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THIS MONTH IN P/A

Progressive Architecture® April 1966

COVER
Wedge shapes mark toplight openings at Chichester Theological College (page 168). Photo: John Donat.

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More smoldering views on the January Design Awards; plus other reader reactions.

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In the news this month: New Jersey architects who act as planners must have special licenses . . . Stadium controversy in Philly . . . TWA terminal for Pittsburgh . . . Cinema complex to replace Madison Square Garden . . . Products, Data, Washington column.

153 TITLE PAGE
This month’s quote is from a recent address by James Rouse, President, Community Research and Development Corporation.

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Known around the office as the Fabulous Paul Doran, P/A’s Sculptor-Draftsman has created another of his exciting pieces, using only bare hands, skill, and Flintstone Boulders. He calls the sculpture, “Queen Nefertite II” (page 191). Photo: Maude Dorr.

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In a flight of fancy brought on by a recent spell of jury duty in a court of law, P/A’s Editor raises the question whether jurors of any type can be impartial.

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168 THE DETAILS ADD UP: Careful attention to materials, details, and sequence of spaces integrates new complex with old. Ahrendts, Burton & Koralek, Architects.

176 THE LIBRARY-MUSEUM AT LINCOLN CENTER (INTERIOR DESIGN): A most skillfully planned facility that combines maximum educational value for the public with handsome interior detailing and finishes.

182 SELECTED DETAIL: Curtain Track, Library-Museum at Lincoln Center for the Performing Arts.
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THE CHILD AT PLAY IN A WORLD OF FORM: Toys represent one way in which the child relates to the world and helps formulate an attitude toward form and space; article includes a catalog of representative toys on the market.

PLASTERED IN PARIS: GETTING HIGH IS HARD WORK: A second article on contemporary detailing discusses the lathing and plastering of a coved ceiling.

MATERIALS AND METHODS

PITTSBURGH TRIES OUT NEW TRANSIT TECHNIQUE: An experimental mass-transit system that uses rubber-tired vehicles that run on elevated tracks.

TURNING THE HEAT ON, ELECTRICALLY: An evaluation of 19 types of electric heating.

HONEYCOMB TRUSSES ROOF A HIVE OF INDUSTRY: Vierendeel trusses span 45 ft in two directions at manufacturing plant.

NUCLEAR ENERGY HELPS QUEench MAN'S THIRST: Techniques for desalinating salt and brackish water.

P/A OBSERVER

MATRICULATION MATRIX: Michigan architectural firm master-plans Mississippi campus with funds from Indiana foundation.

TWO-FACED IMMIGRATION SYMBOL: Philip Johnson designs a truncated hollow pyramid for the Ellis Island national shrine.

LIKE IT'S JUNK ... BUT THE GOOD KIND: Those crazy kids at the University of California are now making giant-size junk sculptures with which to haunt their elders.

MINISCULE MONT-ST-MICHEL: William Mileto designs a compact housing complex for New Haven that emphasizes fluidity of vertical elements on a sloping site.

OAKLAND OVERPASS: A BEGINNING: Final solution to an overpass in Oakland, California, which won a Citation in the 1963 P/A Design Awards Program.

SYMBOLIC STRUCTURE IN THE SOUTH: New insurance company building in Durham symbolizes the emergence of an increasing design-consciousness on the part of some of our large "business" firms.

MECHANICAL ENGINEERING CRITIQUE

William J. McGuinness describes small chemical batteries, fed on natural gas, that may generate power for a house and use the excess heat to good advantage.

SPECIFICATIONS CLINIC

Harold J. Rosen reviews highlights of developments in specifications writing on the occasion of his tenth anniversary as P/A columnist.

IT'S THE LAW

Bernard Tomson and Norman Coplan discuss legalities involved in home-builders' warranties.

BOOK REVIEWS

Sibyl Moholy-Nagy reviews Yale's Perspecta 9/10; Robert Stern on World Architecture II; and C. Ray Smith on The Golden Horseshoe.

CREDITS for articles on Toys and Library-Museum.

JOBS AND MEN

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Dear Editor: Re your Thirteenth Annual Design Awards Program (January 1966 P/A): One is prompted to quote Perry Smith (quasi-hero of Truman Capote's nonfiction novel, In Cold Blood) upon being sentenced to death: “No chicken-hearted jury they.”

A completely outspoken jury is a joy to behold. Their comments were sound, to the point, and I find little to criticize on that account. However, their damning of exhibitionism, though correct in context, seems unfortunate. The exhibitionism of today is healthy, something that has been lacking amongst architects for too long. There is no doubt in my mind that those same designers criticized for overemphasis today will, upon reaching a level of maturity in their work, have a much stronger influence in shaping their environment than their less venturesome predecessors.

DENIS M. JESSON
Lincoln, Mass.

Dear Editor: I have read, and done a good deal of rereading, of the Editorial in the Design Awards issue. It is all packed with food for thought; not easy food with which quickly to agree!

I am still thinking, but it suddenly occurred to me that I should not benefit silently, but rather thank you for the stimulation granted me.

There were a few young men who, together with me, felt grateful.

RICHARD J. NEUTRA
Los Angeles, Calif.

Dear Editor: When a man starts calling his apartment his castle, I will bow to Vincent Scully, urbanization, and undifferentiated living, and sadly leave this withered earth. Until then, I will endure the “embarrassment” of living in an “individual house.”

J. ANDREW LEE
Cambridge, Mass.

Dear Editor: As usual, I was looking forward to the January issue of your beautifully presented journal.

However, I am shocked by the attitude of your 1966 awards jury. It displays complete bankruptcy of criticism. No jury could have failed to pick Pelli’s dynamic town design as a virtuoso performance. The point is not whether the selections made are designs deserving acclaim—they all do—but what was it that the jury complained about or was looking for?

Evidently, they were looking academically for style. They found the situation confusing and added their share to the confusion. Because of prejudicial dislikes (even with these few designs to which they did give awards), they made statements the drawings easily disprove. Perfectly functional shapes are thought of as “pop art”; the box is a “seriously considered” statement; and lip service is paid to “romantic expressionism.” They invent a “monumentality of the 50’s” and let it die now at the same time.

There is no context sought with socioeconomic determinants, biological needs, and technological developments. Pure aesthetic hogwash is dished out to us from a position of high taste-making.

H. H. WARECHTER
Creswell, Oregon

Dear Editor: Concerning Hobart Betts’ Beach Cottage: Let this design be an experiment in form, let’s even call it a house; but it sure doesn’t look like, feel like, or even make me think of a home. What influenced the designer’s thinking?

I can imagine canals—and Reed grass and beach plums—but where in the hell is the connection? The drawbridge? You must be kidding.

Of course, we are arguing taste, and that is hard to do. But if we are looking for a trend in home building, that is something that we don’t seem to have. (Excuse me, we have the rectangular box.)

By giving a citation to another box, all you will get is more boxes—unless architects read the jury comments, and even those won’t discourage a guy from trying for a citation next year.

This design is made to fit the Sawtooth Mountains in the Trinity Alps, and for that it should get an award; but not in its present location.

Let’s not encourage work simply on the basis of design. Let’s encourage those who achieve quality as a result of combining design with function and landscape (urban or otherwise) to get away from the ugly rut we are in right now.

HENK G. ZOLL
Weaverville, Calif.

Dear Editor: This year’s Design Awards issue managed to convey, at least to this reader, a strong sense of frustration and malaise. In its totality, it communicated, in an unprecedented manner, the present state of alienation of our profession from the life of our urban society.

Having looked through the awards and read the jury comments over several times, a sense of ambivalence persisted as the strongest message: on the one hand, complete agreement with the jury concerning “overdesign,” unrelativeness, and the criticism of the “building type” mode of assessment; on the other hand, an overriding feeling that the roots of the malaise were being overlooked—that possibly neither in the architect’s submissions, nor in the jury’s responses, were the really significant questions being asked.

One point repeatedly made in the jury discussion was the lack of serious submissions in the field of urban design. The term “urbanistically speaking” keeps recurring with annoying frequency. As a first step, I would suggest we drop such a mouthful as, at least, a contribution to verbal communication if not to the problems of the city.

If I understand Professor Scully correctly, he seems to be proposing, as one remedy for our urban ills, a form of inside-outside dualism in architectural design. This proposal strikes me as particularly inappropriate today. The contrary position, that “buildings must be a clear reflection of what happens inside,” certainly offers very little more. The problem lies much deeper: In fact, the proposal betrays a mode of thought that, in my opinion, is no longer capable of dealing with the city as a living phenomenon. This technique of rigid and exclusive categorization is typical of the thought processes that have got us to where we are today, but it is highly doubtful that such concepts can equip us to grapple with today’s world-city; or, for that matter, with any other significant contemporary activity. This view seems to see the city as a latterday Renaissance stage set, which relegates urban architecture to a primarily visual—or, worse still, pictorial—role. This concept is more apt to lead to an architecture that is “somehow Beaux-Arts, or academic, or Fascist, or bad” rather than in the opposite direction, as inferred in the jury discussion.

If one attempts to perceive the contemporary city in its complex relatedness, one is forced to observe that, in many ways, the safe old categories such as inside and outside have, in fact, been turned inside-out; rather than being isolated phenomena, they interpenetrate one another in a complex manner. How could an architect, trying to follow the jury’s suggestions, design a rapid-transit...
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system, an airport, or a weather-protected retail area, to name only a few examples.

The questions raised by the jury have, of course, been around for a long time in the works of poets, philosophers, painters, and theologians. The architect today is not alone in finding himself suddenly out of touch with life, in sensing that the old techniques of fragmentation and rationalism that have stood him in good stead since the Renaissance are no longer valid. Obviously, if our profession is to make any worthwhile contribution to the present situation, many changes in outlook and organization are required. I would suggest that one necessary step involves the attempt to conceptualize contemporary problems—the city, architecture, etc.—in philosophic terms appropriate to the new situation; and then to develop techniques and artistry capable of coping creatively with these conceptions.

Many words can be used to express these concepts. What in effect is needed is an attempt to “get with it,” to catch up belatedly with our fellow artists and thinkers. In terms of thesis and anti-theory, some of these constituent concepts can be expressed as follows:

- simultaneity, not linear sequence
- identity, not alienation
- pattern recognition, not pattern imposition
- communication, not “presentation”
- architecture as a multisensual experience, not as pictorial diagrams
- systems design, not only building design
- effective form, not superficial form

The process of urban design involves many of the above concepts, and is characterized by a “general field” mode of operation involving conflict exposure, quality-quantity interweave, and rigorous interdisciplinary dialogue—in effect, the professionalization of all participants.

If, through this process, we can begin to participate in the action of the city, we can then again begin to grasp architecture as the celebration of urban activity.

Returning to P/A’s January issue: After much digging, one gem finally came to light, buried in Nathan Silver’s review of Victor Gruen’s recent book on the core of the city. Silver used the vehicle of this review for a perceptive commentary on Christopher Alexander’s ideas of “overlap” and the “lattice grid,” Bravo for reviewer Silver and of course for Christopher Alexander.

The quality of Alexander’s insights do indeed stand out in the present situation in our profession, and provide significant clues to some meaningful directions in research and design.

 Doubtless one of the strongest statements made in the context of “the perception of the sense of order” is to be found in the work of the great American poet Wallace Stevens. Particularly pertinent are his “Man on the Dump” and “Connoisseur of Chaos,” both of which might well be quoted in full if space permitted. However, a few lines from the latter poem might serve to stimulate the appetite:

“A great disorder is an order, Now A And B are not like statuary, posed For a vista in the Louvre. They are things chalked
On the sidewalk so that the pensive man may see.”

Raymond T. Affleck
Montreal, Canada

Dear Editor: May I say how much better and healthier the Awards made by the last two juries have been than previously—vigorously, forthright, and without particular bias or prejudice.

J. R. Woodruff
Chester Springs, Pa.

Dear Editor: Your Design Awards Program screams aloud, “The Emperor’s New Clothes.” The premiated projects are architecturally vacuous, devoid of real architectural thought and of architectural space and form as it is defined in the jury comment for the second project “honored.” The jury comments are equally hollow. Led by Vincent (“Urbanistically Speaking”) Scully, the comments amount to little more than high-minded, worthless vituperation. Frought with clichés and platitudes, it is pure commentary, not architectural criticism. It dwells at length on matters which are of little interest or significance, makes egregious blunders and is self-contradictory.

Architecture is not about urban design. Long before urban design was born, buildings had a responsibility to their environs, which in some cases was fulfilled. Urban design with bad architecture is just bad architecture on a grander scale. The critical issue is not the need for things that fit in with the urbanistic whole, nor the need for quieter statements, nor whether the form is expressive of the function (the last is only an issue if so intended by the architect). It is not whether or not architecture is an applied art. It is, simply, that architecture is an art only when performed by an artist.

The critical issue is the need for a clarity of thought on the part of architects, teachers of architecture, critics, and professional journals that do not foster projects such as those shown in the Awards Program. Clarity of thought prohibits comments that confuse strength with false monumentality and ask for weakness in its stead; and comments which, on the one hand, condemn Soviet and Fascist architecture and housing projects, and on the other hand claim that the only validity and justification for a house as an architectural problem is as a “prototype for mass urbanistic housing,” or as a “breakthrough in plastic imagination” (whatever that means).

The need is to re-examine history as formal precedent, not to cast it aside as dead; to carefully examine the principles of Frank Lloyd Wright, Mies van der Rohe, and Le Corbusier, and to see where these might lead; to look not to Paul Rudolph, an exhibitionist at best, nor to Minoru Yamasaki, who claims he put the beauty back into architecture that Le Corbusier took out, nor to I.M. Pei, who calls himself a revolutionary. This is about as valuable as reading a high-school book-report by way of trying to understand Shakespeare.

Perhaps the Palladio submission, rather than being dismissed merely as an entry from some “joker,” should be seen as poignant comment on the projects that today are winning awards and citations from a leading architectural journal.

Alain Chimacooff
Newfield, New York

Soiled by Politics?

Dear Editor: Whoever wrote the articles on the Kennedy Memorial and U.N. East (pp. 45, 48, January 1966 P/A) is an architectural critic with somewhat of a political flair and a loyalty to your own U.N.

Let us leave out the political aspect of this article and just critique the architectural qualities of each building. Certainly the Kennedy memorial is no better, if as good, as the Jakarta project, which you so severely criticized.

George A. Jackson, Jr.
Shreveport, La.

Happiness, Joy, Creativity

Dear Editor: We wish to express our appreciation for the very wonderful article on the American Republic Insurance Co. Building (February 1966 P/A).

It is wonderful to be quoted accurately. Someone has said that news is a spectacular distortion of the truth—words written to create responses in the mind of the reader, which, while spectacular,
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Continued from page 12
old pseudo-Spanish Mediterranean buildings while there are still a few left.

ROBERT BEAUCHAMP
Santa Monica, Calif.

The Landscape Architect: Providing the Glue

Dear Editor: As a landscape architect, I must voice my complete agreement with Robert A.M. Stern's criticism of the Constitution Plaza at Hartford (December 1965 P/A).

To move through the Plaza does not in fact give one the sense of order or continuity. The courts represent capricious playing of materials against one another for contrast, rather than balance or acceptance of the impact of the buildings, the autos, or the general flow of people.

Contrary to Richard J. Julin's letter in the February 1966 P/A, it would seem that the great masters, Mr. Lin and Mr. Zion, have in fact sensed the basic order of the "value" of things and applied it.

Technology has changed, materials have changed, styles have changed. However, the deep-rooted needs of people have remained the same, as have their basic space needs.

Of all professions, the landscape architect is the one most critically required to establish this basic order, to amalgamate dissimilar elements and generally supply the glue holding the "monuments" together.

JOHN RAKENKAMP

Homage to Olmsted

Dear Editor: Re the CAN-Clarkeston project (p. 198, February 1966 P/A):

The design is no more—unmourned by us, and others such as Walter Gropius, Benjamin Thompson, Hugh Stubbins, Charles Eliot, Sidney Shurtleff. Together, we argued for the best compromise: burial. The Bureau of Roads, urged by Governor Volpe and Public Works Commissioner Sargent (who are both sensitive to human needs) approved a full tunnel the whole width of the Fenway.

The subtitle of the drama is: Homage to Olmsted—and to man.

DIGOERY VENN
Head, Division of Education and Public Relations, Museum of Fine Arts, Boston, Mass.

Exceptional Graphics

Dear Editor: I can't resist congratulating your art director, and whoever else was concerned with the graphic layout of the story on Robert Morris Junior College in the February 1966 P/A.

Continued on page 20
Red Cedar Handsplit Shakes: To bring a roof down to earth.

