the fortress-like severity of the entrance front and makes the house tough enough to face with some dignity the mighty spaces toward partnership with which it aspires (14).

It is in fact a partnership which functions here. The house enhances the view and directs the human eye toward it. Down below, the lake makes one sheen of light reflecting the clouds (12, 21), recalling Constable and the gentle Stour. But out beyond the park the imperial Hudson glimmers, smoke rising from its banks, fires of the Iroquois (24). Here is the savage Eden of the American Adam in whom Church believed. Above the river and the darkly folded hills, the continental clouds, flamed by sun, sail high, always in motion, never the same (23). It is the world of fusion, flux, and fire which 19th-Century natural philosophy preferred. In its sunsets, Cotopaxi (2) burned for Church during the final 20 years or so of his life when arthritis often prevented him from holding his paint brush in his hand. Throughout the decades, he watched the continent from his tower. Violence raged across the view, like that in his paintings, or that of the parkways now roaring down below.

Church's vision was an American one. The painters of the Hudson River School, of the generation before him, had been content with the Hudson; they painted at home. But Church was driven to go on to wider horizons. His imagination lost the

> capacity to invent out of the local fact; it required new places, far places, strange sights, strange lands. He was the American pilgrim and tourist, uprooted, unsatisfied, determined to get hold of everything at once. His canvasses got bigger, like those of the mighty New York School of the 1950's as if, like them, he wanted his gesture to encompass everything out there beyond his hand.

> He was driven on, but he was forced to come to rest at Olana at last. There he tried to see, through the flux of the seasons, the permanence of the world. His soul has entered into the place, which he brought into focus for our eyes. It was his last and most enduring work, the ultimate justification for his art.



#### PA OBSERVER

# KEVIN GO BRAGH

Question: What do Joyce, O'Casey, Wilde, Shaw, and Kevin Roche have in common? Answer: They are all Dubliners who left Ireland to become famous men of arts or letters. Perhaps architect Roche has a little further to go toward international réclame than the others, but then, at 43, he is 40 years younger than Joyce, 38 years younger than O'Casey, 68 years younger than Wilde, and 65 years younger than



Shaw. He is, too, the only architect in the group and the only one who has the advantage of still being alive.

Roche is the first Irishman to win (on May 19) the Arnold W. Brunner Memorial Prize in Architecture of the National Institute of Arts and Letters, an honor previously accorded to the likes of Louis I. Kahn, Paul Rudolph, I. M. Pei, Gordon Bunshaft, Harry Weese, Edward Larrabee Barnes, and John Carl Warnecke. A man who still has the whisper of a brogue in his soft voice, Roche received his architectural degree at the National University of Ireland, then came to the United States in 1948 and studied at Mies's Illinois Institute of Technology for a couple of years. He went to work for Eero Saarinen in 1950 and was upped to Chief Designer in 1953, becoming an intimate part of the last eight, great creative years of Saarinen's life. Since then, as partner with Joseph Lacy and John Dinkeloo in Eero Saarinen Associates, Roche has designed a number of projects notable for their powerful handling of form and space. The only one completed thus far-the IBM Pavilion with Charles Eames-was one of the two architectural hits of the New York World's Fair. Others range from preliminary thinking to works under construction, and from Dayton, Ohio (Air Force Museum) to Darlington, England (a components plant). Notable projects, in addition to those shown here, include two women's colleges at the University of Pennsylvania (sharing the same block with the women's dormitory he did with Saarinen) and a large Nieman-Marcus department store at North Park Shopping Center, Dallas, Texas. From the works-in-progress seen here, and from his work for Saarinen since 1953, it is easy to see that Roche well deserves his place in the Brunner firmament. And 'tis sure that he won't be letting James, Sean, Oscar, and G.B. down, but will become Dublin's latest famous expatriate.

The following five pages present a glimpse of the firm's recent work.
Photos, except as noted: Chaimer Alexander





The Oakland Museum was the first big plum landed by the firm after Saarinen's death. Roche and his associates were chosen after the clients talked with a number of well-known firms in the U.S. Oakland's confidence was not misplaced, for this multiuse museum, now under construction, promises to be a delightful addition to any urban scene, and particularly to Oakland, which needs something to offer in the face of so much charm across the Bay. The museum will be situated under tiers of gardens, courts, plazas, and stairways — the roof of one museum (there are three: art, history, and natural science; see composite plan) becoming the terrace of another. This will be no hanging Babylonian extravaganza, but an oasis of calm and contemplation in the midst of Oakland's civic center. Situated on a site that slopes toward Lake Merritt, the museum will present no monolithic visage to the street, and will at no point be more than one story high on a street elevation. James M. Brown, Director of Museums of the City of Oakland, has written that "Oakland has provided itself with an inspired museum design in which it will be possible to develop one of the nation's outstanding regional museums and cultural centers."



Perhaps Eero Saarinen Associates' bestknown commission to date is for the Ford Foundation headquarters in New York (see pp. 192-197, NOVEM-BER 1964 P/A). Now redesigned for a steel frame, the project retains its great, glassed inner court, but has become more refined in some of its details and members. The rear façade, in particular, is less "brutal" than it was in earlier stages. The ultimate opinion must, of course, await completion of the building, but perhaps the stronger treatment of the early designs contrasted more effectively with the airiness of the immense "conservatory."





The Air Force Museum at Wright-Patterson Air Force Base, Dayton, Ohio, has not undergone design changes since published in these pages last December (pp. 182-184). This aerial view of the field's landing strips, with the museum superimposed, has not been published before, however. It is interesting to note the sympathetic angular forms of the museum vis à vis the runways, a masterly stroke, since the relation of the two from the air should be of major importance.

The New Haven High School, now under construction near the railroad station, will be a notable urban school and at the same time give a monumental "ending" to the view across the highway down Church Street past the city's redeveloped downtown. Inside, it will be articulated into four "separate schools" of 400 students each, with intersecting common spaces (see plans). The design has a "nobility" that, Roche says, is important, since most of the students will come from poor families, and here will be able to identify with an atmosphere of imposing dignity. Interestingly enough, Mayor Richard Lee had once talked with Saarinen about designing a school for this site. The project was abandoned; when it was revived, the commission went to Roche and his associates.



Lower level

Upper level







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The Fine Arts Center for the University of Massachusetts at Amherst will be the main gateway to the campus and to the large-scale redevelopment program ESA is preparing for the school (other architects will design other ele-ments within the plan). The gate is formed by throwing the art studios across a double row of concrete stilts. One enters through the imposing portal thus created and emerges at the head of flights of stairs and proceeds down to a lake overlooking the campus. To the left and right are a 700-seat theatre and a 2600-seat concert hall, respectively. The hall, which will serve a potential audience in the Connecticut Valley in addition to the student body, is being patterned in shape after Symphony Hall in Boston, thereby attempting to solve the acoustics problem at its source, rather than depending on added impedimenta after construction. The bal-conies will occur as a series of terraces across the rear and sides of the auditorium. The Fine Arts Center will also include the facilities of the music and speech schools. Of particular note at this stage of design is the section of the art studio model, showing the double skylight treatment.

Rochester (New York) Institute of Technology is getting an entirely new campus that will cost in the neighborhood of \$53 million (a pretty good neighborhood, as they used to say). Under the coordinating hand of Lawrence B. Anderson of Boston, different elements of the campus are being designed by different firms. The College of Science and College of Applied Science are being designed by Ander-son, Beckwith & Haible; the Library and General Studies Building is to come from Harry Weese & Associates; the College of Graphic Arts and Photography and the College of Fine and Applied Arts is being done by Hugh Stubbins & Associates, Inc.; and the faculty and married students' housing by Edward Larrabee Barnes. As at the University of Massachusetts, Kevin Roche of ESA is designing the "entrance" to the institution, here to consist of a complex of buildings including the student union, physical education and athletic building, administration building, college of business, and night school. Here, the architects have limited themselves to a subdued palette of brick with visual interest

coming from small, deep-set windows and embrasures and variations in wall and roof angles. Further effect will come from entering courts from passageways and mounting or descending stairways on the site. As a functional and visual relief to this environment, the student union will probably take the form of a lower building with a central glass-roofed arcade. (1) physical education and athletic building; (2) swimming pool; (3) student union; (4) administration building; (5) college of business; (6) night school.