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**A Point Well Taken**

Dear Editor: In your article on two of my buildings in the February 1966 P/A, I would have been disappointed had P/A not criticized the kitchen and the entrance to Little Harbor. Your point is well taken. However, I feel that the two entrances, at opposite poles in the formal sense, can accommodate deliberate “inconsistency.” The kitchen form is particularly important. In fact, even more than as a marker, I felt that this form had to reach to keep the horizontal and descending movement of the entire form from burying itself. Form for form’s sake is always dangerous, however practiced. It is only decadent as an idea, I think, when used as a substitute for central ideas.

I like your new series on detailing very much. This approach gives meaning to the details reproduced. Rather than simply printing details to tempt imitation, I think that your series will enhance the idea that detailing is contributive to and part of the whole. I’d love to know how the plaster, in Pope’s jamb, remains attached at the adjacent corner to the strike.

RALPH E. HARRIS
Hampton Beach, N.H.

[The strike plate of Pope’s detail (p. 165) was surface-mounted to a ground, traced to the corner beads, and plastered flush. Good point, Mr. Harris. Omitting the grounding in the drawing was our goof; you have grounds for complaint. —Ed.]
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This is how Aluminum Company of America’s Duranodic finishes reflect the subtleties and intensities of the sun’s light, every hour of every day:
7:00 A.M.
An early morning sun emerges, and the city reveals a new vitality. Duranodic* 300 finishes blend handsomely and reflect the excitement of a new day.

Natural reflectivity is an integral part of the Alcoa® Duranodic 300 character. Unlike other finishes, Duranodic 300 finish is neither a dye nor a pigment. Its color permeates the entire cell structure of the aluminum oxide so that hue and alloy become an inseparable unit.

11:00 A.M.
Activity quickens and the day’s light becomes a gleaming whiteness. Duranodic finishes keep pace with the bustling late-morning tempo, changing naturally to a new boldness.

Duranodic 300 finishes are virtually unlimited in application. In any type building—apartments, offices, schools, industries—for either practical or ornamental purposes, the lasting beauties of Duranodic finishes prevail.
4:00 P.M.
Sunlight wears on and penetrates the city with a deep bronze. And Duranodic finishes change with the hour, mellowing to a rich, golden brown.

Working with, or in contrast to, any other material, Duranodic 300 finishes provide a striking complement. Duranodic finishes enhance the natural beauty of wood, glass, concrete, aluminum and other metals with constantly changing patterns of light and design.

7:00 P.M.
A silent darkness settles on the city. And Duranodic finishes blend with the hushed subtleties of night as the day ends.

During any day, throughout any season, Duranodic 300 finishes will withstand the sting of sunlight, the punishment of salt air and spray, and the barrage of contaminated industrial atmospheres by resisting chipping, corroding or fading.

*Trade Name of Aluminum Company of America*
And with COLOR—
Durability, Versatility, Compatibility

The color of Duranodic 300 finishes is a unique achievement of the aluminum alloy. Various aluminum alloys yield different colors. Intensity of hue is attained by varying the anodizing time—the period in which the metal is submerged in the anodizing tanks. Duranodic 300 finishes are integral with the metal. There is no cosmetic application of color, so the inherent tones will never chip, crack or blister.

Duranodic 300 finishes rely on elements present in the alloy for their color. The result is a colorfast material that will show no discernible color loss even in extreme exposures.

Duranodic 300 finishes are more durable and harder than most other metal finishes used in building construction today. When tested in ASTM test D658-44, the nationally accepted abrasion test, Duranodic 300 finishes proved to be up to twice as abrasion-resistant as regular anodic finishes that have been used successfully for many years.

Duranodic 300 finishes, with their practically limitless capabilities and versatility, can be used for unmaintained exposures. Their minimum .7-mil thickness makes them particularly well-suited for any outdoor application, as well as in lobbies, kickplates, hand railings, or any high-traffic, extensively used area.

Alcoa has tested Duranodic 300 finishes with scores of other building materials and found them to be, almost without exception, extremely compatible and highly complementary. Colors are neither explosive nor garish, but lend a rich, natural feeling to other materials.

Variations of the colors as shown can be supplied by Alcoa upon request. For more information, contact your Alcoa sales office or write Aluminum Company of America, 1001-D Alcoa Building, Pittsburgh, Pa. 15219.

CHANGE FOR THE BETTER WITH ALCOA DURANODIC 300 FINISHES
Their new office helper is 7 feet tall

It's the new GF Over-file storage cabinet and GF Style 9000 file, of course! Together they end clutter and add beauty to a busy office. Everybody likes them.

The Over-file holds oversized items that would otherwise create storage problems. It is functional and decorative—and, with file cabinets, even serves as a partition to divide office interiors.

The Style 9000 file is new from GF, too. It has a flush front with inset pulls and label holders to complement today's professionally-designed offices. Available in a variety of colors and letter or legal widths.

For complete information, contact your nearby GF dealer or branch showroom. Or write for descriptive literature to Dept. PA-32, The General Fireproofing Company, Youngstown, Ohio 44501.
The Open World of L·O·F glass

Open World design lets your eyes stretch. But sometimes there are problems. We have answers. Tinted glass for solar-heat and glare reduction. Insulating glass for savings on heating and air-conditioning costs. Heavy Duty plate glass for wind-load resistance. Tempered and wired glass for more safety.

And, of course, polished plate and sheet glass. Dozens of others. For complete information, call your L·O·F distributor or dealer (listed under “Glass” in the Yellow Pages).

Libbey-Owens-Ford Glass Co.
Toledo, Ohio

Brookfield, Federal Savings & Loan Assoc.
Brookfield, Ill. Thermopane®.
Architects: Pavlicic & Kovacevic, Chicago.

Maxfield Lodge near Salt Lake City.
Thermopane® insulating glass.
Architect: Paul Lemoine, Salt Lake City.
Residence in eastern Pennsylvania. Thermopane® insulating glass.

Olin Library at Washington University, St. Louis. Parallel-O-Plate® glass. Architects: Murphy and Mackey, Inc., St. Louis.


Mr. Bruning said, 
"Back to the drawing board!"
The 94th test of 21 Tracing Paper wasn't up to snuff.

Last June Mr. Bruning was set to introduce his new 21 Tracing Paper. He felt that he had a superior product to offer. So what happened? The 94th experimental run didn’t come up to his high standards. Undaunted, he called everyone back to the drawing board for a new look.

Result: After extensive testing and probing, numerous machine adjustments—and even greater quality control—Mr. Bruning now has a product good enough for the Guilford name: Guilford 21 Tracing Paper.

21 Tracing Paper is a solid resin vellum with a uniform white surface. It takes pen or pencil with equal ease. And the erasability is truly unique. Not a trace of a ghost. This is not just another tracing paper. Anybody can make that. This is the best. It has high transparency and meets the government’s stiffest specifications.

Interested? Call your Bruning man. He’ll quote you on sheets, rolls or pads of 8½ x 11, 11 x 17 inches, and many other sizes.

You’ll find him listed under Bruning or Addressograph Multigraph in the Yellow Pages of 155 major cities. Or write Dept. G, Mount Prospect, Illinois.
All you need to "individualize" this Rosewood Paneling is a roll of colored tape!

Introducing new Georgia-Pacific Gold Crest Rosewood!

G-P Gold Crest Rosewood Paneling has one-half inch wide vertical channels every 16 inches. You decorate these channels with easy-to-apply colored tapes. You can also use metal strips, fabric or tile to match the floor covering, furnishings or draperies. There are five beautiful hardwoods in our exclusive Gold Crest line: American Walnut, Distressed Heirloom Cherry, Golden Elm and Pecan. All of them are available in 4' x 8', 9' and 10' panels with G-P's incomparable Acryglas® finish.
Now there’s a popular-priced hardwood plywood paneling that looks like solid wood!

Chateau by Georgia-Pacific!

Chateau has extra wide vertical grooves. This feature gives the paneling a deeper, more solid look.

And the grooves are in the same place on every single Chateau Panel. Result: you can “stack” them one on top of another . . . and have a flawless groove from floor to ceiling.

We offer a choice of 17 beautiful Chateau Hardwood Panelings . . . including Rosewood, Flame Gum, Golden Elm, Birch, Oak, Walnut and Cherry. All of them are available in easy-to-install 4’ x 8’ x 9’ and 10’ panels with G-P’s incomparable Acryglas® finish.

More paneling innovations from Georgia-Pacific!

G-P Inlaid Paneling!
Here’s the custom look of hand-crafted inlaid paneling in easy-to-install plywood panels. Take your pick from eight elegant hardwood combinations. Multi-coat, plastic-type Acryglas® finish looks like hand-rubbed oil finish. (Standard 4’ x 8’, 9’ and 10’ panels.)

G-P Style IV Paneling!
This paneling was specially developed to appeal to men. The grooves are 4 inches apart—this makes the paneling look like a series of 4 inch planks, installed individually. Choice of American Black Walnut or Oak, 4’ x 8’, 9’ and 10’ panels . . . with the Acryglas finish.

G-P Architectural Paneling!
We offer a choice of over 50 architectural panels, and we hand-craft them to your specifications. Both standard and specialty grade . . . with a wide selection of veneer matches. We also have fire retardant panels in all standard thicknesses.

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Commonwealth Building, Portland, Oregon 97204

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For further information on communications planning, see Sweet's Architectural File 33/A and Sweet's Industrial Construction File 195/B.

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Photographs above taken after 2 months of weathering.

Expose it. Don't paint it.

It's Bethlehem's Weathering Steel: Mayari R
Nature wraps Weathering Steel in a maintenance-free protective coating... and provides a rich, earthy beauty in color and texture that lends itself to distinctive architecture.

The longer it weathers the richer this steel's deep-brown oxide coating becomes. And what a remarkable coating it is. Closely grained and tightly adherent, it builds up to about the same thickness as a coat of paint. It inhibits further corrosion of the steel. It heals its own wounds.

The full potential of this material can be realized only by careful design considerations. We will be happy to review these with you when you plan to use Weathering Steel. Simply call or write our nearest sales office.

BETHLEHEM STEEL
BETHLEHEM STEEL CORPORATION, BETHLEHEM, PA.
This is the lock cylinder that baffles picking...

with the key too tough to duplicate

SARGENT MAXIMUM SECURITY SYSTEM
Pats. applied for

The new exclusive lock cylinder shown above baffles picking because multiple rows of interlocking pins bar the way to any picking tool. These new SARGENT MAXIMUM SECURITY SYSTEM lock cylinders can be opened only with unique special keys which cannot be duplicated on conventional key-cutting machines. Building owners, therefore, retain complete and proprietary control of all keys in their systems. And, since every installation is one-of-a-kind, there's never a chance of your keying system duplicating any other.

The SARGENT MAXIMUM SECURITY SYSTEM is particularly suited to installations where future expansion is anticipated, or where many levels of masterkeying are required. The building owner has the benefit of fifty times more safe key changes than in conventional cylinders, as well as four new levels of masterkeying never before available in any system. This means that you can expand the system without the necessity of rekeying or changing cylinders. For complete information see your Sargent distributor, or write: Sargent and Company • 100 Sargent Drive, New Haven, Connecticut 06509 • Peterborough, Ontario • Member Producers' Council.

SARGENT MAXIMUM SECURITY SYSTEM cylinders are available in all Sargent architectural locks and exit devices...whether standard, removable core, or construction core cylinders.
DRAMATIC. Sophisticated glamour was created for this penthouse restaurant with ceramic tile. American Olean's scored tile is combined with richly textured crystalline tile to create a dramatic plaid design on supporting columns. Blue ceramic mosaics add more drama to the floor and brazier hood. For a wealth of design ideas with ceramic tile, send for Booklet 1100, "Ceramic Tile in Architectural Design." Write American Olean Tile Company, 2117 Cannon Avenue, Lansdale, Penna.
If you thought the old Fesco® Board was windproof . . . look what’s on deck for you now!

New Improved Fesco Board exceeds the Factory Mutual velocity pressure minimum of 60 psf by 100%. That’s equivalent to resisting uplift from 160 mph winds! (Competitive insulations barely meet this minimum.)

Other wind stresses? Improved Fesco Board has twice its previous shear resistance to the tearing force of wind across a roof. Three times as much tensile strength to overcome internal stresses generated by wind or structural movement. And a tough new Top Coating that bonds the insulation tightly to the built-up roofing.
That's not all. Improved Fesco Board has 100% greater resistance to punishing foot and wheel pressure. It handles better, with minimum breakage... mops easier, installs faster. As always it bears the Underwriters' Laboratories "incombustible" rating. As always, it's essentially waterproof, even under prolonged soaking.

Wind-safe, fire-safe, water-safe, Improved Fesco Board outperforms other roof insulations on practically every count.

Write for complete information to Johns-Manville, Dept. PA, Box 111, 22 East 40th Street, New York, N. Y. 10016.
Clear, lustrous Starlux plate glass relieves a powerful facade of concrete
Its upper windows aglow like firing slits of a fortress, Shapero Hall of Pharmacy at Detroit's Wayne State University makes a bold silhouette against the dusk. The building's upward-and-outward configuration is completely functional. It places those activities most in need of space and isolation (such as animal quarters and large laboratories) in the top levels. Heavy traffic activities are centered in the two-story base which includes a lobby and 160-seat lecture hall.

Shapero Hall is glazed with ASG's Starlux® twin-ground, polished plate glass. Floor-to-ceiling lights of Starlux ring the lower floors, making them open, light-filled and inviting. After dark, these extensive walls of superbly clear glass form a pedestal of light for the building’s powerful superstructure. Here, slim Starlux windows help relieve the weight of the massive concrete tiers.

Starlux contributes to this unusual building the unique qualities of the finest polished plate glass—superior clarity, visual fidelity and lustrous transparency. Starlux is the premier product in the full line of architectural glasses manufactured by ASG. For complete information about Starlux, write: Dept. E-4 American Saint Gobain Corporation, P. O. Box 929, Kingsport, Tennessee 37662.

Starlux twin-ground plate glass by...
Typical Placing Patterns on Beam

- Staggered across beam
- Along 4 of beam
- Side by side across beam

Typical Placing Patterns on Girder

- Stagger, or place shear connectors side by side across girders as required.
REDUCE THE COST OF COMPOSITE CONSTRUCTION

with this new Cofar Shear Connector utilizing new AISC specification

Here's how to put even more economy into an already economical floor system. This new shear connector from Granco was designed specifically for use with Cofar, Granco's combined form and reinforcement for concrete slabs. It permits designers and builders to use Cofar in composite construction, the structural design which unites the concrete floor slab and supporting members into a single working unit of greater strength and stiffness. Composite design provides reduction in weight of steel beams as much as 30%. The cost of steel frame and beam fireproofing are substantially reduced.

Now look at the even greater cost-saving of Cofar and the new shear connector:

1. Provides the only shear connector with 11.0 Kip capacity which can be welded through steel sheets with 1.25 oz. specification galvanized coating.
2. Requires only one welding operation to fasten connector and Cofar to frame.
3. Shear connector can be placed without cutting holes in deck.
4. Permits welding of connectors in the field with conventional arc welding equipment.
5. Simplifies detailing and erection.

See Sweets file, or write today for literature with complete details about Cofar composite design utilizing the new shear connector. Granco Steel Products Company, 6506 North Broadway, St. Louis, Mo. 63147. A subsidiary of Granite City Steel Co.

GRANCO®

IMAGINATION IN STEEL

On Readers' Service Card, circle No. 362
When imagination lights a room, Westinghouse provides the fixtures

Imaginative design demanded new ideas in lighting fixtures for the Bank's quarters in the Chemical Bank–New York Trust Company Building in New York City. Westinghouse supplied three types of lighting fixtures. Westinghouse Luminous Ceiling creates the soft, low-level brightness that the architect had specified. The Westinghouse Stripliner fixtures above the ceiling are the light source. Available in 1-, 2- or 4-lamp widths and 4- and 8-foot lengths. Stripliners are easily installed on hanger mountings.

Two types of Westinghouse Mainliners brighten individual offices. Fixtures fit flush with the ceiling to blend unobtrusively with the room design. Some Mainliner door frames are formed 16-gauge steel with corner brackets to add rigidity and prevent light leaks. Versatile Mainliners come in several sizes, with a choice of shields for precisely the effect you want. The balance of the units in this installation are the new Frameless Lens.

Westinghouse-Frink downlights highlight conference rooms in the new building. These downlights are gasketed to prevent light leaks. The housings are installed first. Frame assemblies, which are self-adjusting for tight ceiling fit, are snapped in later. The snap-in wiring box is prewired.

Whatever your requirements or innovations, your Westinghouse Lighting Sales Engineer offers the widest choice of fixtures. Call him, or write Westinghouse Electric Corporation, Lighting Division, Dept. PA-65, Edgewater Park, Cleveland, Ohio 44101.

More lighting news from Westinghouse

Air and light from one fixture. The Mark II Airliner is an integrated unit featuring light by Westinghouse and air diffuser by Anemostat Corporation. In the Allegheny Airlines Headquarters and hanger buildings, Pittsburgh, Airliner fixtures save space, facilitate maintenance. Airliners mount quickly, provide quiet, even air and soft, even light—from one complementary fixture.

Westinghouse Frameless Mainliners fit flush with ceiling. Mainliners are fully gasketed to prevent light leak, have integral cantilever hangers to simplify installation. Shown in J. C. Penney store, Pittsburgh, Mainliners give bright, nonglare light, help display merchandise to best advantage.
The men in front of The "OVERHEAD DOOR" also stand behind it.

Specify The "OVERHEAD DOOR" and get much more than just a door.
Get the industry's widest choice of materials, styles, sizes and designs.
Get the dependability of the finest electric operator, matched to each individual door.
Get the experience of the company that originated the upward-acting door.
Get the confidence of the firm that's built more than eight million doors.
Get the assistance of our architectural consultants and engineers on any standard or special door requirements.
Get the service of the largest, finest, network of factory-trained door specialists.
Get the number of your minutes-near distributor listed under "OVERHEAD DOOR" in the white pages of your phone book.
Give him a call and get an expert. For more of what's behind The "OVERHEAD DOOR", turn the page.

Fully transistorized, portable transmitter with color-coded selector, controls up to 8 doors individually by radio control.

OVERHEAD DOOR CORPORATION
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Manufacturers of The "OVERHEAD DOOR" and electric operators for residential and commercial buildings
What's behind The "OVERHEAD DOOR"?

Counterbalance design for easier opening. Longer life because it's made of the finest materials. The confidence of a name known and trusted since 1921. A service-minded distributor within minutes of most any job site in the United States. The "OVERHEAD DOOR" and electric operator save your client money because they are installed and warranted by a factory-trained distributor of The "OVERHEAD DOOR." Specify the genuine and original; The "OVERHEAD DOOR." It's the door you can stand behind, because we do. For further details call your local distributor listed under "OVERHEAD DOOR" in the white pages of your phone book; or refer to our catalogue in Sweet's Architectural File. Another open and shut case for The "OVERHEAD DOOR."

One of two similar buildings both painted 100% with Pratt & Lambert products.


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The Predominant Choice of Leading Architects

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Pratt & Lambert Architectural Service Departments are eager and able to assist architects. They will offer recommendations for painting or finishing any interior or exterior surface, or develop a complete color plan for a building. Call or write your P&L representative or the Architectural Service Department nearest you. No obligation, of course.

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consider the versatility that 

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side coiling grilles contribute to any structure

*At Night: Protected*  
*By Day: Unrestricted*

These two Cookson Side-Coiling Grilles close-off a full 200 feet of store-front. In the closed position (left) these grilles provide effective security, because they are fabricated from steel rods and links that are strong and durable. Ready for business (right) the grilles are coiled into compact enclosure boxes to leave the entire store-front fully open for freedom of entrance and vision. Retailers value highly this maximum exposure for product display.

Cookson Grilles—Rolling or Side-Coiling—offer a practical and decorative answer to many closure problems. For concessions, store-fronts, hallways, stairways, courtyards, driveways or garage entrances, the clean lines blend attractively with contemporary design while providing effective protection. Write today for Bulletin 6501, or see us in Sweet's.

When not in use, Cookson Side Coiling Grilles "disappear" into compact enclosures.

THE COOKSON COMPANY  
700 PENNSYLVANIA AVE., SAN FRANCISCO, CALIFORNIA 94107
Bull Capital from Achaemenid Dynasty (486-423 B.C.), found at Persepolis, Persia. 28" high, of bluish white limestone.
(Nelson Gallery—Atkins Museum, Nelson Fund, Kansas City, Missouri.)
beauty that endures

Artistically inviting theatre features a beautiful travertine marble pattern ceiling—Lo-Tone Fissura F-R mineral acoustical tile.
beauty that endures
...affords fire protection
and acoustical control

Fire resistance and coordination of ceiling design with interior motif are important, particularly in areas where people gather. That was, of course, why Lo-Tone FR (fire-rated) Fissura acoustical tile was selected for the ceilings in this distinctive theatre.

Lo-Tone FR products are manufactured under Underwriters’ Laboratories, Inc. inspection and carry the U.L. label. They have a listed U.L. fire rating when used as a component of an approved structural design. So used, they afford protection against flame passage and heat transmission.

Often these Lo-Tone FR products save money in construction and design, too. More expensive methods of fire protection are eliminated, completion dates are accelerated, and lighter weight construction can be used.

Remodeling work is faster because of the dry application. What’s more, low insurance rates are possible as Lo-Tone ceilings often provide fire resistance beyond local building code requirements. Lo-Tone FR board and tiles have high acoustical efficiency. They provide a beautiful solution for room-to-room noise transmission problems, another feature affecting the decision to use Lo-Tone products.

There is, in fact, hardly a ceiling need that can’t be solved within the range of functions and design patterns of Lo-Tone products.

Lo-Tone vinyl-coated tiles and boards are washable—important in clean room areas, computer rooms, laboratories and kitchens. Easily-cleaned surfaces are sealed and static-free and do not attract dirt.

Lo-Tone ventilating tiles and boards integrate with heating and air conditioning systems.

Unique, adjustable jet slots allow high plenum pressures, assure remarkably efficient air distribution.

Lo-Tone lighting products, too, can be integrated with Lo-Tone ceilings. A variety of translucent panels and lighting fixtures is available for the ceiling you select.

For complete Lo-Tone product specifications, see AIA File No. 39-B in Sweet’s. Your local Lo-Tone Acoustical Contractor can supply you with samples. Consult the Yellow Pages or write Wood Conversion Company, St. Paul, Minnesota 55101.

*Consider International Testing Laboratory, a subsidiary of Wood Conversion Company, for any acoustical evaluations you may require. Write for details of equipment, testing facilities and rates.
Plug Slater

functional receptacles
for modern convenience living

ARCHITECTURAL FACE WIRING DEVICES RECEPTACLE #6242
Architects and engineers are emphasizing beauty of design, as well as performance. Buildings must be both esthetically and functionally attractive. The Medalist "Decorator Group" offers the most advanced design for residential and commercial applications, plus the finest performance of any spec grade wiring devices available.

PILOT INDICATOR LIGHT RECEPTACLE #675
Whether it's a laundry iron or a soldering iron... when it is plugged in you'll know it... a constant, safe reminder. The red pilot light indicator receptacle has innumerable applications in residential, industrial or commercial installations.

STA-KLEEN CLOCK HANGER RECEPTACLE #S371
Whether for a wall timepiece or for an illuminated oil painting, the clock hanger receptacle serves an important function. It eliminates ugly wires... gives a built-in look. Slater makes them in NEMA grounding types, parallel slot, T-slot, with brass or Sta-Kleen plates.

WEATHEPROOF FLIP-LID #M3780
This is the most beautifully designed, skillfully engineered duplex outlet weatherproof cover. It provides protection from the elements for switches, receptacles or combinations. Lids open to 90° and 180°; non-corrosive aluminum die-casting; stainless steel springs; weatherproof sealed gaskets; in grey, green, yellow, white.
Kawneer Sliding Hide-A-Wall Front
Permits Wide-Open Merchandising!

Now you see it. Now you don't. Like magic, the Kawneer 1070 Sliding Hide-A-Wall disappears, including the "190" swinging doors and overhead concealed closers. During inclemency, it functions as a normal front, with traffic passing through the doors. In fair weather—or in enclosed malls—it rolls away for unobstructed access to the entire front. Designed for indoor or outdoor application. Transformation from closed to open front is done with unparalleled ease. The wall slides in a single, flat track set flush with the floor. No cover-plate necessary, eliminating a twice-daily chore. No switches.

No overhead hangers. Kawneer 1040 Sliding Front. Similar to the 1070, except without swinging doors. The panels can turn 90 degrees. This cornering ability permits flexible floor plans and stacking arrangements (even closets or at rear of store). Both are available in Permanodic* hard color finishes. Whether you are designing an enclosed mall or an auto showroom front or a church, school or institutional building requiring movable partitions, consider Kawneer 1070 or 1040 Sliding Hide-A-Wall.

Kawneer Co., Inc., a Subsidiary of American Metal Climax, Inc.

* Trademark of Kawneer Co., Inc.
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A KAWNEER ENTRANCE

Beauty that never fades...
and precision performance that never stops!

Now with PERMANODIC* color

Whatever you're planning—skyscraper, storefront, apartment, hospital, school or salon—Kawneer has an entrance package designed to meet your requirements for performance and appearance.

Independent laboratory tests and on-the-job installations prove Kawneer aluminum entrances last longer and are engineered to deliver superior performance—even after years of vigorous traffic and extreme weather conditions.

Now, there is an additional advantage to specifying Kawneer—Permanodic colors! These anodic hard color finishes add new warmth. And their beauty is lasting. Permanodic finishes are created from alloys, not dyes, and therefore are non-fading, resist corrosion and abrasion. These new entrance packages also offer exciting, new hardware options including Permanodic bars and new grips in teal, earth or black.

For superior performance, permanent beauty, and the savings these features afford, specify a Kawneer entrance package. Write for specification file, number P. E. 64, or Sweets File 16 E/KA.

KAWNEER COMPANY, a Division of American Metal Climax, Inc.
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The Kawneer 990 Doors Match Metal Curtain Wall Weathering Performance!

- Kawneer 990 sliding doors will not leak—even when subjected to simulated wind of 63 mph and 8 inches of rainfall per hour. The tests, certified by an independent laboratory, were identical to those for curtain wall systems as outlined by NAAMM. This superb performance is ideal for low-rise and high-rise applications, (often subjected to higher storms and winds). The 990 prevents water damage to floors, carpeting, draperies, and interior walls. That's because an exclusive pressure equalization chamber, consisting of a non-siphoning sill, equalizes pressure within door sections and outside. With no pressure difference, there is no siphon action and no leakage. The popular priced 890 sliding door for residential and light commercial application offers similar weathering features. Both are now available in your choice of Permanodic* hard color finishes. Write for technical file. Address Kawneer Product Information, 1105 N. Front St., Niles, Michigan.

beautiful sliding doors that will not leak . . . .

Kawneer Co., Inc., a Subsidiary of American Metal Climax, Inc.

*Trademark of Kawneer Co., Inc.
©1966 Kawneer Co., Inc.

Weese To Design Capital Subway

WASHINGTON, D.C. Chicago architect Harry Weese was named last month to design stations and provide “conceptual plans” for Washington’s proposed 25-mile subway. Selected by the National Capital Transportation Agency, Weese, designer of the Arena State Theater here, will have working plans of the $431-million system ready for the start of construction sometime next year.

Easier Said Than Dome

HOUSTON, TEX. Domes on structures as large as baseball stadia are easier said than done. The one on the Astrodome here has had more problems than Pandora. Last month, Harris County, its owner, got a bill for $500,000, the cost of the first year’s “minor repairs.” According to Houston’s Sports Association, which operates it, the dome leaks, the roof steel has rusted, and the walls and floors have cracked.

Utzon Resigns in Sydney

SYDNEY, AUSTRALIA When Joern Utzon won an international competition in 1956 for the design of the Sydney Opera House, no one was quite sure how to build it, but they thought it would cost about $7 million. By October last year, these estimates were up to $35 million, and, by last month, they had ballooned to $50 million. As costs soared so did danders, and in early March Utzon walked off the job.

Some seemed unconcerned by his resignation. “Construction is nearly finished now,” said consulting engineer Ove Arup. “We can carry on without too much difficulty. But it has been a very difficult eight years. So many problems...but we solved them. Now I am off to the south of France for a bit of a holiday.” Others were not so laconic. R.W. Askin, Premier of New South Wales, was besieged by telegrams and petitions urging him to get Utzon back. And at one point, a group of architects and students marched in protest through the streets of Sydney to Parliament House. In a cable to P/A, Askin was hopeful: “My government has expressed the earnest hope that he will agree to withdraw his resignation on conditions mutually acceptable.”

Ostensible reason for the resignation was the government’s desire to curtail Utzon’s free hand with the Opera House’s construction. The mushrooming costs were a political issue in last year’s elections, and Askin, in his election campaign, had promised to control them. But government suggestions to appoint a committee of architects to complete the work are unpopular. Utzon’s staff has refused flatly to work with
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a committee. One New South Wales architect, Harry Seidler, echoed local discontent with the plan when he said: "It is my very strong opinion that the suggested consortium would be unethical. We are not dealing with an ordinary routine sort of building. It would be unethical for an architect to have the audacity to take on such a work."

"Mutually acceptable" terms seemed unlikely as P/A went to press. Aside from the question of authority, other issues included Utzon's request for $102,000 in back fees (he has received about $1 million in fees so far), and his demand that $2 million worth of plywood be purchased from a dealer said to be in financial trouble rather than submit the order to competitive bids.

NSW's Minister of Public Works, Davis Hughes, seems firm in his desire to limit Utzon's participation to that of a consultant and to set up a construction time/cost table. Just what is at stake in this quest for design by committee is not clear, since funds to pay for the Opera have been raised so far by public lottery. It is hoped that the project, an impressive architectural achievement, can be completed as conceived, and that it can be done without further hoopla. Already, cynics Down Under are suggesting that the hall's opening performance be a comic opera about the building of the opera house. Suggested titles: "Joern's Driving Me Crazy," "The Biggest New South Whale," and "Danish Pastry Blues."

Beale Street Blues

MEMPHIS, TENN. Beale Street, the place "where the blues began," was immortalized by W. C. Handy in his "Beale Street Blues." A Prohibition song, it bemoans the passing of booze: "Going to the river. And there's a reason why/Because the river's wet, And Beale Street's done gone dry." The street of sin and soubelation never really shook the pall of Prohibition, and, today, the remembered live beat of jazz and blues are drowned out by the juke box, the bars and chit'lin joints closed down. The pawnshop balls are about the only things that glitter now.

The street, which took its name in 1849 from some military or naval hero—no one quite knows—grew along with Memphis, taking its life blood from the Mississippi. Later, a change in the river's course curtailed Beal's activity as a point of entry and exchange. But for the Negroes coming up from the Mississippi delta and the cane fields of Arkansas, Beale and all its hustle was their first "urban experience."

There was Gallina's Exchange, built in 1891 (and destroyed by fire in 1932), which housed a saloon, a burlesque theater, a restaurant, and a hotel. Gallina took pride in providing his clientele with every necessary service and facility under one roof. There was PeeWee's, opened in 1894 and celebrated as being the place where W.C. Handy, leaning against a cigar counter, wrote the "Memphis Blues." If much of the new Beale Street planning is still up in the air, the Memphis Light, Gas and Water Company will build a $5,500,000 multistory facility that will serve as "the anchor structure for the entire area."

One hopes that Memphis can clear the street of its present clutter, and, with restoration and careful planning, give Beale back some of the life it had before.
The Garden’s 15,000 permanent seats have obstructed sight-lines to anything not held in the center of the arena floor.

The new Madison Square Garden will change all that (see p. 76, MAY 1964 P/A). And, ironically, the complex of buildings proposed last month to take the place of the present MSG will give succor to the enemy: TV. The winner: Television, by a technical knockout.

Actually, the Charles Luckman Associates-designed buildings are being billed as a Cinema Center. If built as planned, they will provide what its promoters call “the only completely integrated modern facilities in New York for the production, recording, and processing of motion picture, television, and commercial films.”

What Luckman and developer Irving Mitchell Felt, president of the Madison Square Garden Corporation, have in mind is a four-acre, full-block complex with twin 39-story office buildings at either end, and, between them, two connecting seven-story structures containing film and recording studios, two legitimate theaters (each with 1500 seats), and four motion picture studios (each with a 750-person capacity). Between these two latter buildings will be a glass-covered galleria, offering an eight-story sweep from its glass roof to the plaza-level dining facilities. Around the galleria will be promenades and walkways.

Luckman’s design shows each high-rise office tower supported by load-bearing corner fins, which house all mechanical equipment.

Although financing has not yet been arranged for the $50-million project, and although no tenants have signed up, the developers are confident that construction will begin with the opening of the new Madison Square Garden in late 1967.

CAMBRIDGE, MASS. Nothing pleases an architect more than to design a house he can live in, except maybe designing an office he can work in. The Architects Collaborative is enjoying the latter type of building—with two floors to spare. TAC will occupy the basement and first three floors, and will rent the upper two. The 74’x36’ building will have an exterior of bush-hammered, cast-in-place concrete with the form- and tie marks left for detailing. A dark-brown brick, set in dark mortar, will be used on the end walls of the building. All glass will be of the gray, glare-resistant variety. The entrance from Brattle Street will be through a sunken (land- and fountain-scaped) courtyard, with the added nicety of brick that will be matched for color with the standard brick of Boston sidewalks. Construction will cost $535,000; completion is scheduled for late this year.