"Mhere Stately Oaks and Broad Magnolias Shade Inspiring Halls"

When Huey Pierce Long was running Louisiana in the late 20's and early 30's, one of his great showpieces was Louisiana State University in Baton Rouge, which he had made from a down-at-the-heels landgrant school into one of the most modern physical plants in the nation. The architecture was a kind of bastard Spanish colonial covered with an exposed aggregate stucco on masonry that has proved less durable than the Long dynasty itself. Later additions to the campus, when they did not follow this theme, were liable to be runaway eclectic of another order, such as the imitation-U.S.-Supreme-Court Law School.

For a few years now, however, LSU has been discovering noteworthy contemporary architecture, and at last has what is its best building in the new Union designed by Desmond-Miremont of Baton Rouge and Hammond, La. (In this threefirm effort, design, supervision, and color-coordinating was done by the Desmond office; specs were prepared by Mathes, Bergman & Associates; furniture layouts and specs were handled by Wilson & Sandifer; and working drawings were done in a project office staffed with members from each firm.)

structure, since it is available to the entire University community rather than just the student body. (A group of Baton Rouge businessmen objected to the word "union," but calmed down when told it was not being used in its anti-Confederacy sense.) The long list of recreational and cultural amenities offered by the Union include a bookstore, barber shop, post office, art gallery, cafeteria (the "Tiger's Lair"), the "Royal Cotillion Ballroom," a darkroom, woodworking shop, ceramics studio, bowling alley, billiards and ping-pong room, a number of meeting rooms, a 1315-seat theater, and a 333-seat auditorium. Oh yes, and "The Plantation Room," a tableservice dining room sporting a dance floor a la New York supper club (3). On opening day, one architect reportedly complained that he found the whole thing a little "country clubbish," but he was promptly voted down in the wave of popular approval. He was obviously a Tulane man, since the Union appropriately reflects the long-lived LSU attitude (on the part of the student body, anyway) that all work and no play make Jack and Jill dull clods indeed.

The term "Union" - instead of

"Student Union" - is used for this

The Union forms the southern boundary (2) of an immense quadrangle called the "Parade Ground" (LSU has a large ROTC contingent) bounded on the west by the Long-era Campanile and adjoining administration buildings, on the north by a large girl's dormitory from the same time, and on the east by the Episcopal Student Center (1930 Spanish), the Law School (WPA classic), and the Faculty Club (Long I). Aided by rather large expanses between the buildings, Desmond has managed to make the Union a gracious neighbor to these buildings while at the same time recalling a more indigenous Louisiana architecture in contemporary terms. Chief visual evocation of this tradition is the use of tall columns and a "gallery" on the exterior of the building (1). The columns of the exposed, cast-in-place structure flare out at top to carry the grid of beams supporting the roof slab. The building has a uniform modular discipline based on a 24-ft-square structural bay, which is subdivided into the following modular elements: 12-ft (roof framing grid); 6-ft (window mullions); 3-ft (plywood and terrazzo strips); 18-in. (exterior balusters) and 9-in. (interior balusters). The broad expanses of glass,

ohn





Photo: Dave Gleason

1

Photo: Courtesy L.S.U.

used to reveal the visual drama of many activities in the multileveled Union, are shielded by the roof overhangs and by solar grilles on the east and west (6). The sloping site, which enabled the two-level access scheme, also allowed the building to be as interesting on its "back" side as at the main entrance; here, stairs and platforms take visitors to the main level. The site, incidentally, was at the same time a problem and an advantage to the architects. An advantage because it had numerous live oak trees of great age that give the building a quite beautiful setting. A problem because the oak grove is a traditional campus landmark-officially, because the trees are dedicated to students who were killed in World War I; unofficially, because it is here that coeds from the nearby dormitories are bade goodnight (perhaps the origin of the term "student union"). Fortunately, the use of a compact plan at the northern border of the site preserved the dell for future generations of scholars specializing in the Great War or the biological sciences.

Within the Union, broad staircases encourage freedom of movement on the three levels of the building (4). A good deal of care was taken with the lighting, which in most areas is a combination of incandescent and fluorescent. Lighting intensities range from bowling-alleybright in the bowling alley to discothéque *intime* in the "Plantation

MAIN FLOOR PLAN AND SITE PLAN

 $\Theta$ 

Room." Widest array is in the main lounge, where there are indirect fluorescent and incandescents, direct incandescent downlights, chandeliers, and floor lamps-all indirectly controlled. Each area has been given its appropriate acoustic treatment. Public areas such as the main lobby have a "bouncy" sound; more isolated areas are softened with carpet, acoustical ceilings, and sound-insulated walls. Noisy areas, such as the crafts rooms, have double walls and ceilings suspended by rubber-inshear hangars.

The theater unit (5) is cantilevered at its south end to prevent encroachment on the root systems of those famous oaks. This tends to give an additional pleasing fillip to the appearance of the structure. The architects are particularly proud of the theater being built at the same time as the rest of the Union; originally, it was to be constructed when more funds became available. The main building was budgeted at \$20 per sq ft, but since the architects were able to keep this down to \$16 per sq ft, the theater went up simultaneously.

The proscenium theater (7) has hemlock-panelled walls, orange-upholstered seating, and green-carpeted aisles. The ceiling is hung with floating plaster reflectors, creating a reverberation space. The architects say that the acoustics, controlled by Bolt, Beranek & Newman, "have proved most successful for voice and music."

Huey P. Long's old political anthem was entitled "Every Man a King." If he could see the way his generation's grandchildren are living it up at LSU today, he might well be astounded at his prophecy.

-JTB, Jr.

Architects: Desmond-Miremont & Associates, Inc.; Mathes, Bergman & Associates; Wilson & Sandifer. Design Consultant for the Union: Porter Butts. Structural Engineer: Alfred G. Rayner. Mechanical Engineer: Chesson, Forrest & Holland. Landscape Architects: Carter, Horan & Chapin. Interior Designer: Vincent Guaccero. General Contractor: R. P. Farnsworth & Co., Inc.



Photos (except as noted): Frank Lotz Miller



When Rudolf-August Oetker, the German pudding king (he produces packaged desserts), decided to adorn the town of Bielefeld, Germany, with a new museum of 20th-Century art, he came to the United States to find his architect. His original intention was to select a dozen or more and have them compete for the job. Unfortunately for whoever the others were to be, the first man he interviewed in 1963 was Philip Johnson, who got the job right off. "I talked German; that helped," Johnson told P/A. The fact that he has an impressive collection of similar museums to his credit did not hurt, of course.

# JOHNSON Exports Small Museum

Oetker's donation of a museum to his city follows a family tradition of cultural philanthropy; in 1930, his mother gave Bielefeld its concert hall. Johnson says that he is the ideal client, with expense no object ("he is the richest man in Germany"). The city where the museum is to rise is primarily industrial; it was a member of the Hanseatic League after its chartering in 1250. Located in northwest Germany, it suffered heavy damage in World War II.

Johnson's museum will be situated in one of the small parks in which the city abounds, replacing some existing houses. It will be an "accent"



in a ring around the central city that follows Bielefeld's medieval fortifications. This park location and its size (three stories, 50,000 sq ft) will give it a pavilion-like appearance. Structure will be concrete, surfaced inside and out with South African granite. Aside from the granite sheathing, such "luxury" materials as carpeting on the walls and oak floors will be used in different areas of the museum. Central space on each floor will be highlighted by a stairwell rising the height of the space. Lecture hall, library, offices, and service and storage spaces will be on two levels below the lobby floor.

Johnson says he does not like to use natural light in a museum, but frequently must. This isn't because, as Scrooge said, "Darkness is cheap," but because artificial light can be controlled and natural light cannot. In this museum, the first two floors have glazed areas and the third floor, the main viewing floor, is opaque all around, but skylighted. Despite the European tradition of, and client preference for, natural light, Johnson has provided drapery tracks on the lower level windows, and hopes they will be used.