PITTSBURGH, PA. “When you talk about airport terminals today, you are really talking about gates. You no longer need the conventional monumental terminal building, just gates,” says Arnold W. Thompson, who, as a registered architect in White Plains, N.Y., specializes in airport facilities consulting. For 10 years, Thompson was chief architect with American Airlines. In his most recently released airport plan, Thompson has proposed a two-level TWA terminal for the Pittsburgh Airport. TWA wanted a facility that would bring passengers arriving by bus, limousine and car as close to the airplanes as possible. As shown in the model, the $13,700,000 structure would be racetrack-shaped, linked by a straight arm to the existing central terminal. An upper-level, four-lane road would bring vehicles into the structure’s infield, where they would discharge passengers and baggage at any of several curb-side check-in gates. A lower-level roadway would take deplaning passengers out.

TWA plans either one or two multilevel parking garages connected to the structure to supplement the limited infield parking. These garages would be connected to the terminal by moving sidewalks and moving baggage ramps, so that check-in and baggage claim could be done where you park your car. Departure lounges, one for each of the dozen planned telescopic, enclosed passageways that lead directly to the airplanes parked by the terminal, will be only steps away from the curbside check-in counters. Thompson has suggested a roof overhanging the oval infield roadways to protect arriving and departing passengers.

TWA, whose link with Pittsburgh goes back to 1930, when three companies (one of which
was Pittsburgh Aviation Industries Corporation) merged to form the first transcontinental airline, foresees a 30 per cent passenger increase in its facilities here by 1968—up to 1,750,000 passengers from a present 1,300,000. By 1975, they expect their passenger load here to reach three million.

Thompson's proposal was presented to the Allegheny County Board of Commissioners for approval and authorization last month. Once the plan is okayed, Thompson, whose role is advisory, will work with the architects selected to prepare a final plan. TWA expects to put up about a third of the money needed for construction, with the county providing the rest.

The terminal should be ready by November 1968.

**Introverted Library**

**SEATTLE, WASH.** When John M. Morse was asked to design a public library in what he calls “a confused commercial center” —an area of parking lots, gas stations, etc.—he did not put up an ivory tower that might have separated the books and their users from the cross world around them. Instead, he created a façade that keeps the outside out without keeping the inside in. His curving fortress-like reinforced brick masonry exterior wall is pierced by arched, ground-level windows and a larger arched entrance gate that leads from the hodgepodge and bustle of the Seattle streets to a quiet, sheltered entrance courtyard. The steel truss roof has wood shingles. Both the warmth of these shingles and the warmth of the red brick, together with the fabricated bronze entrance gate by artist George Tsutskawa, make the building inviting, despite its appearance of protective strength. Finished early this year at a cost of $289,000, the Lake City Library is an appropriate home for its 40,000 volumes.

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**Stadium in Philly Gets Architectural Referee**

PHILADELPHIA, PA. When preliminary plans for a new, all-purpose city stadium were announced here last summer, what one observer calls a “great hassle” developed over its appearance and its functional arrangement. In announcing the Stonorov & Haws design, P/A commented that, with its surrounding parking lots filled, it was in danger of looking like a great, boxlike ship floating on a sea of cars” (pp. 49–50, January 1966 P/A). But, by then, the members of a Stadium Advisory Commission appointed by the mayor were preparing a report. After talking, in separate, closed sessions, with the city administrators, the architects, and the two would-be tenants (the Philadelphia Phillies and the Philadelphia Eagles), they issued a report in mid-January.

In it, they stressed the need for a distinctive design that would bring credit to the city, and cited fears that Robert Carpenter, owner of the Phillies, would not let his team play in the stadium as it is now designed. Carpenter objected to the appearance, the aisles, the angling of the seats toward the infield, the loading areas, the entrances, the exits, the escalators, etc.—the location of the parking. In view of all this, the commission made five recommendations:

“(1) The stadium must be constructed to serve its patrons. In this respect, it is no different from building a factory or the Academy of Music. If the work and the performance cannot be accommodated, it will not be successful. The public then will feel they were misled in voting for the bond issue.

“(2) It must be of such architectural quality as to warrant the kind of public endorsement that brought over 300,000 people to view the Houston Stadium and pay $1 each even when no game was in progress during 1965. Unless it has all these qualities, the two principal tenants—baseball and football—will not be able to draw big enough crowds to supply the cash necessary to attract outstanding players and to build a championship club.

“(3) We recommend that you ask the Philadelphia Chapter of the American Institute of Architects to select a nationally recognized architect who will be employed to cooperate on a consulting basis with the architects now employed by the City. You will recall, this was necessary to resolve the long and bitter dispute in connection with the Federal Court Building [see pp. 48–49, September 1965 P/A].

“(4) We recommend that there be a new start which might well require a completely new design. In the event of any difference between architects, it should be understood that the consulting architect shall have the final decision and authority on all architectural questions.

“(5) We recommend that the architectural designer make a complete design, including a dome, preferably retractable. Unless this is done now, in the design stage, we do not believe it is feasible to determine the location, numbers, and design of plinths, footings, foundation
walls and superstructure. The heating, ventilating and air-conditioning designs must be evaluated for a dome construction. Also, the need for electrical power will be affected by the ultimate addition of a dome.

Acting on the Commission’s recommendations, the city last month appointed Hugh A. Stubbins, Jr., of Cambridge, Mass., architectural referee. He was selected from a list of three prepared by the local AIA chapter. Stubbins will work with the original architects, George M. Ewing Co., Stonorov & Haws, and the structural engineers, McCormick-Taylor Associates. If further disputes arise among the architects, the Phillies, and the Eagles, Stubbins, who plans to open a Philadelphia office, will make the final decision.

Redesign is expected to delay the stadium’s opening two years beyond the original 1967 date.

In November, Philadelphia voters will decide whether or not to issue $18 million in bonds to finance a roof.

### Hartford Building: Right and Wrong

SAN FRANCISCO, CALIF. Rising proudly from a site half way up Nob Hill, the San Francisco headquarters of the Hartford Insurance Group—the Hartford Building—is a monument of carefully detailed design. Its clean lines thrust 33 stories into the sky—blocking many of the views from the hilltop structures above it. Designed by Skidmore, Owings & Merrill (San Francisco office), it is the maximization of the SOM look. But despite its clean lines and the white cast stone of its facade, which blend well with San Francisco, it is the right building in the wrong place. It dwarfs St. Mary’s Church next door, and, although SOM is designing a church rectory that is planned as a transitional element between the office building and the church, it is doubtful if the two can be tied together, so disparate are they in size and style. Can David and Goliath be friends?

Even SOM is not sure. “We will have to wait until it is finished to tell,” says Edward C. Bassett of Skidmore, Owings & Merrill.

### Stone’s St. Louis Stadium Opens

ST. LOUIS, MO. Opening this month, with the start of the 1966 baseball season, is the soon-to-be completed Busch Memorial Stadium designed by Edward Durell Stone. Stone’s 50,000-seat stadium has a facade of repetitive concrete arches, reiterating the graceful loop of Saarinen’s Gateway Arch, which overlooks it. It also has a cantilevered concrete roof above the upper deck.

When the St. Louis Cardinals take the field on opening day, they will be the descendants of a host of baseball greats, performing in a contemporary showcase. Dizzy Dean was a Cardinal. Enos (Country) Slaughter was a Cardinal who scored the winning run of the 1946 World Series by sprinting all the way home on a base hit as Boston’s Johnny Pesky stood frozen in astonishment, unable to throw the ball.

Like most new stadia, Busch Memorial Stadium is circular in form. Writing in *Sports Illustrated* magazine, Robert Creamer pointed out: “What the old ball parks do have to their credit is personality. Think of Ebbets Field’s right field wall, the high green barrier in left at Fenway, the too-short foul lines and too-long center field in the Polo Grounds, the jury-box bleachers in Braves Field. The new stadiums have none of these idiosyncracies. They are all shining and pretty and perfectly proportioned, like the girls in the cigarette ads. They all look exactly alike: 330’ down the foul line, 410’ to center. In a few years, a visiting player won’t know what park he is in, unless he first stops to check the schedule. Everything will be neutral and fair and
antiseptic. Maybe even boring.” One can’t imagine Ed Stone’s stadium being boring. The Cardinals won’t let it be.

The Flavor Is Spanish

LOS ANGELES, CALIF. Nestled in the midst of the sparkling white, high-rise buildings that will compose Century City, will be a relatively small, low-rise restaurant with a sloping red tile roof. In a way, its architecture, a sort of eclectic neo-Spanish colonial, will be entirely appropriate. For it sits on a site that was once Spanish soil, in the midst of buildings that have completely rejected that past in favor of a gleaming contemporaneity. Senor Pico’s restaurant is trading blatantly on the nostalgia of the past. The second in what may become a line of Senor Pico restaurants (the first is in San Francisco’s Ghirardelli Square), it is financed by Trader Vic, whose restaurants now dot the country. And it is the first of these to have its own building. The Trader conceived Senor Pico’s as middle-priced restaurants, and unlike their higher-priced cousins, they rely more on interior (and in this case exterior) structure for their mood, less on decoration—baubles, trinkets, fish nets, and anchors. As executed by San Francisco architects Chan/Rader & Associates, with Tendas & Garfield as associate architects, Century City’s Senor Pico’s will have a relatively simple façade of vertical form boards and sandblasted concrete beneath the large, hovering tile roof. Inside, the plan is cruciform. At the center of the cross will be a two-and-one-half story atrium dining court. Surrounding this, a two-story gallery provides vistas and circulation to kitchen, other dining areas, and service areas. To create the rich, warm atmosphere that has become the Trader’s trademark, the architects will rely on handi-craft glazed clay tiles in many colors and patterns, carpeting, wooden beams, textured plaster walls, decorated twig ceilings, carpets, paintings, and decorative lighting fixtures.

Currently in working-drawing stage, the building will go out for bids in about two months.

Jerry Lewis to Play Architect on Broadway

NEW YORK, N.Y. As we go to press, news reaches us from the theatrical world that Jerry Lewis may play an architect in a Broadway comedy this fall. If negotiations are completed satisfactorily, Lewis will open in October in The Hero of the Whole World, in which he plays a Long Island archi-tect with five wives, each of whom is in charge of a different domestic duty. According to P/A’s sources, Lewis will be the sole backer of the Mac Benoff comedy, which is expected to be capitalized at $140,000. Only on Broadway would this be enough to support five wives.

Theater-in-the-Drum

HOUSTON, TEX. Houston is going in for culture the way it goes after oil: big. Shown above is the Caudill, Rowlett & Scott-designed Jesse H. Jones Hall for the Performing Arts, which will be the first building completed in Houston’s $40-million Civic Center Complex. Houston, which has the world’s largest domed stadium, three major museums, three year-round theaters, four ballet organizations, and seven chamber music groups, will use the $6,600,000 hall (which will house the city’s largest stage) as the permanent home for the Houston Symphony Orchestra, the Houston Grand Opera Association, and the Houston Ballet Foundation. Architects Caudill, Rowlett & Scott have designed a hall which, with visual and acoustical adjustments, will be suitable for each of the performing arts. The hall will accommodate a maximum audience of 3001, with alternative capacities of 2400, 2000, and 1800. Ceiling panels can be lowered electronically to the balcony-rail level for the first seating change (3001 to 2400). For 2000, the mezzanine area will also be sealed in with panels. The minimum number of seats can be obtained by cutting off the last five rows of the orchestra floor.

As for its unusual and questionable 85’-high, travertine, drum-in-a-box form, the architects maintain that it was an outcome of the nature of the site. Sitting on a full city block,
the site of the former City Auditorium, the hall will be accessible from all sides, and the curvilinear shape was thought to be more conducive to movement around the building. The contrast between the straight lines of the walk-through colonnaded lobby (called in Texanese “The Texas Porch”) and the curves of the drum enclosing the theater proper, were thought to add an element of visual excitement. The hall is scheduled for an October 2nd opening.

Station KGW
Coming Through Clear, If Not Loud

PORTLAND, ORE. The KGW Radio and Television Building in this city broadcasts from the street without static. The two-story building, designed by Fred Bassetti & Company of Seattle for the Bullitt Foundation, is the result of that growing phenomenon—the client who cares. The Bullitt Foundation requested that the building reflect its business ethic: “The pursuit of ideals and the fulfillment of responsibilities.” For once, these high thoughts are not hand-stitched into a parlor chair pillow: The architect has built them of concrete and brick. With an exterior of reinforced concrete and ¾” brick tile (laid vertically to distinguish it from standard brick), the building makes us want to see more radio and television stations—building instead of talking.

WASHINGTON, D.C. Watergate East, the first of five buildings in a multipurpose $44-million community (model shown above) unfolds like a mud worm in Foggy Bottom by the Potomac. Designed by Luigi Moretti of Rome and Milton Fischer of the Washington firm of Corning, Moore, Elmore & Fischer, Watergate, by the time it is completed in 1968, will have three cooperative apartment buildings (the 13-story Watergate East, with 240 apartments and 167 different floor plans, is the first), a hotel and shopping mall—all great curvaceous hulks. An underground network of roads will handle all traffic. Only the office tower will pay homage to the straight line (no doubt because of its business image). For prices ranging from $30,000 to $300,000, apartments will offer tenants a view of the Potomac, acres of flora, at least one marble-topped lavatory in each apartment—and just about any other luxury you can name.

Quiet Building for the Arts

WEST NYACK, N.Y. The Rockland Foundation (the 20-year-old Rockland County guild for instruction in and exhibition of the arts) has announced the winner of its competition for a design of its new home on a semirural, 10-acre site. John Way, Jr., 1960 graduate of the Cornell School of Architecture, and resident of New York City, was judged winner by jury members Georgio Cavagliari, Lo-Yi Chan, James M. Fitch, Paul Rivet, and Charles H. Warner, Jr. Way has worked with Marcel Breuer, I.M. Pei, and is presently associated with Percival Goodman. The Rockland Foundation plans to start building immediately.

Landmark Becomes
Home of AIA Chapter

ST. LOUIS, MO. In a move as striking in its wisdom as in its appropriateness, the St. Louis Chapter of the AIA set up offices this winter in the Wainwright Building. Completed in 1892, the Wainwright Building was what Chapter president Angelo G. Corrubia calls “the first satisfactory expression of a skyscraper,” and, as such, it set a structural precedent that is still the bulwark of modern skyscraper construction. Frank Lloyd Wright, who was a young assistant in the Chicago offices of Adler & Sullivan when the building was conceived, told this story at a lecture at Princeton University: “Our peculiar [American] invention, the skyscraper, began on our soil when Louis H. Sullivan came through the door that connected my little cubicle with his room in the Auditorium Tower in Chicago. He pushed a drawing board with a stretch of manila paper on it over onto my drafting table and, without a word, went back into his room and closed the door. There it was, in delicately-penciled elevation. It was the Wainwright Building in St. Louis, the first human expression of a tall steel building as architecture.” Ellis Wainwright, who commissioned the building, found it an almost instant financial success, for its 250 offices were rented almost as soon as the building was completed. But for Wainwright, the success was sour. In 1891, with the building almost finished, his beautiful young wife, Charlotte, died, a blow from which Wainwright apparently never recovered. In his grief, Wainwright once again turned to Sullivan and asked him to design a mausoleum in his wife’s memory. The Wainwright mausoleum in St. Louis’s Bellefontaine Cemetery is still a showplace—a significant Sullivan structure. After his wife’s death, Wainwright was an unhappy man. He became involved in a sensational stock scandal, Indicted,
SPACE—THE RESULT OF ELIMINATING 211 COLUMNS IN WEBB BUILDING BY POST-TENSIONING

More rental space, greater space flexibility, reduction of number of required columns, and shallow floor depth were considerations analyzed before selecting post-tensioning for the Webb Building in Arlington, Virginia. Three structural systems were evaluated before a decision was made. In the final design, the few columns required allowed such space management efficiency that the owner, M. T. Broyhill & Sons Corp., reported requests for office space totaling 212% of rentable space!

The structure was originally designed for 70 psf live load, but was later changed to 125 psf live load for the first five floors above grade, and 100 psf live load for the remaining four floors. The load factor was changed to accommodate heavy office equipment.

The roof slab and the nine floor slabs above grade were post-tensioned using PRESCON positive end anchorage tendons. The slabs were 8\(\frac{1}{2}\)" thick, cast of 3500 psi regular weight concrete. Each slab was divided into three pours.

Floor slabs measure 123\(\frac{1}{8}\)" x 153\(\frac{1}{8}\)" with approximately 19,000 square feet to each floor. Slabs were designed as rectangular flat plate panels spanning 20 feet in the N-S direction and 25 feet in the E-W direction between column centers. All main reinforcement in slabs was Prescon post-tensioning tendons except for the addition of conventional reinforcing bars over the columns. The total structural frame cost was $3.28 per square foot, including all structural change orders.

Conduits were not included in the floor but with the Prescon post-tensioned slab, telephone and electrical outlets could be placed within a 2\(\frac{1}{2}\) point desired by the tenant without fear of cutting steel reinforcing. Another advantage of post-tensioning was the elimination of deflection in the slab which reduces problems in the placement of partitions.

Prospective tenants were particularly impressed by the speed and ease in placing partitions and the higher floor loadings possible.


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he fled to Europe before he could be tried, living there in self-imposed exile for 10 years. When he returned to the U.S., the old charges were dropped, but Wainwright was never the same. He sought refuge in a life of gaiety and abandon. Tiring of that, he became a recluse. In his final years, he lived quietly, a man of mystery so remote that even the maids who cleaned his hotel apartment were never permitted to see his face. He died in 1924, at the age of 74.

The building that bears his name has a base of Missouri red granite. Its next two levels are Indiana red sandstone. From the third to the ninth story, the façade is red-pressed brick with ornamental terra-cotta trimmings on the pilasters and in panels between window lintels and sills. Above the ninth story, the facing is ornamental terra-cotta frieze with an elaborate foliage design, interspersed by small round windows.

The St. Louis Chapter, AIA, will help provide information on the building to visitors. The Chapter is to be congratulated for making a move other Chapters would do well to emulate.

**Awards**

The Ford Foundation has awarded a $1 million grant in support of the further excavation of the Agora, the civic center of ancient Athens that sits at the foot of the Acropolis. The grant was made to the American School of Classical Studies...George Nelson, founder and president of George Nelson & Co., industrial design consultants of New York City, has received the 1965 Alcoa Industrial Design Award for his "notable achievement in the imaginative and effective use of aluminum" in his designs for action office furniture manufactured by Herman Miller, Inc. ...Morley Baer, West Coast photographer, won the 1966 AIA Architectural Photography Medal...William Ballard, architect, city planner, and chairman of New York City's Planning Commission, received the Woodrow Wilson Award from Princeton University...Ludwig Mies van der Rohe will be the first winner of the University of Virginia's Thomas Jefferson Memorial Foundation medal in architecture...William W. Eshbach of Philadelphia has been named recipient of the Edward C. Kemper Award given annually by the AIA for "significant contribution to the Institute and to the profession of architecture"...Seymour H. Knox, past chairman of the New York State Council on the Arts and president since 1938 of the Buffalo Fine Arts Academy, was awarded New York's Architectural League's Michael Friedsam Medal in Industrial Art...George Atenzevicus, Roger Montgomery and Dolf Sneheli, members of Washington University's architectural school, won the university's competition for the design of a new School of Law building and a Social Science Center. Judges for the competition were Thomas Eliot, chancellor of the university, G. Holmes Perkins, and Harry Weese.

**Sullivan to Yamasaki**

Buffalo, N.Y. Architect Minoru Yamasaki, and the resident firm of Duane Lyman & Associates, have designed a 21-story tower for Buffalo's Manufacturers & Traders Trust Company. The model shows finned columns rising from the 35'-high lobby, which isfronted by a 200'x75' landscaped plaza. The bank will occupy the first half of the $15-million building and lease the remaining floors. On the twentieth floor, a restaurant will promise a view with every meal.

It is almost as if Yama took his plan, if not the expression of it, from Louis Sullivan, who 72 years ago, at age 39, graced Buffalo with one of the finest examples of office buildings in this country—the 13-story Guaranty Building.

Sullivan's thesis on the Guaranty appeared in Lippincott's Magazine in 1896. The building's internal functions, he commented, would determine its external forms...a ground floor for those businesses (banks) requiring access, light and space...and above this two-story base an indefinite string of offices, each like the other, in cellular form. "It must," he went on, "be every inch a proud and soaring thing, rising in sheer exultation that from bottom to top it is a unit without a single dissenting line."

**Student Protest**

Berkeley, Calif. Those outspoken Berkeley students can protest visually as well as vocally, it seems. On a recent visit to Wurster Hall, the new Environmental Design building at the University of California (see Neil Smith's critique, pp. 162-167, January 1966 P/A), P/A's Senior Editor found that budding sculptors in the art department have livened the institution's brutalist façade with plaster bodies decked out in gaily painted bikinis. The effect is something like a feather boa on an old-maid school teacher.

**Educational Circles**

Phoenix, Ariz. They're going in circles in Phoenix. With the aid of a $20,000 grant from the Ford Foundation, Phoenix architects Cartmell and Rossman designed what is called a "multiuse learning center." It is a series of classrooms, arranged in concentric circles, which can be converted into an auditorium at the push of a button. Built on turntables at the periphery...
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homes revolve separately, opening onto the main auditorium. According to the Educational Facilities Laboratory, a branch of the Ford Foundation, a lecture-hall/classroom complex with the same seating capacity, separated by movable partitions, would cost about $700,000. The learning center could be put up for about $600,000; moreover, it would be about 25 per cent more efficient. With this arrangement, one teacher could teach 200, 400, 600, or 1400 students. If funds become available, high schools in the Phoenix Union High School System will build a center based on the model.

CALENDAR

On April 26-28, the national conference on Religious Architecture will be held at the Sheraton-Palace Hotel in San Francisco. This year's theme will be "An End to False Witness." The Consulting Engineers Council will hold its annual convention at the Civic Center Assembly Hall, Tulsa, Okla., from May 4-6. A conference on "The Future of Architecture," from May 13 to 14, will officially open the doors to the Boston Architectural Center's new building. For further information, write J. Robert Wolf, Boston Architectural Center, 338 Newbury Street, Boston, Mass. The Building Research Institute will hold its spring conference at the Statler Hilton Hotel in Washington, from May 10 to 12. There will be an architectural exhibition of general hospitals and service facilities at the Middle Atlantic Hospital Assembly May 17 to 19, Convention Hall, Atlantic City, N.J. From June 13 to 17, Wayne State University, Detroit, Mich., will hold a seminar on the Flammability Characteristics of Polymeric Materials, from June 13-17. Additional information may be obtained from Conference Chairman, Department of Chemical Engineering, Wayne State University, 701 West Warren, Detroit, Mich. The World Prestressing Conference will be held June 11-18 in Paris. Pratt Institute will offer a seminar from June 20-25 on Space Planning and Business Interiors. For further information write: Director, Division of Continuing Professional Studies, Pratt Institute, Brooklyn, N.Y. 11205. The sources and resources of the 20th Century will be the subject of the International Design Conference in Aspen Colo., from June 19-24. Additional information is available from International Design Conference, P.O. Box 664, Aspen, Colo. On June 20-24, a second seminar in the Use of Plastics in Building and Construction will be held at Wayne State University. The National Council of Instructors in Landscape Architecture will hold its annual meeting June 29-July 2 at the University of Wisconsin at Madison. Dr. Nathan M. Pusey, president of Harvard University, will give the second annual Purves Memorial Lecture at the AIA Convention in Denver, Colo. The convention will run from June 26-July 1, and will have as its theme "Technology, Environment and Man." The Athens Center of Ekistics has organized an international seminar on Ekistics and the Future of Human Settlements to be held in Athens from July 4-15. For information and application forms write: Dr. D. Iatrissi, Director, International Seminar on Ekistics, Athens Center of Ekistics, 24, Strat. Syndesmolou St., Athens 136, Greece. On July 5-9, Stanford University will hold a secondary school planning seminar. Information is available from Coordinator, Secondary School Planning Institute, School Planning Laboratory, School of Education, Stanford University, Stanford, Calif.

St. Louis, Mo. Ground was broken last month for a 20-story office building on the St. Louis riverfront between Saarinen's Gateway Arch and Stone's Busch Memorial Stadium. Designed by Gyo Obata of Hellmuth, Obata & Kassa-bau, the building is a joint development effort by subsidiaries of the Columbia Broadcasting System (KMOX-TV and KMOX radio) and Transurban Redevelopment Corporation. Obata's design shows a 17-story tower rising from the north end of a three-level base. The roof of the base will be a promenade deck. Cantilevered around the glass walls of the tower will be continuous balconies whose beige aggregate cast-stone facing will offer sun protection and reiterate the cast-stone facing of the base. Each floor will encompass 10,000 sq ft on 5' modules. The tower's placement insures permanently open views on three sides. These take in the river and the arch, the Old Courthouse, and the Mall entrance to the Jefferson National Expansion Memorial; and, to the south, Busch Memorial Stadium.

Charles Luckman Associates are Associated Architects.

A Poem Lovely As A Pin-Cushion

CAPE KENNEDY, FLA. Plunged into the middle of the Space Age by a quirk of geography, catalyzed by Governmental group decision, Cape Canaveral, as this Florida coastal community was once officially known, has become synonymous with space exploration. Never one to pass up the excitement, especially if the weather is good, the Hilton Hotel Corporation plans to manage a 200-room hotel here, between the Atlantic Ocean and the Banana River. According to informed sources, "architectural experts" of Shuford Mills, Inc., a Hickory (North Carolina) development group, and Hilton Hotels are working on plans.

Obata Designs Office Tower Near Gateway Arch

RACINE, WISC. "A good building is the greatest of poems when it is organic architecture," said Frank Lloyd Wright. Perhaps the Johnson Wax Company was thinking of this when they called their movie theater at the New York World's Fair the Golden Rondelle, for a rondelle, besides being a circular object (the shape of the theater), is also, of course, a form of poem. Inside the theater, they ran almost continuous performances of Francis Thompson's and Alexander Hammid's award winning movie, To Be Alive! H.F. Johnson, chairman
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They don't admit glaring light. Since they are translucent, they diffuse the light, help eliminate shadows.

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We make the Hetron. Fabricators supply the panels. Large or small, corrugated or flat, for replacement or new construction. We'll be glad to provide detailed information. Just write Durez® Plastics, 7704 Walck Road, North Tonawanda, N.Y. 14212.
It All Started in a Carpenter's Shop...

WASHINGTON, D.C. The National Presbyterian Church has come a long way. In 1793, its services were held in a carpenter's shop on what are now White House grounds. In the summer of 1969, the same church will move into a $4,100,000, 14.4-acre limestone palace that has been engineered in an environment to make it look more awkward.

Instead of the distinctly nonorganic, soaring, 90' concrete-petal-topped columns that supported the theater at intermediate level at the World's Fair, it will be supported on four pylon-type columns. And to give it some compatibility with the Wright-designed Johnson's headquarters, Taliesien Associates have designed two auxiliary buildings, with curved red brick walls and horizontal bands of glass, which will abut it. Although the Golden Rondelle looks more like a water-filled pin-cushion than a poem, its auxiliary buildings only make it look more awkward.

One can almost hear the master thundering in his wrath.

EAVESDROPPINGS

"Irrespective of the quality of the food [in American hot dog parlors], this kind of interior can be a remarkable performance on the part of its designer. A particular environment or atmosphere has been engineered with a skill, and a degree of success, comparable to the way in which atmospheres of ecstatic piety were engineered in Roman baroque churches, like Sant' Andrea al Quirinale or the Cornaro Chapel. But if these works of Bernini are architecture, is the restaurant? The problem is one that most increasingly concern any student of the American scene, because that scene is increasingly composed of buildings—motel, supermarkets, bowling alleys, filling stations, hamburger stands, even private houses—conceived in this mode of emotional engineering. Yet if one takes the problem to U.S. architectural critics and journalists their normal response is the same as to American food, and they start to talk about Le Corbusier or Gropius instead."


"[Louis Sullivan's] contemporaries thought his ornament saved his off-beat solutions from cold and incomprehensible familiarity. His heirs of the 1930's rejected it as traditional trimming and preferred to admire the bare upper stories of his buildings. Today we return to it with gratitude for its undeniable sensuous beauty, seeing it as the catalyst between structure and expression that made Sullivan's famous dictum 'form follows function' neither the sterile nor the limited doctrine of its later interpreters." Ada Louise Huxtable, The New York Times, January 27, 1966.

"The absolute essential beginning point before any city can be made non-obsolescent is the development of a program that is going to do the job. A total, complete, comprehensive program that has: (a) a plan of what that city's metropolitan area is going to be; and (b) a schedule for executing the plan that says: We believe the plan; here is the financial backup for the plan; this is what it will cost to eliminate slums; this is what it will cost to develop a transit system and an expressway system; this is what it will cost to develop the neighborhoods; these are the values that will be created; this is the assessable phase; here are the revenues; this is the relationship between the revenues and the capital investment. It is economically viable; we will do it and here is the schedule for doing it." Janet Roane, speaking at the First International Conference on Urban Transportation.

Personalities

Sim Van der Ryn was not made a permanent member of the University of Pennsylvania faculty, as announced in February 1966 P/A. He was visiting professor of Civic Design at that University last fall but is presently fully entrenched at the University of California's (Berkeley) Department of Architecture. Apologies. . . . Glen Paulsen is the new president of Cranbrook Academy of Art, Bloomfield Hills, Mich. He will continue to head the Art Academy's Department of Architecture . . . Keith Meagher, 10 years a faculty member at the University of Arkansas, will head Rensselaer Polytechnic Institute's school of architecture. Felix Candela will be the second Jefferson Professor in Architecture at the University of Virginia, succeeding Pietro Belluschi this spring . . . William H. Liskamm, a principal in the San Francisco firm of Okamoto/Liskamm, Planners and Architects, will become vice-chairman of the University of California, Berkeley's Department of Architecture . . . Dennis W. Madden has been elected president of the Maryland Council of Architects. With the words " . . . the Franco-American studio will bring American architectural techniques and French instruction closer together," Minister of Culture André Malraux has launched a Franco-American architectural studio at the Paris Fine Arts Studio, to be directed by the American architect, Paul Nelson . . . Dr. Pietro Belluschi, former dean of the School of Architecture at MIT, has been named the first Thomas Jefferson Memorial Foundation Professor in Architecture at the University of Virginia, a position he will hold for the first half of the spring semester . . . Robert A. Little has been made president of the Cleveland Chamber of Commerce. . . . The Institute of North American Studies in Spain has recently given its John Fitzgerald Kennedy Award to Edward Durrell Stone . . . Yale University has made Vincent J. Scully, Jr., the first John Trumbull Professor of the History of Art . . . Architect Jose Luis Sert has become a member of the National Institute of Arts and Letters, where Philip Johnson is serving a second term as a vice-president.

Competitions

All those wishing to enter the American Institute of Steel Construction's annual architectural awards of excellence program must do so by May 1. All steel-framed buildings in the U.S. that were completed
Exclusive Country Club Elects Lone Star Masonry Cement for Beauty and Durability

The Albany Country Club is one of the oldest in the country. And now, with a magnificent new $1-million-plus clubhouse, it is one of the most luxurious.

The clubhouse, a modified colonial design, is 310 feet long with 40,000 square feet of usable space. The architect used concrete, brick, stone and wood to achieve an unusually attractive combination of contemporary and traditional styles.

The exterior walls are of stone and brick, and the interior walls of masonry block. The roof is constructed of precast concrete plank and tile, adding a rustic effect in the country setting. In all, more than 2,000 cubic yards of concrete made with Lone Star Portland Cement were used in the floors and walls.

Lone Star Masonry Cement, to which the mason only has to add sand and water to produce a stronger, more uniform mortar, was used exclusively in laying up all masonry in this beautiful clubhouse.

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as of January 1, 1965, are eligible. Details are available from AISC, 101 Park Ave., New York, N.Y. 10017.

Made in America, Bought in Germany

COLOGNE, W. GERMANY. U.S. furniture manufacturers visited this city two months ago and did their part to reverse the balance of payments flow. For the first time, American wares were shown at the International Furniture Fair in Cologne; and the tester beds, the La-Z-Boy chairs, and carriage lamps stole the show.

U.S. exhibitors report that floor orders totaled $800,000 and that expected sales during the year will exceed $3,500,000. With housing starts in the next three years expected to total $10 billion in Germany alone, the American estimate would seem to be a sure thing.

The appeal of the American styles—notably neo-Colonial—was certainly not in their prices, which, with mark-ups, shipping, taxes and duty, jumped a good third over domestic prices. What the Europeans saw was a “difference”—the lady from Grand Rapids—not as old as Louis XV, nor as gracious as Queen Anne, but ever present.

Roche to Design Wesleyan Arts Center

MIDDLETOWN, CONN. Wesleyn will get a new Creative Arts Center that will house 9000 sq ft of exhibition area, an art, music, and theatre library, a 400-seat theatre, a 500-seat recital hall, and an outdoor arena. Kevin Roche of Eero Saarinen & Associates hopes to complete the $5 million project by early 1968.