Asked about the building's structure, Johnson replied, "We have no structure." Despite this typical Johnsonian convolution, the structure here will serve an important secondary purpose. The main load-bearing concrete walls have been so arranged as to create viewing areas of different sizes and shapes on all three floors. As immovable partitions, they will prevent the museum director from becoming his own architect every time he has a new exhibition.

The building is now in workingdrawing stage, with construction scheduled to start this summer. Professor Casar F. Pinnau is the German architect in charge of construction and supervision.

Second and third floors: (1) freight elevator; (2) stair; (3) stair; (4) passenger elevator.

Ground floor: (1) lobby; (2) cafeteria; (3) terrace; (4) children's workshop.





Third Floor



Second Floor



## Smaller Package Total Energy

#### BY WILLIAM J. McGUINNESS

Possible use of the total energy principle in relatively small installations is discussed by a practicing mechanical engineer.

Rapid growth of interest in the use of the total-energy principle has spurred great curiosity about its relative economy, adaptability to power as well as thermal needs, and its suitability to specific applications. The informative article by Robert H. Emerick in the FEBRUARY 1965 P/A did much to clarify the mechanical elements appropriate to various designs and to summarize methodology and the ways of adapting them to architectural designs. It left little doubt that decisions concerning its use should be made after deep study and close attention to the counsel of mechanical and electrical engineers.

With this method, which operates independently of a central utility and employs on-site power generation and the utilization of surplus engine heat, a question frequently raised concerns its possible use in relatively small as well as large installations. To date, it has been used mostly in large buildings or groups of buildings (M.E. CRITIQUE, DECEMBER 1963 P/A). Projected annual cost, total ene Fuel for engines Fuel for heating Maintenance Lubricants, antifreeze, etc.

A recent example of its being chosen for a complex of smaller capacity is its use in two American Oil Company service stations on opposite sides of the Illinois Tollroad. The Onan diesel-driven generators (*shown*) provide all of the electric power for both of these stations at the Lake Forest Oasis. Heat recovered from the engines provides much of the heating needed, even in the coldest weather. Information released by the American Oil Company shows that the savings over purchased electricity plus heating fuel are sufficient to pay for the plant in less than seven years.

#### Economics

A

| nnual cost, purchased power: |          |
|------------------------------|----------|
| Purchased electricity        | \$10,040 |
| Fuel for heating             | 2,190    |
|                              |          |

Total

\$12,230



| rojected annual cost, total ener | rgy:     |
|----------------------------------|----------|
| Fuel for engines                 | \$4,800  |
| Fuel for heating                 | 1,200    |
| Maintenance                      | 1,560    |
| Lubricants, antifreeze, etc.     | 180      |
| Incidental inspection labor      | 40       |
| Space rent and taxes             | 260      |
| Total                            | \$8,040  |
| Annual savings                   | \$4,190  |
| Fotal installed equipment cost   | \$27,000 |
| Gross rate of return 15.39       | b per vr |

#### Initial Cost

Payout before taxes

The cost of installing this 170-kw plant including heat recovery equipment in the existing buildings was \$160 per kw capacity, and might have been less had it been part of the initial cost of construction.

6.5 yrs

#### **Operating** Cost

Fuel, lubricant, and the cost of a maintenance contract show that generating costs fall between  $0.5\phi$  and  $1.0\phi$  pr kwh.

#### **Operating** Efficiency

Diesel efficiency for electric generation is about 30 to 39 per cent. Its total efficiency, including heat recovery, approaches 80 per cent.

There are other problems involved in the use of total heat for smaller output. Noise levels become important. Note the acoustic treatment in the illustration. Breakdown possibilities threaten, but the use of several engines can permit full operation with one shut down. An experienced resident operator is not essential, because the installation can be fully automatic and capable of running unattended. Maintenance need not pose a problem, since maintenance contracts can be made with equipment suppliers.

This method is not considered currently applicable to the average residence, but studies indicate that installations of a capacity as low as 40 kw can be justified.

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## The Lighter Side of Specifications Writing

#### BY HAROLD J. ROSEN

Although specifiers are both dedicated and serious in the writing of specifications, they sometimes display a wry sense of humor. Author is a Fellow of the Construction Specifications Institute.

This month, in San Diego, the Construction Specifications Institute is meeting at its ninth annual convention. These conclaves are generally serious, provocative, and meaningful. The papers presented over the years have been written in a serious vein and are the product of continuing research and investigation.

Specifications and specifiers, however, have their humorous and droll side, too, or else specifiers would never survive this seemingly (for others) dry and dull side of architecture and engineering. There can be moments of fun and laughter, to take the edge off of an otherwise serious profession.

Let us examine some of these areas that only the specifier can thoroughly enjoy, because of his daily involvement from moments of despair (I once left out a complete trade section) to moments of exhilaration. This state of well being resulted at one time from the job captain's failure to detail something on the drawings and the specifier bailing him out with money left over from the hardware allowance so there was no extra for the owner to pay. The job captain finally realized the importance of specifications.

In preparing a new specification, we generally use a previous one as a guide. Too many times, we repeat the same errors. How would you write a specification with no previous guide to copy from? The Lord tried and look what happened to the first specification ever written. In Genesis 6, He instructed Noah to make himself an ark of gopherwood; to make rooms in the ark, and to cover it inside and out with pitch; to make its length 300 cubits, its breadth 50 cubits, and its height 30 cubits. Apparently there were no lumber grading rules at the time, because the grade of gopherwood is not specified. Perhaps it was meant to be marine grade, since it was intended for a boat. Nor are we told whether the pitch was pine-tar pitch or coal-tar pitch. But again, during the early days of sailing vessels, only pine tar pitch was available. One serious mistake was to include dimensions of the ark in the specifications. Dimensions should always be noted on the drawings.

The Lord improved over the years as a specifications writer, for in Exodus 25 we find quite a detailed specification for an ark, the tabernacle, the screens, the altar curtains, and the tent. There is no substitute for experience.

Do times change? Not really. Here is a quotation from a book entitled Handbook of Specifications, published in London in 1860: "Much of the fullness or general nature of the description of works, depends materially upon the character of the tradesman employed. Where builders of high established character undertake a work, great minuteness of description may not be necessary; but the architect cannot be too elaborate or cautious, when having to do with a stranger or person of doubtful reputation, as sometimes happens in the case of open competition for public bodies." Will pubic officials ever learn?

One more story concerning contractors and then we will let them turn the tables on us. In a History of Civil Engineering, published in London in 1952, the following quotation concerns an 18th-Century appraisal of contractors: "For the haste with which these works are usually undertaken, and their long duration, often reduce the contractor to a state of nervous exhaustion. They must be accorded reasonable terms, without pressure for excessive rebates. For, if the job is somewhat heavy and if it is awarded to poor or ignorant people, they will take it on rashly at any price, in the hope of making some profit in one way or another." They must have been aware of "or equal"

and substitutions even then.

In the Summer 1957 issue of "Specifier," Kenneth Wilson asks and answers the following questions concerning specifications:

"What are specifications? The answer to this question depends almost entirely on whom you ask for an opinion.

"If you ask a contractor, he will probably tell you that specifications are a fiendish device, employed by architects and engineers, which are unintelligible, unreadable, and conceived for the sole purpose of preventing him from making an honest dollar, and making him the goat for the inadequacy of his suppliers and the ignorance of the specifications writer.

"If you were to ask a salesman for his opinion of specifications, he would indignantly opine that most specifications were copies from his competitor's catalogs, describing nothing but junk that some manufacturers have the gall to foist upon an unsuspecting public. With injured dignity, he will inquire, how can an honest sales engineer sell a superior product such as his own in fair competition with inferior and overpriced products such as are specified."

I had to dig into my files to come up with these historical and hysterical (?) references. But with the new CSI format, it was a simple matter. My son Peter caught me at work.



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## Licensing Requirements and the Corporate Contractor

#### BY BERNARD TOMSON AND NORMAN COPLAN

P/A's legal team discusses the severe penalties to corporate contractors or other professionals who fail to meet a state's statutory licensing requirements.

A corporation organized in one state for the purpose of building contracting must, in general, be qualified to do business by those other states in which it wishes to engage in building projects. In many states, one of the penalties for failure to obtain authorization to do business is to bar the corporation from the use of that state's courts in order to collect moneys that are due and owing. This can be a serious penalty, since the owner may only be amenable to suit in that state. In some jurisdictions, a corporate contractor may gain access to the state's courts by belatedly securing the authorization to do business there after the cause of action for which he wishes to institute suit has arisen. In other jurisdictions, it is permanently barred. In several states, a corporate building contractor must secure not only a license to do business, but a second and separate license to operate as a builder. Again, loss of compensation is one of the possible penalties for failure to secure this latter license. The legal predicament in which a corporate contractor can find itself if it fails to satisfy all statutory licensing requirements of a state in which it is operating is illustrated by the recent decision of the Michigan Supreme Court in Bilt-More Homes, Inc. v. French, 130 N.W. 2d 907.

In this case, the contractor, an Ohio corporation, entered into a construction contract to build a residence in Michigan. The corporation obtained a builder's license, required by Michigan law, and commenced construction in October 1959. The building was completed in June 1960, but the owners failed to pay the contractor's compensation. The contractor filed a lien on the owner's property and instituted an action to foreclose. After the foreclosure action was instituted, the contractor was notified by the Builder's Division of the Michigan Corporation and Securities Commission that it had just learned that the contractor had not been qualified as a foreign corporation to do business in Michigan and that its builder's license was therefore null and void. A few months later, the contractor obtained the required license to qualify it to do business in Michigan; following this qualification, a new builder's license was issued to the contractor by the State of Michigan.

During the pendency of the action to foreclose the lien, the owner moved to dismiss the complaint on the ground that the builder's license originally issued to the contractor was invalid because it had not been authorized to do business in Michigan at the time of the issuance of such license. Thus, contended the owner, the contractor could not utilize the courts of Michigan to enforce the lien for unpaid fees under that provision of the applicable statute, which required that a residential builder, in order to maintain an action for the collection of compensation, must allege and prove he was duly licensed.

The contractor, on the other hand, contended that its original builder's license was not void but merely voidable. The significance of this position was that, if the license was not deemed void from its inception, the subsequent action of the contractor in regularizing its position by qualifying to do business would reopen the availability of the Michigan court to continue the foreclosure action.

The trial court dismissed the contractor's complaint, ruling that there was no power in the Michigan Commission to issue a builder's license until *after* a foreign corporation was authorized to do business in Michigan. Under these circumstances, stated the Court, the issuance of such a license by the Commission did not create a colorable right in the contractor to utilize the Michigan courts to collect moneys allegedly due, even though the contractor had eventually secured authorization to do business in Michigan. Rather, ruled the Court, the license originally issued was null and void, thereby permanently depriving the contractor of utilizing the Michigan courts to assist it in its claim against the owner. In concluding that the original builder's license was void rather than only voidable, the Court stated:

"It is not for a trial court to begin the process of attrition whereby, in appealing cases, the statutory bite is made more gentle, until eventually the state is made practically innocuous and the teeth of the strong legislative policy effectively pulled."

Upon appeal, the contractor emphasized that the issuance to it of a builder's license without its qualifying to do business was not the result of a fraud or misrepresentation, but merely a mistake on its part and on the part of the Michigan Commission. Under these circumstances, contended the contractor, the "de facto" license should not be deemed void from its inception. The Supreme Court of Michigan, however, pointed out that even the de facto license was not secured by the contractor prior to its entering into the building contract, although such a license was secured prior to the commencement of construction. The Court indicated that this fact alone might be sufficient to defeat the plaintiff's position. The Court, however, concluded that, in any event, the requirement that a corporation be qualified to do business before a builder's license be issued was, from the viewpoint of the public's protection, of such importance that the public policy involved should not be diluted by a judicial exception, even if it is assumed that the contractor was guilty of an innocent mistake.

The result in the case discussed is a harsh one and carries a warning not only to corporate contractors, but to the professionals who require licensing in the states in which they practice.



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## Revolutionary Approach to Design

#### BY R. H. MUTRUX

NOTES ON THE SYNTHESIS OF FORM by Christopher Alexander. The Harvard University Press, Cambridge, Mass. (1964, 216 pp. \$6.75). Reviewer is an Associate in the firm of Fletcher-Thompson, Architects-Engineers, Bridgeport, Connecticut.

In a disarmingly unpretentious format with a deceptively noncommittal title, Christopher Alexander has outlined an ambitious proposal that could revolutionize the approach to architectural design.

This minuscule but far from modest work makes its appearance at a time when the pendulum of artistic activity swings from the field of function, order, and purpose, as symbolized by our planned communities, our highways and bridges, our automobiles and buildings, to the amorphous area of novelty, sensation, and caprice, as characterized by our nonobjective painting, our selfdestructive sculpture, our purposefully purposeless music, and the theatre of the absurd. Its author has been careful to limit himself, in his own words, to the architecture of "things and buildings," although there is the clear implication throughout that his theory might successfully be applied to any field of creativity. He then proceeds to subdivide the products of this area, in terms of the atmosphere surrounding their inspiration, into the "unself-conscious" and the "selfconscious" types.

The "unself-conscious" school is exemplified only by a brief description of the hut of the Mousgoum native in the French Cameroons, but by coincidence is superbly illustrated in the recent show "Architecture Without Architects" at the Museum of Modern Art. The premise underlying the entire work is that the products of this "school"—however sporadic—possess an innate quality of integrity and naturalness, or, in the words of Bernard Rudofsky, "a true functionalism and a timeless modernity," which places them far above the world of training,

comparative traditions, research, profit, and social standing.

The "self-conscious" school, on the other hand, includes most of the art and architecture of the so-called civilized world since the time of Plato; the contemporary designer, seeking encouragement through identification, may be dismayed to find that the works of this school, seen from the author's Olympian perspective, leave much to be desired. But it must be made clear that this book is in no sense an evaluation of art, but a study of comparative processes in its creation.

Christopher Alexander's "way of representing design problems" for easier solution is not an easy path to take, and it may well be strewn with the bleached bones of those who cannot withstand the cold logic of an obviously tenable thesis without the leavening of patience or humor. His thesis is developed by an intriguing pattern of persuasion through definition and repetition. For him "Context defines the problem. . . . Form is the solution to the problem [and] . . . together they form an ensemble. . . . Fitness is the relation of mutual acceptability between form and context. . . . Good fit is the desired property of this ensemble." And finally, as the definitive formula for good design: "[We must] put context and form into effortless contact or frictionless coexistence." Those who have kept pace with this didactic litany thus far will agree that all the foregoing is patently irrefutable. But Alexander then introduces a challenge: "What does make design a problem in the real world . . . is that we are trying to make a diagram of forces we do not understand." At this point, the practitioner who believes that his profession still maintains standards well above the mere day-by-day, bread-and-butter level may reach for the gauntlet in defense of his honor.

The author has successfully capsulated the steps in the solution of a design problem; he submits, but he does not attempt to prove, that because we have been forced into a "self-conscious" approach, we have, for some two-and-a-half millenia, fallen short of the ideal mark. He demonstrates conclusively that the number of factors that may influence even the simplest task today is nothing short of astronomical. But he so impresses us with the magnitude of listing and correlating the myriad facets of a modern problem that he unintentionally undermines any assurance that we, through his method, could ever organize, much less solve, a contemporary problem in our brief lifetime.