Expressway Is Out

NEW YORK, N.Y. “The city is for people, not for cars,” proclaimed New York’s Deputy Mayor Robert Price, reiterating a long-forgotten truth. With it, he sounded the death knell for the Lower Manhattan Expressway, a proposed eight-lane highway that was to knife 2½ miles across Manhattan, connecting the Holland Tunnel with the Williamsburg and Manhattan Bridges. “The project is out, as far as the Lindsay administration is concerned,” said Price, and his statement may mark a turning point for this country’s most populous city. Under fire from critics since it was first proposed 25 years ago, the expressway, its detractors pointed out, would only bring more cars into an already auto-clogged urban area. What is more, its construction would have meant the destruction of the several cast-iron-façade office buildings, among them the Haugh­­out Building, which was made a landmark by New York City in January (see p. 62, March 1966 P.A.).

The Kiosk & the Curator

NEW YORK, N.Y. During his recent campaign for the mayoralty, John V. Lindsay released a series of “position papers” on various city problems, among them one called Parks and Recreation, prepared by Thomas P.F. Hoving, who has since become Parks Commissioner. Referring to Hunting­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­­…
Bayley Windows hold up the bank

Bayley aluminum windows support the architects' imaginative design, and help make the Springfield Bank a bold landmark in downtown Springfield, Ohio. To achieve this striking treatment Bayley engineers worked closely with the architects to create a special curtain wall. Marble sun screens control light and add textural interest.

Bayley service means joining your creative team, applying sound engineering, delivering steel or aluminum windows on time, and sticking up for high quality. The William Bayley Company, Springfield, Ohio.
WASHINGTON, D.C. Approved was the soon-to-be-published document on "Professional Minimum shown here, the condominium purchasers have the advantage of recourse to mortgage monies to any qualified purchasers.

Designed by Houston and Albury of Coral Gables, the 37,000-sq-ft, four-story building is of reinforced concrete. Windows are recessed behind a rectangular grid frame. At street level is 12,500 sq ft of covered parking area, made possible by positioning the building on story-high concrete pillars topped by radial arms. Both north and south facades have light wells cut into them, running the height of the building.

Construction is now underway, with occupancy planned for the fall.

Reynolds Aluminum Students Prize

WASHINGTON, D.C. William R. Mitchell, a fourth-year student at North Carolina State University, is the winner of the 1966 Reynolds Aluminum Prize for Architectural Students, an AIA-conducted competition for the "best original design of a building component in aluminum." Mitchell and his school will divide the $5000 prize award.

The subject of this year's competition was "An Educational Facility for the Peace Corps." Mitchell's entry used a lightweight, 6'x6', "nestable," stretch-formed aluminum module. Connected by key pins, the modules can be put together to form almost any type of three-dimensional space-frame. Because the modules are easy to transport, assemble, and can accommodate almost any type of service system, the jury (H. Samuel Kruse, James W. Elmo, Richard W. Snibbe) felt the design uniquely suited to the Peace Corps use. Entries from 29 architectural schools throughout the country were of such a high quality that the jury went on to say, "If this is representative of the skill with which the emerging generation of architects will delineate their concepts, we are sure that the new generation of architects will be able to communicate."

WASHINGTON/FINANCIAL NEWS

BY E. E. HALMOS

A series of moves on the part of Government and municipal officials are evident in Washington that are of concern to architects: steps toward the establishment of some type of national building codes and building standards.

There's no formal bill to this effect yet before Congress (though there may be before the current session is over), but there is enough evidence around now to give a picture of what's afoot.

For example:

(a) Several months ago, the six-year-old Committee on Intergovernmental Relations (created by Congress in 1959, and consisting of a group of Government agency and municipal officials) came out with sweeping recommendations. Among them: a national program for development of performance standards; a national program of research in building construction; development of a national model code by a national commission; state licensing of building inspectors.
Weis solid brass recessed latch releases by merely lifting door upward. No delay in reaching an emergency situation fast. This Weis feature is especially important in hospital, school, and other institutional locations.

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Place a sample of polyethylene film and a sample of Moistop side by side. Take a nail and scrape it across both ... as hard as you want. You'll find that polyethylene ruptures but Moistop remains undamaged. Moistop was made this tough because Architects found that too many moisture barriers failed on the job, with moisture and water penetration resulting. Moistop combines the inert properties of polyethylene film with the strength and body of tough, reinforced, waterproof paper. This multi-ply construction makes Moistop a stronger, better moisture-vapor barrier than any other available product, assuring your client of a permanent barrier to keep floors dry.

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**Send for physical property data and sample of Moistop.** Write: "Moistop Data": Sisalkraft, 56 Starkey Avenue, Attleboro, Massachusetts.
The need for national standards, if that's their idea of the Senate would make the Intergovernmental group a permanent body, with a salaried director, and would strengthen its directive to "develop sound legislative recommendations" (S. 2927).

By administrative action, many Government agencies are now enforcing national standards—through directives and requirements of Urban Renewal, sewer and water construction, highway, housing, and other Federally-assisted work.

Some organizations, notably the AIA, strongly approved of the President's "Demonstration Cities" idea, but made no comment on the reference to codes or its consequences. However, the whole idea of nationally-written codes and performance standards has received a far from enthusiastic appraisal from many industry groups, including the Associated General Contractors, the National Association of Home Builders, the National Forest Products Association, and others.

These groups have pointed out that the Intergovernmental group's recommendations seem to ignore completely the efforts of such groups as the Building Officials Conference of America, which has been developing model codes for voluntary local acceptance for many years; and the fact that, though many local codes cannot be defended very strongly, a national code cannot take account of local conditions, preferences, and the like.

From what has emerged so far, which also includes employment of a "building code specialist" by the new Housing and Urban Development Department, it would seem architects might: (1) work to update local codes to obviate the need for national standards, if that's their idea of the best solution; or (2) insure that professionals are well represented on any group that may be empowered to write such national rules.

Senate Bills Aimed at Cities

The Presidential program on housing and planning for this session of Congress took shape rapidly, as Congress received a flood of related messages, and a number of bills with the "Administration" label on them.

Chief among these, for architects, were a group of three measures introduced in the Senate (S. 2977, 2978, 2979), which contained some controversial suggestions that were inherited from proposals made a year or more ago. Key bill is S. 2977, the "Urban Development Act," which contained a number of provisions that even the Senate sponsor (Alabama Democrat John Sparkman) said he didn't approve: FHA loan assurance of up to $25 million to private developers for construction of "new towns"; added money for mass transit assistance and research; grants to state and metropolitan area agencies for establishment of "urban information centers" to gather information on progress of local programs.

It should be noted that the program covered by the bills is aimed at major metropolitan areas almost exclusively. New, privately owned communities could get FHA aid if they "make a substantial contribution to the sound and economic growth of the area," can show "substantial" economies through large-scale development, have easy access to metropolitan centers of employment. FHA aid would also be available for water and sewerage systems, if such facilities are not available otherwise.

(With a group of other bills already before Congress—naturally S. 2842, the "Demonstration Cities Act," and S. 2804, which covers aid to mass transportation—the "package" of housing and urban development matters is already well in hand. In addition, Republicans in the House have introduced their own version of the "Demonstration Cities Act," principally aimed at keeping control more firmly in local hands.)

Federal Air Pollution Control?

Factory and industrial building design could be affected by a provision in Administration-backed moves to limit air pollution (part of President Johnson's "Preservation of Our National Heritage" message).

Admitting that much remains unknown about air pollution and its causes, the President said he plans to issue an executive order shortly, dealing with air pollution caused by Federally-owned installa-
tions. This would certainly have the effect of setting a pattern for private industrial projects as well.

Pollution experts so far agree that there are two principal ways in which pollution from industrial processes can be controlled: dust and other trapping devices at the outlet flues, and extremely high "stacks" that would discharge possible pollutants high enough to insure dilution before the material again comes to earth.

On the Boards for O.C.

Three newly planned structures—all of them controversial to some degree—moved toward actual construction in late February:

Congress seemed about to give final approval for construction of the $40-million "National Air and Space Museum" on the Mall, after a bill passed the House with only one dissenting vote, Hellmuth, Obata & Kassabaum, architects, are expected to complete plans by mid-year; some $11 million will be spent on the structure during the 1967 fiscal year (which starts in July, 1966).

The Navy's Bureau of Yards and Docks said it had selected a team of architects, headed by Yamashiki & Associates, to design a $75 million "little Pentagon," which will be located in southeast Washington and will house some 10,000 Defense Department employees. Others in the "team" include Emery Roth & Sons; Worthington, Skilling, Helle & Jackson; and Joseph R. Loring.

And finally, despite usual criticism, the City of Washington was apparently ready to give a go-ahead to construction of a new central public library building by Mies van der Rohe (see photo).

Financial

- Of major concern to the construction industry is the adamant refusal of building trades union chieftains to accept any Federal dictation of "guidelines" on wages in the industry. During 1965, average wage settlement topped 7½ per cent above previous wages; some 400 major wage contracts are up for negotiations this year—mostly in the next few months. Indications are that unless drastic action is forthcoming, demands will run even higher.

- Note that the Department of Housing and Urban Development has raised the maximum interest rate on FHA mortgages to 5½ per cent—up ¼ from the previous high. This could be the explanation for an unseasonal spurt in housing starts in the last two months of the previous year—a spurt that continued into January, when "new starts" were at an adjusted rate of 1,500,000—up 7 per cent over a year ago.

- The January housing figure was part of a generally encouraging picture for the industry for the month. Over-all value of new construction put-in-place was set at $4,900,000,000—up 8 per cent over the previous year.

- Construction costs, as reflected in highway work at least, showed some signs of easing, though they were still at record highs. For the last quarter of 1965, according to the Bureau of Public Roads, highway costs dropped by the tiny fraction of 0.1 per cent from the third quarter, to 106.6 per cent of the 1957-59 average. The index figure, however, was still within easy hailing distance of the all-time high (in the second quarter of 1965) of 106.9.
NEW "Z" FRAMELESS - closest yet to a modular lens

Here is the closest thing yet to a modular lens. Wakefield's "Z" lens configuration actually gives greater lens surface, greater efficiency, least metal show of any flanged troffer or surface unit. For photometric and aesthetic variety three lens patterns are available in all four surface and recessed unit sizes—1x4, 1x8, 2x2 and 2x4. Lenses hinge from either side. Fixed metal pins project from the housing and slip into new, stronger, injection-molded end caps attached to the lens by ultrasonic fusing. End of all lenses are light-sealed to fixtures. Luminous joints between fixtures in rows, with no metal showing at joints. Here is the luminaire you've been seeking to fulfill today's aesthetic requirements. Call your Wakefield man and see the full luminous beauty of the "Z" Frameless. Or write for brochure.

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A SUBSIDIARY OF INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

April 1966
On Readers' Service Card, circle No. 431
What does Ceco do to help you deliver a pristine project?

Ships your doors in bags.

The reason for this is that somehow or other door handlers respect polyethylene. A bag made of it looks as if it might tear. So people seem to want to treat such a bag with kid gloves. Whatever's inside benefits. That's why we put your "Colorstyle" Décor Doors there.

We want these doors flawless in your building. So we encourage your contractor to erect them with the bags still on. That gives you beautiful doors in mint condition and, once the bags are off, adds to your stature with the client.

This is especially true when your doors are Colorstyle doors, prefinished with baked-on vinyl-type enamels. These doors come with a fine embossed finish that looks and even feels like leather. They come smooth, too.

Colorstyle Doors cost no more than primed steel doors painted on the job. That's about what wood doors cost installed. So they're competitive and entirely practical to specify.

Better look into these doors now. Ask for catalogs. Or ask us to bring you a sample in a bag. The Ceco Corporation, general offices: 5601 West 26th Street, Chicago, Illinois 60650. Sales offices and plants in principal cities from coast-to-coast.
products

Acoustics

Metal Pan Ceiling...

... sandwiches mineral-fiber "Acoustipads" between gypsum board backing and standard acoustical metal pan assembly to reduce sound transmission. Perforated pan units are 1' wide by 1', 2', 3', or 4' long. Noise Reduction Coefficient range is .75 to .85. National Gypsum Co., 325 Delaware Ave., Buffalo, N.Y.

On Readers' Service Card, Circle 100

Air/Temperature

Outdoor Sensor

Control for hydronic and warm-air heating systems combines time switch for day and night temperature levels with an outdoor thermostat that starts the heat earlier on a cold morning. Manufacturer says this is the first control to combine the two functions. Control Devices, Inc., 1007 Ferry Rd., Doylestown, Pa.

On Readers' Service Card, Circle 101

Modulating Control for Electric Heating

A recently developed economical solid-state controller for electric heating maintains even temperatures in commercial buildings. Instead of full-on or full-off, the new control de-

creases the current input as temperature rises, and increases it as temperature falls. Although such controls have been available before, the price has been high. This controller, according to the manufacturer, is comparable in price and performance with modulating controllers for hydronic and hot-air heating systems. Manufactured in 2 sizes: 2 kw (3" cube) and 6 kw (6" cube, shown). Honeywell Inc., 2727 S. Fourth Ave., Minneapolis, Minn. 55408.

On Readers' Service Card, Circle 102

It's a Small Thermostat

Pneumatic room thermostat, 1½" x 3", is smallest on market says manufacturer. "Power-star" can be set to automatically lower temperature at night, and is sensitive to room-air changes of .1°F. Manufactured in a variety of cover finishes. The Powers Regulator Co., 3400 Oakton St., Skokie, Ill.

On Readers' Service Card, Circle 103

Construction

The Connection

"Fibre Grip" truss connector is designed for trusses spanning between 20' and 50'. Teeth punched out of the connector plate at a 20° angle spread the wood fibers and lock the plate on the joint. Installation is through hydraulic pressure from both sides of the truss joint. Timber Engineering Co., 1619 Massachusetts Ave. NW, Washington, DC. 20036.

On Readers' Service Card, Circle 104

Concrete Bricks

Marble, limestone, and granite aggregates, bonded with cement and colored with oxides, produce concrete bricks with a rough, exposed-aggregate face. The bricks are laid in mortar like conventional bricks. Said to have high compressive strength and density and low moisture absorption, the brick is manufactured by local franchise agents in a wide range of fade-resistant colors. Miami Stone of America, Inc., 4550 Bluff Rd., Indianapolis, Ind.

On Readers' Service Card, Circle 105

The Cutting Caper

Ideas for cutting and patterned wood shingles for interiors include the "fish-scale" wave, "crazy quilt," "half-cove" butts, and the "toothy" look. Shingle walls are suggested for reception or recreation rooms, vacation houses, and other interiors. The new patterns are said to be inexpensive and easy to install. Red Cedar Shingle and Handsplit Shake Bureau, 941 White Henry Stuart Bldg., Seattle, Wash. 98101.

On Readers' Service Card, Circle 106

Shingle Switch

Mineral-based roof shingles are textured and colored to look like weathered cedar. They can be cut with a saw and nailed, but will not burn. Manufactured in 16" lengths, and in 6", 8", and 10" widths. Johns-Manville, 22 E. 40th St., New York, N.Y. 10016.

On Readers' Service Card, Circle 107

Doors/Windows

Folding Door Bars Noise

Dual, accordion-fold wood door, "Scale/12 STC (Sound Transmission Class) 25," was developed to stop noise at large openings. Made from ½"-thick, high-density wood core panels with wood or Formica veneer, the door operates on a ceiling track. It is sealed top and bottom with "sweeps" to stop sound. Panelfold Doors, Inc., 1090 E. 17th St., Hialeah, Fla. 33010.

On Readers' Service Card, Circle 108

Electrical Equipment

Warm Light Coat

A phosphor coating gives mercury lamps a warm light suitable for indoor use in commercial and institutional applications, claims the manufacturer. The new lamps, called "DeLuxe White," are available in 175-, 400-, and 1000-w sizes. The manufacturer says the color of the light is better than color-improved mercury lamps or cool-white fluorescent lamps. General Electric Co., Nela Park, Cleveland, Ohio 44112.