He bears rather heavily on a perennial sore spot: 'Mathematics makes designers nervous." Actually, however, he has no intention of perpetuating the mathematical mystique that has tantalized both philosopher and artist for centuries: his method is rather a studied process of the preorganization of elements, an analysis, or breaking-up, of the steps required to synthesize or set together a solution. The principle of the "set theory" used in the teaching of modern mathematics plays a vital role in this process. The sum total of relevant factors is assembled into elementary groupings that together form the visual structure of the final solution. The interrelation or interaction of the elements within the groups. or "sets," and of the "sets" within the structure, is the key to its validity. It is Alexander's belief that the application of the final diagram to the original problem. in its total scope, will result in "good fit" or "good design." Undoubtedly, his method cannot help but become "a very powerful tool indeed" for those who would deal with projects of the complex present and the growing complexity of the future.

The effectiveness of this tool will depend partly on the area of its application. The author, for reasons of his own, has limited his examples to the design of *Continued on page 214* 

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Pittsburgh Plate Glass Company has developed an entirely new thermal wall framing system called T-wall. The system has a proven U value of 0.6.\* There is no through metal connection from outside to inside. Heating and air-conditioning costs are reduced. No condensation occurs with room temperatures up to 70° with relative humidity to 35%—even with an outdoor temperature of minus 20°. Walls aren't chilly to the touch. Sound transmission is considerably less. No thermal "Short circuits"



PPG T-wall is versatile. It can be glazed in combinations of 3/6" glass, 1/4" glass, Spandrelite® panels, Twindow® Insulating Glass, insulated panels or operating sash. T-wall mullions are available in three depths: 2", 41/2" and 6", to meet various strength and design requirements.

Write for the new four-page descriptive folder on this latest Pittco development. Pittsburgh Plate Glass Company, Pittco Architectural Metals, One Gateway Center, Pittsburgh, Pennsylvania 15222.



\*Performance test data, published March 1, 1965—Pennsylvania State University





In the floor of the New York State Pavilion at the New York World's Fair, multi-colored terrazzo ingeniously traces the outlines of the major highways across the state. Architect: Philip Johnson Associates, New York, Terrazzo Contractor: Port Morris Tile & Terrazzo Corp., New York.

No.17/

FLOORS

Clip for a.i.a. file 4-a

I Prepared as an industry service by Portland Cement Association

Few flooring materials have the history of terrazzo. Few can combine the beauty and longevity of this versatile material. Floors "designed for kings" in Rome and the original, beautiful floors laid by Venetian workers centuries ago still serve as dramatic tests of time and use. Their performance offers today's architects, and today's owners, unparalleled proof of ultimate economy.

#### **TYPES OF TERRAZZO TOPPINGS**

**Standard :** Minimum thickness (finished) of 5% inch, composed of marble chip sizes #1 and #2.

**Venetian:** Minimum thickness of one (1) inch, composed of marble chip sizes #1 through #8 (as desired). Uses minimum  $1\frac{1}{2}$ -inch-deep divider strips.

**Rustic:** (Washed Terrazzo) Same as any terrazzo topping except that after the rolling operation, it is broom finished or hosed with water. After curing, treat with a solution of muriatic acid and apply a penetrating seal.

Berliner: (Palladiana) Minimum thickness of one (1) inch, composed of broken marble in various sizes from 4 to 140 square inches, with a "Standard Terrazzo" joint, varying in width from ½ inch to 5 inches. Conductive: Same as "Standard" except that acetylene black is added to the topping and underbed and mixed in strict accordance with special specification for Conductive Terrazzo. Meets all National Fire Prevention Assn. requirements.

#### **TERRAZZO COMPONENTS**

Marble: Shall be standard quarry products.

**Marble chip sizes:** Marble chips are graded by number according to size and in conformity with industry standards adopted by marble producers, as follows:

| Chip Size<br>Number | Passes Through<br>Screen<br>Inches | Retained<br>on Screen<br>Inches |  |  |  |  |
|---------------------|------------------------------------|---------------------------------|--|--|--|--|
| 0                   | 1/8                                | 1/16                            |  |  |  |  |
| 1                   | 1/4                                | 1/8                             |  |  |  |  |
| 2                   | 3∕8                                | 1/4                             |  |  |  |  |
| 2<br>3              | 1/2                                | 3/8                             |  |  |  |  |
| 4                   | 5%                                 | 1/2                             |  |  |  |  |
| 5                   | 3/4                                | 5/8                             |  |  |  |  |
| 6                   | 7/8                                | 3/4                             |  |  |  |  |
| 7                   | 1                                  | 7/8                             |  |  |  |  |
| 8                   | 11/8                               | 1                               |  |  |  |  |

For Venetian Terrazzo the larger chips should be used in the following groups:

| #4 plus #5     | 3⁄4 | 1/2" |
|----------------|-----|------|
| #6, #7 plus #8 | 1%  | 3/4  |

Chips should be crushed uniformly so that all dimensions are reasonably close to the limits of the recommended sizes. Flats or flaky chips should be held to a minimum.

**Portland cement:** White portland cement and gray portland cement shall conform to "Specifications for Portland Cement" (ASTM C 150-63) or "Specifications' for Air-Entraining Portland Cement" (ASTM C 175) or "Cement, Portland" (FS SS C192g).

### Portland Cement Association

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#### Continued from page 208

kettles, although his ample appendix treats a hypothetical situation dealing with cattle and people more concretely. This oversimplification could better be justified if one were promised a sequel in which the author touched on more timely and relevant matters, but it appears that he has chosen to restrict his examples for the sake of maximum clarity.

In any case, this new tool, like every other constructive treatise on design, must eventually contribute to its own advancement, but the measure of its usefulness will inevitably depend upon the skill of the user. It is interesting to speculate on the possible reactions of those who have already achieved relative eminence without benefit of its message. Eero Saarinen, if he were alive today, would undoubtedly treat it with utmost respect, whereas Frank Lloyd Wright would view it with lofty impatience. Felix Candela and Pier Luigi Nervi would greet it with fraternal enthusiasm; Edward Stone and Minoru Yamasaki, with bewilderment. Le Corbusier, if he deigned to acknowl-



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edge it at all, would claim he had thought of this long ago, and would work it all out in his head.

In short, the intuition-directed designer, who is motivated by Pascal's esprit de finesse may find himself in foreign territory. At the other extreme, the co-ordinator of a complex where a particular process is the ultimate end, or the architect for a community engaged solely in, let us say, missile-launching, will find a clear reflection of the esprit de géométrie with which he is already well acquainted.

The most stimulating area, of course, is the vast everyman's land in between that not only allows but invites both points of view. The design of a general hospital, or, better still, the master plan of a university, are examples of projects in which innumerable heterogenous physical elements must be combined within an atmosphere of sensory satisfaction and work together without compromise in an unassailable unit. It is exciting to look forward, through Christopher Alexander's special lens, to a world that promises no shortage or lack of variety of projects of this nature.

For the present, however, I would venture to say that Alexander's vastly comprehensive thesis is immediately and universally applicable as an a posteriori check in detail on an established solution, rather than an a priori key to a parti. Even though this application is secondary to the one the author intends, its value as a tool is in no sense vitiated. I believe it was Philip Johnson who once said, "It is the architect's ambition to design a building which will make people gasp," and later, on the subject of the design process, "You seize upon a concept, then you try to justify it in detail." This is a frank paradigm of Alexander's "self-conscious" approach. There is nothing here, however, to presuppose a less-than-successful result, at least by current standards.

It is precisely on the point of standards that Christopher Alexander reveals himself, and at the same time sums up this scholarly, graphic work. The harsh opening challenge—"It is the property of the self-conscious system that its form fit badly"—is graciously tempered with an apologia in the epilogue. According to Alexander, the process of design, like the search for Truth, is an end in itself, "not only the form of the results, but the form of the path which led to them," because, like Truth, good design suggests an eternal search for the unattainable.

The author identifies himself, in the end, not merely as an architect, engineer, *Continued on page 220* 





Under-construction view of the circular Fine Arts Building of the Northwest Missouri State College, Maryville, Missouri, with Sheffield Open Web Steel Joists in the flooring system.

# Sheffield Open Web Joists offer engineering solution on circular building



Basic design determined for the Fine Arts Building of the Northwest Missouri State College was a circular structure. A problem in the engineering of the flooring system was the

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ENGINEERS-ARCHITECTS: Herschman & Douglas, South St. Joseph, Mo. CONTRACTORS: Glaze Construction Co., St. Joseph, Mo. FABRICATORS and ERECTORS: St. Joseph Structural Steel Co., St. Joseph, Mo.





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| Water Absorption (%        | by  | V   | olu   | me  | )   | 4 | 345 | 1.  | 5 @ | 2    | Hr | s. T | ota | II In | nme  | ersi | on ( | No C  | apill  | arity  |
|----------------------------|-----|-----|-------|-----|-----|---|-----|-----|-----|------|----|------|-----|-------|------|------|------|-------|--------|--------|
| Vapor Permeability         | *   | ×   |       |     |     |   | 1   | 5 P | ern | 15   | @  | 73º  | F.  | and   | 1 51 | %    | Rela | ative | Hur    | nidity |
| Concentration Load         | Ind | len | tat   | ion | F   |   |     |     |     |      |    |      |     |       |      |      |      | 3/11  | @ 7    | 7 lbs. |
| <b>Compression Resista</b> | nc  | е   |       | -   | 5.1 |   |     |     |     |      |    |      |     | 185   | PSI  | (5   | 0%   | Cons  | solida | ation) |
| Fungus Resistance          |     |     |       |     |     |   |     |     |     |      |    |      |     |       |      |      |      |       | Con    | plete  |
| Flame Spread               |     |     |       |     |     |   |     |     |     |      |    |      |     |       |      | 25   | (No  | n-cor | mbus   | tible  |
| Smoke Developed .          |     |     |       |     |     |   |     |     |     | 01.0 |    |      |     |       |      |      |      |       |        | 0-5    |
| Wt./Sq. Ft./1" Thick       |     |     | 10000 |     |     | 1 |     |     | R   |      |    |      | 10  | EUF   | Ú.   |      | 0    | 8 Ib  | s Ar   | nrox   |

ROOF INSULATION





#### Continued from page 214

economist, ecologist, mathematician, or writer, but as a scholar-philosopher embracing all these fields. One can imagine Pythagoras, Vitruvius, Descartes, Napier, and a host of his erudite colleagues nodding silent approbation in some Elysian study and preparing to welcome him to their élite midst. Meanwhile, today's architects and designers who profit by the light he sheds on the road to better design will also enjoy the company of an eminently cultivated and stimulating personality.

#### More Highways and Byways

BY JAMES T. BURNS, JR. NEW YORK, N.Y. by Fred W. McDarrah. Published by the Corinth Press, 32 West 8 Street, New York, N.Y. (1964, 162 pp., illus. \$4.50). Reviewer is a P/A Senior Editor.

The chief attraction of this addition to the ever-increasing tribe of New York City guidebooks is its photographs. The author is staff photographer of *The Village Voice*, a lively, opinionated weekly published in Greenwich Village,



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whose assignments for that newspape and other periodicals (he has had his work published in PROGRESSIVE ARCE. TECTURE and several lay magazines) have taken him into many of Manhattan's highways and byways. Unfortunately, although many of the photographs are much more interesting than the usual guidebook fare, McDarrah has been done a severe disservice by his publisher, who chose a thick, matte paper ideally designed to kill highlights and contrasts of photographs. (For a most imaginative view of New York, see Pierre-Dominique Gaisseau's movie "Only One New York" when it comes to your town.)

The text is not notable for its style or accuracy (faults to be shared by Mc-Darrah's careless editor). This, perhaps, is a subtle virtue in a guidebook, making the visitor do some of the work for himself rather than glancing ping-pong fashion with glazed eyes from the guidebook to the building and back without absorbing a thing.

Not by any means the best of the crop of New York picture books—to be parochial, Reinhold's New York: People and Places still holds that title—New York, N.Y. is nevertheless a relatively inexpensive, painless guide to the Big City which the tourist can throw away when he returns to Gopher Prairie.

#### U. S. Medievalism BY C. RAY SMITH

EPHRATA, A HISTORY By James E. Ernst. Posthumously edited with an introduction by John Joseph Stoudt. Published by The Pennsylvania German Folklore Society, 150 Main St., Emmaus, Pa. (1963, 354 pp., illus. \$10). Reviewer is an Associate Editor of P/A, long familiar with this area of Pennsylvania.

Ephrata Cloister, a religious community of Seventh-Day Baptists, flourished on the banks of Cocalico Creek near Lancaster, Pennsylvania, from 1732 to the end of the 18th Century. It was one of the most curious experiments in the history of our country. Founded by Conrad Beissel, a bachelor of rigid discipline and lofty ideals, the sect belived in celibacy and asceticism to a rare degree. In fact, the devotional approach of these people of German and Swiss origins was medieval in almost every respect.

In several other areas of life, the communal society was medievally monastic as well. As dress, they adopted a long white gown with girdle and pointed hood "to muffle the body for its humiliation." They developed their *fractur*-

Continued on page 226



## **Homecoming** 1985

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Be safe, specify X-59. We'll answer contractor questions, Copy specs. from SWEET'S: Architectural, 12b/Ca; Industrial Construction, 16d/Ca.



Continued from page 226 tect's experience in "American" architecture.

This history of Ephrata is primarily a biography of Vater Friedsam Beissel and the religious and political progress of his community. It is scholarly, and, to the degree that information was available when it was written (as the editor makes clear), it is thorough, if sometimes heavily so, and the most complete work on the subject. As such, it is another in the Pennsylvania German Folklore Society's list of solid contributions toward explaining the background of our country's most complete surviving regional culture.

#### Jacobsen—A Miesian Dane

#### BY RICHARD STOPFEL

ARNE JACOBSEN by Tobias Faber. Published by Frederick A. Praeger, 111 Fourth Ave., New York 3, N.Y. (1964, 176 pp., illus. \$17.50). Reviewer studied housing in Denmark under a Fulbright grant and is currently with the architectural firm of Anderson, Beckwith & Haible in Boston.

Largely a picture book, this is obviously the work of an admiring fellow countryman, eager to point out the great scope of Jacobsen's talent and to bring us up to date with sometimes very sketchy descriptions and graphic coverage of recent designs. While a striking jacket encourages one to expect something extraordinary within, the photography and typography are quite ordinary and in some instances definitely disappointing. Further, a number of the illustrations are identical with ones used in previous books on Jacobsen.

It is true that Arne Jacobsen is a clever architect and the best known of the current Danish crop. This comprehensive volume provides plenty of evidence that his fame is deserved.

In the initial 20-page German-English text, Tobias Faber outlines Jacobsen's 40-year career and discusses some of the influences that have affected his development. Faber relates that Jacobsen, along with many other Danish architects, began to find inspiration in American work after World War II, though he assures us that, in Jacobsen's case, at least, buildings indebted to American precedents are perfectly adapted to Danish temperament, climate, and construction methods. In particular, he tells us how Jacobsen admired Mies van der Rohe for "the logical unpretentiousness of his architecture based on technical consider-

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Continued on page 240 On Readers' Service Card, circle No. 336



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BETHLEHEM STEEL



Continued from page 240

PRE-COLUMBIAN ARCHITECTURE by Donald Robertson. Published by George Braziller, Inc., 215 Park Ave. S., New York, N.Y. (1963, 128 pp., illus. \$4.95 each). Reviewer is an architect on the faculty of Old Dominion College, Nortolk, Virginia.

in some detail, at various times. It does of man in solving them leaves one with not seem necessary to discuss it in gen- a great respect for the human intellect, eral terms once more. These latest books an experience well worth the price of are typical of the series and merit the the whole series.

same criticism and praise as far as re-NESE ARCHITECTURE by William Alex, production, price, and so forth, are concerned.