On Readers' Service Card, Circle 109

April 1966
Segmented reflector for outdoor lighting has been designed for use with new light sources (such as G.E.'s "Lucalox"; see p. 39, December 1965 P/A) or with mercury vapor lamps. The aluminum housing mounts vertically or horizontally atop masts. Wide-Lite Corp., 4114 Gulf Freeway, Houston, Texas. On Readers' Service Card, Circle 112

**Kitchen Compact**

A small kitchen unit combines an electric cooking range and oven with an electric hot-water heater. The oven is at eye-level, above the burners of the 30"-wide unit. The 47,600-Btu water heater under the range feeds a 28-gal storage tank that can be connected to radiating or convecting heating units. Electrotemp "Medalist" is manufactured in six colors. Heat-Timer Corp., 115 Fifth Ave., New York, N.Y. 10003. On Readers' Service Card, Circle 110

**Audio-Visory,** a communication system to link patients and nurses in hospitals, is expected to be practically maintenance free, since its electronic circuitry is solid state. Two-way voice communication is provided between nurse on duty and patient in bed, and the desktop master station has both light and buzzer indicators. Emergency calls trigger a continuous buzzer, which can be turned off only at the patient station. For remote control, units are pre-wired for hookup with television or radio. Motorola Inc., Communications Div., 4501 Augusta Blvd., Chicago, Ill. 60651. On Readers' Service Card, Circle 111

**New Housing for New Lamps**

Segmented reflector for outdoor lighting has been designed for use with new light sources.
How do you measure comfort?

In inches of Styrofoam.

Compared to other insulations, a little Styrofoam® brand insulation board goes a long way. Little is needed for the comfort level you want, the economy you expect. Styrofoam not only gives superior insulation efficiency, but it is moisture-resistant and requires no vapor barrier. Specify Styrofoam in one of your buildings now and it’s comfort is available for years. It won’t rot, mold or deteriorate. It’s light as well as easy to install. And Styrofoam insulation is versatile. Use it over masonry construction, in perimeters or forms. Then give it any finish you like—gypsum wallboard, wood paneling or plaster.

There’s a good way to learn more about Styrofoam. Check Sweet’s Architectural File 10a/Da. Or write The Dow Chemical Company, Plastics Sales Department, Midland, Michigan 48640.

Styrofoam is Dow’s registered trademark for expanded polystyrene produced by an exclusive manufacturing process. Accept no substitutes... look for this trademark on all Styrofoam brand insulation board.
strat quality should make them appealing to architects. Most of the prints are cotton, thus making them suitable for many installations. The collection is supplemented by a group of solid-tone textures correlated with the colors of the prints, Jofa, Inc., 351 Park Ave. S., New York, N.Y. On Readers' Service Card, Circle 119

Library Stacks Updated

Aluminum feet get bookcases off the floor, and wooden end panels soften institutional look of library shelving. Shelves are metal. Estey Corp., 1 Catherine St., Red Bank, N.J. 07705. On Readers' Service Card, Circle 120

Latest by Arne Jacobsen

A new series of chairs and conference/dining tables designed by architect Arne Jacobsen is available from Fritz Hansen, Inc., including: a high- or low-backed swivel armchair with contour back (comfortable!) on a five-pronged aluminum base. Other pieces of interest: an expandable dining table whose carefully balanced leaves appear or disappear (from beneath the unit) without strain, designed by Aage Schmidt Christensen; and a neat multiple-seating unit with tip-up seats designed by Erik Herl<ew for lecture halls and lobbies. Joined at the arm, the auditorium chairs may be separated (just pull) and stacked when not needed; may be used as individual units as well. Fritz Hansen, Inc., 305 E. 63rd St., New York, N.Y. On Readers' Service Card, Circle 121

Three Fibers, Five Carpets

Available from Downs are: two wool carpets, one a two-tone extra-high pile with a shag effect, the other in tightly tufted three-ply wool loop; two Acri-lan carpets, one a slightly striated pattern for commercial and residential use, the other of cut and loop piles for traditional furnishings; and the fifth, a two-color design in two-level Cumuloft nylon. Variety of colors, 12' and 15' widths; $6.95 to $12.95 per sq yd. Downs Carpet Co., “A” and Indiana Ave., Philadelphia, Pa. On Readers’ Service Card, Circle 122

New Way for Fabric Walls

Any fabric—in fact, even any casement fabric—can be laminated to a paper backing and then hung like wallpaper. The method should be considered for museums and art galleries, since tacks and nails can be removed without leaving visible holes. The laminated material can be cut with a razor, the seams then butted. Also available is a wallpaper in 17 patterns which, because of its porosity (through rayon-fiber reinforcement), can be re-moved from the walls simply by peeling; no soaking or steaming is necessary. F. Schumacher & Co., 939 Third Ave., New York, N.Y. On Readers’ Service Card, Circle 123

And Away We Go

Interesting design ideas by Milo Baughman are executed by Thayer Coggin, Inc. for the conspicuous consumption crowd. Ideas do not rival the gussy honesty of the pipe-valve in the Pop setting shown. Among furniture offered: a vast buggly-tufted sofa upholstered in black Nauga-hyde and a pair of ottomans with curved back rests supported by metal brackets painted lime green. Another series is “cube” style furniture of peel cane, including a section unit and an all-but-on-the-floor chaise lounge. Thayer Coggin, Inc., High Point, N.C. On Readers’ Service Card, Circle 124

Organization, Man

Compartmentalized storage units are featured: a chest designed by Edward Frank occupies only 36” of wall space, has 10 see-through plastic drawers; a service cart with “slate” Formica top and double-shelf library case with concealed storage designed by John Caldwell. Other units, from dining tables and side and occasional tables to a revolving book/record storage table, are also offered in this collection. Both ensembles are made of American black walnut.

Brown-Saltman of California, 15000 S. Figueroa, Gardena, Calif. On Readers’ Service Card, Circle 125

Services

Dutch manufacturers offer custom service for building ceramics of any size, shape or color. Fired at 3200 F, the products are guaranteed weatherproof. The ceramics may be designed by the customer or by the manufacturers’ 150-man staff of artists. Royal Delft Designs, 30 N. La Salle St., Chicago, Ill. On Readers’ Service Card, Circle 126

Special Equipment

Simplicity and economy are said to be two of the advantages of the “Servo-Communications” system for schools. The system centralizes controls for communications, clocks, and utilities at a desk-size console; it combines all wiring in single conduits. A durable belt of punched mylar plastic tape inside the “master clock” can be programmed with pegs by a non-technical person. Beside controlling intercoms, clocks, heating/cooling equipment and lights, the system can turn shop equipment off and on and provide vandalism protection. DuKane Corp., St. Charles, Ill. On Readers’ Service Card, Circle 127

April 1966
Cissell dryers are efficiency sized too!

Like well-planned efficiency apartments and compact kitchens, the Cissell Petite Dryer is designed to give the best possible convenience in the smallest possible package. Here's how it's "big". Holds a full 16-pounds dry weight. Offers two temperature settings, 150 degrees and 185 degrees, with de-wrinkling cool-down period at end of drying cycle. Has a 28" drop to provide soft, fluffy drying. Dries fast — approximately ten pounds in twenty minutes. And here's how it's "small". Stands only 48" high, affords "look-over" spaciousness, does not require special high ceilings. Takes up floor space only 30" deep by 28¾" wide, is light enough to make upper floor installation fast and easy. The Cissell Petite operates on either gas or electricity, has all safety controls and is simple to vent. In any color you desire. Want bigger capacity for special applications? Cissell makes a full line of laundry dryers, including the 25-pound dry weight capacity Compact. W. M. Cissell Mfg. Co., Inc., Louisville, Ky.

On Readers' Service Card, circle No. 340
Drums Along the Bay

Big brother to last year’s “Fire Drum I” is, appropriately enough, “Fire Drum II.” This free-standing, pedestal-type steel fireplace is fully lined with 2” cast refractory that reflects heat out the opening. The 32”-diameter Fire Drum is 35½” high, made of 14-gage steel, and uses a 7”-diameter pipe flue. Available in all black or black with choice of six porcelain enamel color baffles in red, blue, green,umber, ochre, or gold. Fire Drum Corp., 1415 Yosemite, San Francisco, Calif.

On Readers’ Service Card, Circle 128

Free-Standing Fireplace Features Silent Butler

Conical shaped steel hood of free standing fireplace is welded to 24” x 36” rectangular base resting on three self-leveling legs. It features a removable silent butler ash drawer with sliding cover for tidy emptying. A 1” firebrick plus ¼” asbestos sheet insulates fireplace floor. Hood meets 8” flue 4’ above floor level. Available in three porcelain-enamel colors or in matte-black enamel. The Majestic Co., Inc., Huntington, Ind. 46750.

On Readers’ Service Card, Circle 129

Pencil Points

Flashlight batteries power lead pointer for drafting pencils. High-speed steel cutters are replaceable and batteries last up to a year. Carbon dust collector is nonspill. International Engineering Co., 126 Merrick Rd., Amityville, N.Y. 11701.

On Readers’ Service Card, Circle 132

Smooth-Ride Sidewalk

Moving sidewalks or ramps give smoother ride by using belting that requires no center support. A 1”-thick belting is stiffened laterally with wires and rides on rollers that extend only 4” on both sides. Balustrades are either stainless steel or stainless steel and glass. Installation shown is at San Diego Zoo. Stephens-Adamson Manufacturing Co., Transportation Equipment Div., Aurora, Ill. 60507.

On Readers’ Service Card, Circle 131

Surfacing

A Little Goes a Long Way

Hardwood veneer, laminated between clear vinyl top sheet and aluminum-vinyl-asbestos backing, makes a flooring only .08” thick. “True Wood” installs like vinyl tile and is said to be tough, durable, and resistant to common stains; it can therefore be used in kitchens and bathrooms. Walnut, cherry, and oak are the standard woods, available in random widths, in squares, and in special parquet and herringbone patterns. Wood-Mosaic Corp., 5000 Crittenden Dr., Louisville, Ky.

On Readers’ Service Card, Circle 132

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.
4250 Charter Street, Los Angeles 58
850 S. Van Ness Avenue, San Francisco

Colorado
STYRO PRODUCTS, INC.
70 W. 6th Avenue, Denver 80204

Florida
ROWELL-VAN ATTA, INC.
273 E. Oakland Park Boulevard
P.O. Lauderdale
3560 South Westshore Boulevard, Tampa

Georgia
BADHAM SALES COMPANY, INC.
1145 Peachtree Street, N.E., Atlanta 30309

Illinois
JOHNS & BROWN & CO., INC.
230 N. Canal Street, Chicago 6
STETSON BUILDING PRODUCTS
112 Second Street, Moline

Iowa
STETSON BUILDING PRODUCTS
512 Southwest 9th Street, Des Moines

Maryland
P. T. GUMPERT COMPANY
5615 York Road, Baltimore 12
5709 S. Frederick Avenue, Rockville

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REFRACTORIES & BUILDING SPECIALTIES, INC.
767 Concord Avenue, Cambridge 02138

Michigan
HOLMES ASSOCIATES, INC.
1221 E. Nine Mile Road, Ferndale 28

Minnesota
EDWARDS SALES CORPORATION
2916 Girard Avenue South, Minneapolis 8

Missouri
STYRO PRODUCTS, INC.
1590 Page Industrial Boulevard, St. Louis 32

Nebraska
STETSON BUILDING PRODUCTS
33 Kiewit Plaza
3555 Farnam, Omaha

New York
CHEMICAL BUILDING SUPPLY, INC.
250 W. 37th Street, New York City 10018
CONSTRUCTION PLASTICS CORPORATION
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1016 New York Avenue, Syracuse 13206

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1230 Enterprise Avenue, Cleveland 44115
955 Proprietors Road, Box 209, Worthington
DUBROW-OTT ASSOCIATES, INC.
1426 Clay Street, Cincinnati 10

Pennsylvania
TOM BROWN, INC.
Library Road & Killarney Drive
Box 10151, Pittsburgh 15234
G. & W. H. CORSON, INC.
Joshua Road & Stockton Avenue
Plymouth Meeting 19462

Tennessee
STYRO PRODUCTS, INC.
371 Tennessee Street, Memphis 3

Texas
THE EMERSON CO., Box 10913, Dallas
THE EMERSON CO., Box 2114, Houston 77002

Washington
WILEY BAYLEY, INC.
3110 Meridian North, Seattle 3

Wisconsin
EDWARDS SALES CORP.
221 N. 12th St., Milwaukee

General Electric

April 1966
Concrete disintegrates...

...G-E Silicone Traffic Topping doesn't!

Let it snow and rain.
Let it freeze and thaw.

General Electric's new silicone rubber Traffic Topping protects walkways, ramps, parking areas, porches, swimming pools, balconies and other traffic areas against moisture damage.

Once on, Traffic Topping stops costly maintenance. It won't let water in, yet "breathes" to let any moisture out. Because the base material is silicone rubber, the most durable, weatherproof elastomer known (the same as Silicone Construction Sealant), Traffic Topping stays flexible and moisture proof.

Traffic Topping won't crack, it's not brittle, and it forms a tough bond to concrete, wood, steel and other floorings. It's remarkably skidproof and is not damaged by salt. Grease and oil are easy to remove. It never needs painting.

To date, no other outdoor coating has been able to stand up to weather and wear for very long. Traffic Topping will. For many years. On patios, steps, garages, runways, for instance. Anywhere there's water and traffic. For complete specifications, test results, application data, color selection and local distribution, please write Section Q4201, Silicone Products Dept., General Electric Co., Waterford, N.Y. 12188.

Quick, easy application. Just prime the surface, add catalyst to Traffic Topping, mix and trowel on. No expensive equipment needed. Only one coat is usually required, so application costs are low.

Permanent flexibility. Traffic Topping is resilient... expands and contracts without cracking even at temperatures as high as 300°F, as low as —65°F.

Safe, anti-skid surfaces. Even when wet, Traffic Topping provides superior traction. Excellent wear and abrasion resistance make it ideal for heavy traffic areas.
New Textured Wormy Chestnut Marlite

Touch it. You can feel the texture. Wash it. You can’t harm its beauty.

It’s the newest and most exciting paneling you can specify for your building and remodeling projects. Marlite Wormy Chestnut reproduces the beautiful texture of natural Wormy Chestnut, with the Marlite soilproof finish that stays like new for years. You can actually see and feel the texture in this unique woodgrained surface. And when you specify Marlite Wormy Chestnut you create more beautiful interiors, more satisfied clients. Get complete information from your building materials dealer, Sweet’s File, or Marlite Division of Masonite Corporation, Dept. 414, Dover, Ohio.

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On Readers’ Service Card, circle No. 381

April 1966
**Acoustics**

Overhead

New catalog, "Ceiling Systems/1966," includes information on "Ceramaguard," an acoustical material suitable for high-humidity situations, such as indoor swimming pools, and the integrated "C-60 system." Both of these are recent additions to Armstrong ceilings. Other integrated systems and specialized ceilings using fire-retardant or membrane-faced materials for clean rooms are also included, plus a section on mineral-fiber ceilings and low-cost installations. Color and black-and-white photos illustrate descriptive text, engineering data charts, and installation details. 74 pages. Armstrong Cork Co., Dept. P.I., Lancaster, Pa.

On Readers' Service Card, Circle 200

**Anti-Flame**

"Plexiglas in Architecture"

Full-color booklet illustrates with photos the uses of transparent and opaques Plexiglas for large domes, window glazing, modular bubble skylights, vaulted ceilings, and "sculptured" facings for exteriors. Tables give breakage resistance, light- and heat-transmitance, deflection, recommended thicknesses, etc. Booklet discusses sealants and illustrates framing details. Rohm & Haas Co., Independence Mall West, Philadelphia, Pa. 19105.

On Readers' Service Card, Circle 205

**Construction**

In Suspense

"Cable Construction in Contemporary Architecture" illustrates applications for cable-suspended and cable-supported roofs over sports arenas, plants, hangars, and exhibition halls. Preceding these descriptions are contributions by two consulting engineers, Richard M. Gensert and Lev Zetlin, discussing the history of cable construction, the theory of using cables, and, with design examples, how to overcome the problem of flutter. Another section of the booklet gives properties of cables and tabulates dimensions of cable hardware. 78 pages. Bethlehem Steel Corp., Bethlehem, Pa.

On Readers' Service Card, Circle 204

**Face-Lifting Screens**

Four aluminum-screen refacing systems are described in a full-color bulletin on exterior renovations. They include an open, cellular grille; a vertical blade that allows light and air to filter through; a large module, "Sculptura-Panel" system; and a small-scale textured open-work screen. Photos, cross-sections, and installation details are included. 12 pages. Construction Specialities Inc., 55 Winans Ave., Cranford, N.J.

On Readers' Service Card, Circle 207

**Open the Ceiling to the Sky**

Dome, barrel-vault, pyramid and other types of transparent overhead structures are detailed and specified in two illustrated brochures: "Glazed Enclosures and Skylights" and "Glazed Enclosures and Greenhouses." Domes are built with tubular aluminum framing, thermo-formed east acrylic panels, and aluminum connections that eliminate exposed clips, lugs, and bolts. Ikes-Braun Glasshouses, Inc., 1733 N. Western Ave., Chicago, Ill. 60647.