The four volumes are both fascinating and disappointing. They are fascinating in that they deal with relatively unexplored areas of architecture. It is a worthwhile experience just to lay the books side by side and go through the photographic sections. The variety of ar-This series of books has been reviewed, chitectural problems and the ingenuity



But textually, the books William Alex and John D. Hoag, which a on Japanese and on Western is put chitecture respectively, have contended themselves with a chronological care of the structures, which has all the charm and intellectual stimulation of guide book. Donald Robertson, writing on pre-Columbian architecture, goes a step further, at various points making comparisons to other periods and countries. He juxtaposes photographs that show different (and similar) architectural solutions of similar problems. His ideas are often interesting, but often questionable.

The only author who goes beyond the architecture itself to discuss the sociophilosophical concepts underlying it is Nelson Wu, writing on Chinese and Indian architecture. One may not fully agree with his views, but at least they are a challenge to the reader. It is the only volume whose text is worth reading for its own sake. Wu is to be congratulated for using the obvious, but often neglected approach to architecturenamely, that it is created by humans for human needs and that it must be studied from this aspect. If this volume shines from the textual standpoint, it is most disappointing pictorially, especially in the Chinese section. It contains the same photographs that can be found in a multitude of other books on Chinese architecture, and, as usual, they are not in color, thus missing an essential element. In all fairness, however, one should add that this is partially due to the political situation, which has made recent photographs of Chinese architecture something of a rarity.

All four books provide an inexpensive library for certain architectural periods. As such, they are most welcome but should not be taken as definitive works on the subject.

#### OTHER BOOKS TO BE NOTED

**Comprehensive Architectural Services:** General Principles and Practice. William Dudley Hunt, Jr., Editor. McGraw-Hill Book Co., 330 W. 42 St., New York, N.Y., 1965. 238 pp., illus. \$8.00

With the exception of one chapter by Charles Luckman, this is a collection of articles that have appeared in the AIA Journal during the years 1962-1964. They attempt to cover "the effective performance of both present and future architectural services in our increasingly complex world."

The Coventry Tapestry: Graham Sutherland. Eric Newton in collaboration with the artist. The New York Graphic Society, 95 Continued on page 258



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Continued from page 248

East Putnam Ave., Gr. nw 148 pp., illus. \$10 A description of Sutherla Glory" tapestry for Covents cluding illustrations of the and the artist's own comment

Cyprus: Byzantine Mosaics ar a Frese

A.H.S. Megaw and Andreas Stylianon, True New York Graphic Society Publishers, Ltd., 95 East Putnam Ave., Greenwich, Conn. 1964. 50 pp., illus. \$18

The latest volume of the UNESCO World Art Series shows Cyprus's ancient church mosaics and frescoes mirroring a history of Byzantine art from the 6th to the 15th Centuries.

Dictionary of Civil Engineering. Rolt Hammond. Philosophical Library Inc., 15 E. 40 St., New York, N.Y., 1965, 253 pp., illus. \$10

A complete reference book of civil engineering terms; mining terms are included when applicable.

English Romanesque Architecture. Vol. I: Before the Conquest, Vol. II: After the Conquest. Sir Alfred Clapham. The Oxford University Press, Inc., 16-00 Pollitt Dr., Fair Lawn, N.J., 1965. 2 volumes, 384 pp., illus. \$16

This is a reprint of Clapham's classic work, out of print since 1950.

Environmental Control. Robert E. Fischer, Editor. McGraw-Hill Book Co., 330 W. 42 St., New York, N.Y., 1965. 210 pp., illus. \$10

A collection of articles that first appeared in the architectural-engineering section of Architectural Record during the years 1949. 1964.

Estimating Space Needs in General Hospital Construction. James J. Souder. American Hospital Association, 840 North Lake Shore Dr., Chicago, Ill., 1963. 32 pp., illus. \$2.50 (paperbound)

A pilot study designed to establish yardsticks for determining costs and space allocations in hospital construction. Intensive analysis of three representative hospitals relates services costs for each department to total construction cost.

The Europe of the Capitals: 1600-1700. Carlo Argan. Translated from the Italian by Anthony Rhodes. Albert Skira, Geneva, Switzerland. Distributed by The World Publishing Co., 2231 West 110 St., Cleveland, Ohio. 1964. 222 pp., illus. \$20. To be reviewed.

Gardens Around the World. Elisabeth Schuler, Harry N. Abrams, Inc., 6 West 57 St., New York 19, N.Y. 1964, 276 pp., illus. \$17.50

A panoramic world tour of gardening from the rose gardens of England to the exotic flora of Turkey offering tips and suggestions to the modern-day horticulturist.

Gothic Mural Paintings in Bohemia and Moravia 1300-1378. Vlasta Dvorakova and others, The Oxford University Press, Inc., 16-00 Pollitt Dr., Fair Lawn, N.J., 1964. 390 pp., illus. \$8.80

A comprehensive account of mural painting in Czechoslovakia. Its promoter was Charles IV, Roman Emperor and King of Bohemia, whose plans for decorating the royal palace of Karlstein gave birth to a style.

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260 Book Reviews

An Illustrated Histo from the Renaissance tury. Mario Praza Transford Italian by William Weaver. Cor-Inc., 215 Park Ave. South, New 1964. 396 pp. illus. \$25 To be reviewed.

Key Monuments of the History of tecture. Text by Alfred Frazer. Ed. Henry A. Millon. Harry N. Abrams, Inc. West 57 St., New York 19, N.Y. 1964. 5. pp., illus. \$17.50

A compendium of chronologically arranged photographs and diagrams covering man's architectural achievements from prehistoric times to the present. Also included are five essays on the major periods and styles and a glossary of architectural terms.

Landscape Architecture as Applied to the Wants of the West. H.W.S. Cleveland. Reprinted from the original edition published in 1873. Edited by Roy Lubove. University of Pittsburgh Press, Pittsburgh, Pa., 1965. 59 pp., \$2.95

To be reviewed.

Landscape Artist in America: The Life and Work of Jens Jensen, Leonard K. Eaton. The University of Chicago Press, 5750 Ellis Ave., Chicago 37, Ill., 1964. 240 pp., illus. \$10

To be reviewed.

Lettering by Mode.n Artists. Mildred Constantine. The Museum of Modern Art. Distributed by Doubleday and Co., Inc., 277 Park Ave., New York, N.Y. 1964. 35 pp.; illus. \$2.50 paperbound

This book based on the 1962–63 exhibition, "Lettering by Hand," shows the artist today "exploiting the recognizable structure of letters and words" and "concerned with the abstract form which absorbs and eliminates the words."

The London Nobody Knows. Geoffrey Fletcher. Arco Publishing Co., Inc., 480 Lexington Ave., New York 17, N.Y. 1964. 124 pp., illus. \$4.50

A contemporary Dr. Johnson surveys London—the odd, the unusual, the extravagant and finds the city he loves fast disappearing.

Lotus Architectural Annual: 1964–1965. Giulia Veronesi and Bruno Alfieri, Editors. Stabilimento Grafico Scotti, Milano, Italy, 1964. Distributed by Wittenborn & Co., 1018 Madison Avenue, New York, N.Y. 225 pp., illus. \$15.00

"The first edition of an Italian international architectural annual devoted to outstanding works produced or designed during the last 12 months in architecture, town planning and industrial design." Among the 38 projects illustrated are a few surprises. Consultants to the annual are Henry-Russell Hitchcock, Esther McCoy, Giulia Veronesi and Jurgen Joedicke. S. Giedion is adviser.

Mexican Homes of Today. Verna Cook Shipway and Warren Shipway. Architectural Book Publishing Co., Inc., 151 E. 50 St., New York 22, N.Y., 1964, 249 pp., illus., \$12.95

Companion volume to the authors' earlier Mexican Interiors and The Mexican House Old and New, this book is described on the dust jacket as "photographic saunterings." Few plans are included, and a house is rarely shown in full detail. Instead, there are

Continued on page 270

MAY 1965 P/A



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#### Continued from page 260

collections of photos—of doorways. gardens, pools, furniture, furnishings (tapestries and guest towels, here), tiles, lanterns, walls, religious ornaments, fireplaces, terraces, papier mâché, etc. It is format without form, but a pleasant enough view of Mexican domestic architecture, showing its blend of ornate and simple, traditional and modern.

Modern Gardens and the Landscape. Elizabeth B. Kassler. The Museum of Modern Art, 11 West 53 St., New York 19, N.Y. Distributed by Doubleday & Co., Inc., Garden City, N.Y. 1964. 104 pp., illus., \$5.95 hardbound, \$2.75 paperbound

To be reviewed.

The People's Architects. Ed. by Harry S. Ransom. Rice University Semi-Centennial Series. The University of Chicago Press, 5750 Ellis Ave., Chicago, Ill., 1964. 44 pp., illus. \$6.95

Rice University's Department of Architecture honored "a new breed" of architects at its semi-centennial celebration in 1962. Eight American architects—Pietro Belluschi, Vernon DeMars, O'Neill Ford, Charles M. Goodman, Victor Gruen, I.M. Pei, John Lyon Reid, and Marshall Shaffer—were singled out for their "profound awareness of architecture as a social art." This book is a collection of their essays on the nature of architecture in America today and its role in serving the people. Each article is preceded by a short biography and sketch portrait. Twenty-one representative photos are included.

Regional Development and Planning: A Reader. John Friedmann and William Alonso, Editors. The M.I.T. Press, Cambridge, Mass., 1964. 722 pp., illus. \$9.75

A compendium of 35 articles related to regional growth, theory, and planning, which had formerly appeared in economic and sociological journals. Extensive supplementary reading list is included.

The Sistine Chapel Before Michelangelo: Religious Imagery and Papel Primacy. Leopold David Ettlinger. Oxford University Press, Inc., 16-00 Pollitt Dr., Fair Lawn, N.J., 1965. 124 pp., illus. \$13.45

The 15th-Century frescoes in the Sistine Chapel, representing the lives of Moses and Christ, are interpreted in the light of Sixtus IV's theology and are shown as a means of affirming the Pope's supremacy as lawgiver. The argument is supported by new photographs of the frescoes.

The Skopje, Yugoslavia Earthquake (1963). Anchorage and the Alaska Earthquake of March 27, 1964. Dr. Glen V. Berg. American Iron and Steel Institute, 150 E. 42 St., New York, N.Y., 1964. 78 pp., illus. and 62 pp., illus., respectively. No Charge

Two detailed reports of the effects of earthquakes on buildings in dissimilar areas: Skopje, an old city, suffered 65 per cent irreparable damage; Anchorage, a modern city built to seismic code, was heavily damaged, not so much by the quake as by slides of underlying clay beds. The analyses of destruction are accompanied by preventative recommendations which should be of interest to engineers.

The Slums. David R. Hunter. The Free Press of Glencoe, a division of The Macmillan Company, The Crowell-Collier Publishing Company, 60 Fifth Avenue, New York, N.Y., 1964, 294 pp. \$6,95

What a slum is and how to check its growth are discussed in a synthesis of generally known data. Author's major suggestions: strict enforcement of building codes, extended tax advantages for owners of slum dwellings, and, most important, greatly increased participation of Federal and municipal agencies. David Hunter is presently Executive Director of the Edgar Stern Family Fund, and has worked with a large variety of international, national, regional, and local public agencies.

Stage Design Throughout the World since 1950. Edited by Rene Hainaux. Theatre Arts Books, 333 Sixth Ave., New York, N.Y. 1964. 276 pp., illus. \$25

Texts and illustrations were collected by the national centers of the International Theatre Institute.

The Student Publications of The School of Design: Vol. 12, No. 2. University of North Carolina, Raleigh, N.C., 1964. Distributed by Wittenborn & Co., 1018 Madison Ave., New York, N.Y. 80 pp., illus. \$1.50 (paperbound)

An editorial pleading for brand new building restrictions to produce towns with "friendly scale and inspiring site-mass relationships" is followed by two sections relating to the problem: "Language and the Designer" proposes that more precise control of design factors will develop as language becomes increasingly mathematical; "Site Relationships of Four Classic Pre-Columbian Cities in Mexico" is a lesson in the effect of site on mass and space planning. Finally, "Measured Drawings of Midway Plantation" is a group of 30 careful plans and elevations. Booklet is a biannual publication maintained as an independent school project. Graphics are excellent.

Town Planning in London: The 18th and 19th Centuries. Donald J. Olsen. Yale Historical Publications, Miscellany 80. Yale University Press, New Haven, Conn., 1964. 293 pp., illus. \$12,50

An extremely interesting and scholarly study of the way London's great landowners managed their estates during the Georgian and Victorian eras. Planners should be interested in the aesthetic rise and fall, pros and cons, of London—a charming city with no plan (or many small plans). Completely illustrated. Author is assistant professor of history at Vassar College.

Tropical Architecture in the Dry and Humid Zones. Maxwell Fry and Jane Drew. Reinhold Publishing Corporation, 430 Park Ave., New York 22, N.Y., 1964. 204 pp., illus. \$17.50

To be reviewed.

La Valle dei Trulli (The Valley of the Trulli). Mimmo Castellano. English Introduction by Lovett F. Edwards. Leonardo da Vinci Edition. Distributed by Museum Books, Inc., 48 E. 43 St., New York, N.Y. 1964. 43 pp., illus. \$4

To be reviewed.

The View from the Road. Donald Appleyard, Kevin Lynch, John R. Myer. Published for the Joint Center for Urban Studies of M.I.T. and Harvard University by The M.I.T. Press, Cambridge, Mass., 1964. 64 pp., illus. \$7.95

To be reviewed.





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with the problem and its setting? I would venture that, if future urban design submissions were directly addressed to your five-man jury, explaining in the simplest terms the physical and social context in which the problem was setjust what the designer had set out to accomplish, and what he believed he had achieved in his solution, in such a way that the material could be easily reviewed and absorbed in the time allotted -then most of your problems are solved. Let the contestants in this category work harder to prepare their brief in order to simplify the jury's job, but do not eliminate the category, please.

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PAUL R. WILLIAMS & Associates, Architects and Planning Consultants, 3440 Wilshire Blvd., Los Angeles, Calif.

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CLOVIS B. HEIMSATH, Architect, 410 Emerson, Houston, Tex.

DAVID W. LEONARD, Architect, 244 E. Center St., Kingport, Tenn.

OLSON-RICHERT & ASSOCIATES, Architects, 231 Williams St., Room 201, Dobson Bldg., Renton, Wash.

Continued on page 286



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THE AMERICAN SOCIETY OF CONCRETE CONSTRUCTORS has announced the election of its 1965 administrators: GUST NEWBERC, chairman; E. RAY FREEMAN, vice-chairman; ROGER H. CORBETTA, president.

DESIGNS FOR BUSINESS, INC., Office Planning and Design Firm, announces the election of ALEX J. ILLICH as vicepresident.

EMERSON ELECTRIC Co., St. Louis, Mo., has named W. L. DAVIS JR., president of the firm.

ENGINEERS INCORPORATED, Newark, N.J., has appointed JAMES O'HARA director of the management services division.

GEORGE M. EWING COMPANY, Architects-Engineers, Philadelphia, Pa., have appointed two new designers: KENNETH CARSWELL and PAUL WIERS.

GILBOY Co., Architects-Engineers, Clarks Summit, Pa., have made RANDOLPH J. STAUFFER a principal in the firm.

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HARDWICK & MAGEE Co., carpet manufacturer, Philadelphia, Pa., announces that NORMAN L. KLEIN is the new sales manager.

JENKINS, HOFF & HEIMSATH, Architects-Engineers-Planners, Houston, Tex., announce the appointment of RICHARD P. CATE as job captain.

JOHNS-MANVILLE SALES CORPORATION, New York, N.Y., has appointed MURRAY F. MACDONALD vice-president.

#### Name Changes

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BLAYLOCK, COOK, THREET & ASSOCIATES, INC., Consulting Engineers, Little Rock, Ark.; formerly blaylock, cook, dietz & ASSOCIATES.

ROMAN FOUNTAINS, INC., Van Nuys, Calif.; formerly JABON STUDIOS.

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