On Readers' Service Card, Circle 208

On Readers' Service Card, Circle 209

**Down Under**

All-steel floor system for rooms requiring underfloor access and plenums comprises 2' x 2' standard panels and adjustable-height pedestals. A stringer system for increasing lateral stability is also manufactured. Brochure contains cutaway views, installation details and specifications. 8 pages. Tate Electric beams or by manually operated switches. Accessories are cataloged. 14 mechanisms concealed under floor mats, control by photoelectric controls.

On Readers' Service Card, Circle 210

**Doors/Windows**

**Controlled Doors**

Five systems for automatic door opening include control mechanisms concealed under floor mats, control by photoelectric beams or by manually operated switches. Charts aid in selection of the system; accessories are cataloged. 14 pages. Norton Automatic Door Operators, 372 Meyer Rd., Bensenville, Ill. 60106.

On Readers' Service Card, Circle 211

**Electrical Equipment**

**Small Cylinder Ceiling**

A grid of 1" diameter acrylic plastic rings designed for suspended luminous ceilings diffuses light and cuts down glare from fixtures placed above it. Standard 2' x 2' panels are locked together with plastic clips to conceal seams. Rings can be open with interlocking edges, or bonded at the top to a plastic sheet for closed ceilings. Leaflet describes the two systems, gives short specs and hanging details. 4 pages. United Lighting and Ceiling Co., 2828 Ford St., Oakland, Calif. 94601.

On Readers' Service Card, Circle 212

**Skinny Silhouettes**

A series of lamps for lighting gardens and walkways has a clean, linear look. Slim aluminum posts finished in matte black enamel range between 10' and 16' high. They support fixture arms that show a minimum of translucent white plastic lens profile. Some designs incorporate the light into the post. Photoelectric controls for automatic on-at-dusk, off-at-dawn lighting are optional. Other post- and wall-mounted units are also shown in attractive brochure with photos, dimensioned drawings, and lamp wattages, 20 pages. Prescolite Manufacturing Corp., 1251 Doolittle Dr., San Leandro, Calif.

On Readers' Service Card, Circle 213

**Have a Harter**

A four-page brochure illustrates and states specifications for settees, tables, and chairs—all with metal bases available in various finishes. Of particular interest is a table armchair that has a pedestal base with a 4" bevel, so that it can remain vertical on a sloping grade, such as might be found in an auditorium or lecture hall. Chicago Hardware Foundry Co., 2500 Commonwealth Ave., N. Chicago, III.

On Readers' Service Card, Circle 215

**Cumulative on Cumuloft**

Cumuloft nylon carpet fiber is examined in 24-page brochure—from the multilobular shape of its cross-section (resulting in elimination of sheen and appearance of soiling) to a chart of its general properties, and a description of an innovative and economical dyeing process that permits two or three colors in one bath. This is a technique worth thinking about. Chemstrand by 350 Fifth Ave., New York, N.Y.

On Readers' Service Card, Circle 216

**Wood Kitchens**

Special-purpose drawers, swivel cabinets, adjustable shelves, accessories, and a large variety of cabinet sizes (all with beveled edges) are suggested for efficient kitchen planning. Catalogue features some real cute kitchens, but you can also get plain good design. Measurements, specifications. Kemper Bros., Inc., Richmond, Ind.

On Readers' Service Card, Circle 217

**Flood Control**

Two basic types of "Cylinder-lites" are shown, each available in three mountings (surface, wall, and pendant) and four finishes (baked white enamel, satin aluminum, anodized pale gold, and anodized statuary bronze). One type uses a black Alzak reflector, eliminating...
There is a growing recognition among architects that housing design must go beyond the element of the unique. The profession recognizes the need to play a more aggressive role in community planning.

The May issue of PROGRESSIVE ARCHITECTURE points up the pressing problems of the architect in assuming a broader responsibility for all kinds of housing—from custom homes to shelters for migrant workers; from vacation houses to mobile homes for older folks.

The exciting, colorful May "Houses" issue of P/A ... plus eleven more exciting issues when you fill in the "Subscriptions" section on the Reader's Service Card bound in this issue. (See Table of Contents for page number of Readers' Service Card.)
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FOR SO LITTLE!

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You get a lot to like with Bradley Washfountains. No other wash fixtures clean so many so well, for so little! In 36 and 54-inch diameter circular and semi-circular models, popular two-person Duos, and counter-type fixtures.

For details, see your Bradley representative. And write for latest literature. Bradley Washfountain Co., 9141 Fountain Drive, Menomonee Falls, Wis. 53055.

On Readers' Service Card, circle No. 335
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Showrooms: 11 East 36th Street, New York; 1267 Merchandise Mart, Chicago; 2515 South Broadway, Los Angeles; 1718 Hi-Line Dr., Dallas

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Movable steel partitions adapt to changing occupancy needs, permit any desired room arrangement.

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they'll be saving even more money—in lower maintenance and operating expense, and in minimum cost remodeling.

So take a long look at the dozens of steel building products manufactured by Republic customers that are waiting to give you a higher return on your building investment. For information on the products shown above, write Republic Steel Corporation, Dept. PA-1324, 1441 Republic Bldg., Cleveland, Ohio 44101.

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This STEELMARK of the American Steel Industry on a product assures you it is made of modern, versatile, economical Steel. Put it on the products you sell. Look for it on the products you buy.
Had the soffits and fascias in the Nashville Library been installed in the conventional way, heavier material would have been required, along with a more massive supporting structure to take the weight. Thin marble on Zibell struts saves weight, saves cost.

TAYLOR and CRABTREE, Architects

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CUTS COSTS AND GIVES NEW VERSATILITY TO MARBLE

The Zibell System is a unique arrangement of metal struts and fastenings for installing marble as thin as 3/8". A Zibell installation goes up quickly and creates a light, weathertight wall that requires no structural backup. Besides the obvious economies, the Zibell System gives the architect new freedom in designing. He can now make marble do things that were impractical or too costly before. But most important, he may find that he can pass up less desirable materials in favor of marble, the finest of all facing materials.

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COAST-TO-COAST CONSULTING SERVICE Our engineers stand ready to assist you any time anywhere on any subject involving marble or limestone. A phone call will put one of our men across the desk from you in a matter of hours. No obligation, of course.
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The hurry-up school.
Queensboro Community College. 22 buildings. 62 days from footings to completion.

How?
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This new college in New York City couldn’t have opened its doors to 1600 students last January without plywood stressed skin panels. According to the contractor’s architectural department, the plywood component system was the best possible solution to the tight schedule — less than three months from plans to finish. The panels were used for floors, walls and roof.

The 22 buildings were prefabricated in Tulsa at the rate of one a day. Panels were prepainted, then trucked or piggy-backed to New York. Floor components are 24 feet long, the full width of the building. Roof panels span 12’6”, and are supported by a ridge gluelam, 7” by 17¾”.

On-site finishing consisted largely of installing carpet, furniture, plumbing, and equipment. Actual site work took just over two months.
The 18 classroom buildings are 24x40; the library, faculty offices and rest rooms are 24x32.

This is another example of the way plywood components can provide simple, good-looking structures in a hurry. But they’re also versatile enough to solve sophisticated design problems involving unusual shapes such as curved roofs, folded plates and space planes. For more information on plywood components and other plywood building systems, send the coupon.

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APRIL 1966 P/A
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New Pre-engineered Wall Systems

Fenmark wall systems offer pre-engineered answers to a variety of design requirements for one, two and multi-story buildings; for example, carrying the massive area of grayed glass on this Lowell, Massachusetts office building designed by Gensemer & Barton of Cambridge. Only steel is strong enough; only Fenestra offers a five-year performance warranty, and only Fenmark has all these features: hundreds of component combinations and sizes; watertight integrity; no exposed fasteners; condensation draining design and a rugged new oven-cured, two-coat, silicone-alkyd copolymer finish.

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Thanks to cooperative planning on the part of the owner, designer, contractor and fabricator, construction of the new Douglas Space System Center at Huntington Beach, California, has established some unique records. For example, just three weeks after the start date for the structural design, production of the first prestressed concrete members had started. One unit of the big complex, a 180,000 square-foot, three-story structure was erected in 19 working days. A similar unit was erected in 13 days.

The structural framing systems of the concrete buildings in the Center consist of precast columns, prestressed concrete girders and prestressed concrete double tees spanning the girders. The relatively large bays of 25' x 50' afford excellent flexibility for space use. In addition, prestressed concrete provided the established advantages of economy—long spans, repetitive use of a few basic members, and fire resistance.

This project suggests some of the reasons for the growing acceptance of prestressed concrete. And the project is one of a growing number employing TUF-WIRE Products for pre-tensioning or post-tensioning. A comprehensive booklet on TUF-WIRE Products for prestressed concrete is available. Write for it on your business letterhead. TUF-WIRE and other Union Wire Rope Products are made by Armco Steel Corporation, Department W-2016, 7000 Roberts Street, Kansas City, Missouri 64125.

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Get your free Spec Kit by writing on your firm’s letterhead to: Grace Construction Materials, 6051 West 65th Street, Chicago, Illinois.
Kinney architectural glass reflects — not absorbs. Up to seventy percent of the solar heat striking the surface is rejected. This fact alone will affect your air conditioning design requirements, reducing installation, maintenance and operating costs and minimizing the need for exterior or interior shading. Full utilization of interior floor space is possible because peripheral areas are usable in full sunlight and furnishings can not be seen from the outside. Available in silver, gold and deep gold, Kinney glass has been extensively tested and the comparisons shown above are confirmed by five years of prominent installations. Kinney glass is manufactured in ¼", ¾" and ½" thicknesses, 60" x 96" maximum size, in laminated safety glass.
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The samples at left were cut from a single Cor-Ten Steel plate. Each piece is 4" x 6". The samples were placed out-of-doors on weathering racks inclined at a 30° angle at United States Steel’s Applied Research Center, Monroeville, Pennsylvania. One set was exposed in the spring, the other in the fall. At the intervals indicated, the samples were removed until progressive sets covering a two-year period were obtained.

Note that while the set started in the spring weathered more rapidly in its earlier stages due to increased rainfall, both sets exhibit virtually the same color and texture after approximately two years’ exposure. Also evident in the early stages of exposure is the slightly lighter drip line which occurred at the lower edge of each sample. This, too, disappeared between the six-month and one-year exposure periods. The rich, natural color exhibited by the two-year samples can be expected to darken still further with longer exposure.

The atmosphere in which these samples were exposed can be classified as semi-industrial. The time period required to attain these colors in other locations may vary depending on weather conditions, degree of air pollution, and direction of exposure.

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USS Cor-Ten Steel is available in all rolled steel products—plates, structurals (including wide flange), bars, sheets, strip, and tubular products.

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The dramatic, contemporary design of this church illustrates an inspired use of exposed single tees. It is an outstanding example of an imaginative architect's use of exposed prestressed concrete to achieve a striking effect coupled with measurable economy. On-site labor costs were reduced, and future maintenance of the exposed concrete will be negligible.

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JAMES ROUSE
EDITORIAL

Can jurors be impartial? This question is on my mind right now because I am experiencing a prolonged sit-in most of us who live in Manhattan face every two years or so. Although architectural juries are not required to declare anybody’s guilt or innocence, they do pass judgments that bear some resemblance to verdicts reached in a court of law. And since, as an involuntary guest of the Supreme Court of the State of New York, I was listening to the lengthy jury selection proceedings, it occurred to me that if the same methods of selection were applied to architectural juries, none could ever be formed.

If one were to follow procedures used in the courts, then an architect submitting a project would be represented by a lawyer empowered to interview the prospective jurors. Since this is not quite practical, someone would have to fulfill this function by acting as a collective attorney. And so, while the interminable days in the jury room dragged on, I had a reverie about such an imaginary encounter. It went something like this:

*Do you disagree with any of the laws of delight?:* “Yes, indeed. Only too often, delight is a cover-up for a weak concept, sugar-coating of a mediocre solution. I have nothing against delight as such, but the laws of delight say that delight makes a building good, and non-delight makes a building bad. This I cannot accept. And, in any case, one man’s delight is another man’s poison.” [The juror is challenged because he is not able to judge all the delightful submissions.]

*Do you consider bricks to be a valid architectural material?:* “Urbanistically speaking, bricks do not make any sense. They are acceptable only when they are stacked up high enough to pioneer a new aesthetic break-through; when they are jumbo-size and thus become a significant urban prototype; or when they are laid in an intricate pattern and demonstrate the irony of labor.” [The juror is challenged because he does not understand the nature of materials.]

*Do you believe in single houses?:* “Certainly not. They are socially desirable. I live in one and my social life is completely ruined; all this maintenance leaves no time for anything else. Come to think of it, I used to design houses for years when my office was small, but all the time I was hoping for bigger jobs. Wouldn’t you hate them?” [The juror is challenged because of emotional instability.]

*Are you able to judge urban design?:* “I cannot judge urban design unless I spend months analyzing the problem. Even then I would not be able to reach a verdict, because nobody knows the correct solution to today’s urban ills. This is, of course, the fault of architectural magazines, which constantly muddy the waters in their search for novelty.” [The juror is challenged because of an antagonistic attitude.]

*Do you know any of the architects and/or consultants who might be connected with the projects submitted?:* “I know hundreds of them and take a dim view of most. It would be interesting to find out what their latest abortions look like.” [The juror is challenged because of a vindictive nature.]

*In fact, are you in any way whatsoever associated with the defendant, the art of architecture, or do you have any strong opinions about him?:* “Of course! I am an architect.” [The juror is challenged because of his prejudicial relation to the case; so are all other potential jurors, architects and even non-architects.]

Although jurors in the courts of law have that bland, noncommittal look attorneys seem to like so much, there is much hidden behind the mask. We are all full of prejudices built up over the years, the result of our upbringing, our education, our work, and all our other life experiences. Whatever their answers are, all one can hope for is that jurors will try to be as objective as is humanly possible. Even so, guilty men have often gone free and innocent ones were hung on the scaffold. In our imperfect world, there are no perfect jurors—only jurors who are as perfect as they know how to be.

Jan C. Rowan
TRANSLATING THE ROOT FORM FOR TODAY'S CAMPUS

With current interest in campus planning so high, P/A investigates three contemporary versions of a seminal form of this genre in England. These buildings act as paradigms to prove that imaginative use by contemporary "neo-Brutalist" architects of a viable tradition can produce distinguished architecture. P/A's commentary on the Cambridge buildings is based on a report from Nathan Silver, a New York architect now Visiting Lecturer and Design Critic at Cambridge University, whose book on urban conservation, Lost New York, will be published this fall.

"Surely our best chance of maintaining a high standard of building lies in going about it in the way that is most natural for us. To imitate antique styles because we are building in a University town or Cathedral city is an insult to the very architecture we hold in such respect." J. M. Richards, An Introduction to Modern Architecture

In the United States, the design and planning of individual buildings and groups of buildings for colleges and universities—even entire new campuses—has occupied the minds of more and more architects in recent years. Some of their solutions—the Stiles and Morse Colleges by Saarinen at Yale, for example—have been based on traditional forms. Others, some of the California new schools for instance, have tended to become more spread out and gimmicky. In England, where the tie to continuity of basic forms has been stronger, the contemporary translation of these forms has come to contain instructive meanings for Americans involved in campus work today. Three of the most notable of the recent college buildings in Britain are examined here.

The most striking element of the English collegiate plan is the courtyard pattern. At Cambridge, many of the old colleges had evolved around courts for reasons of social grouping and because they furnished a principle of growth; new elements could easily be added to the chain over the years. St. John's College at Cambridge, for example, provides architectural specimens from every century since the sixteenth, along an axial development of three courts. However, it is the courtyards and not the styles which "read," relating parts as dissimilar as the chapel, dining hall, and residential sections.

Aside from the courtyard system, the collegiate plan had a second organizing principle. At Cambridge, scholars were said to live on "staircases" in their colleges: Smith or Jones lived on Staircase F or M. This was the result of the staircase access system to the upper levels. Each side of the courtyard has vertical circulation at two or three points. Traditionally, there were no interior corridors, just landings and vestibules, and most rooms therefore got daylight from both sides. A set of service rooms is located at the landing. The staircase then formed the core of a small social group within the complex: scholars above and perhaps a Fellow's residence below; the larger community of scholars was embraced visually by the continuity of the courtyard. Architecturally, the staircase plan allowed units of different floor heights to be built side by side. Socially, it made the courtyard provide access to the various stairways, and by having people cut diagonally across the court to a number of stairs, the whole rectangle was animated, in a manner quite different from the movement under the arcades of a monastic cloister.

The court-and-staircase tradition has received respectful but varying contemporary treatments in three buildings completed in recent years. Investigations by the architect have allowed reduction of the multiplicity of individual staircases while retaining the very individualistic sense of "house" so strong at Cambridge in Harvey Court at Gonville and Caius College. A new way of circulation in the mold of the traditional concept was found, as it were—a singularly appropriate fact for a building named after the discoverer of the circulation of the blood.

Also at Cambridge, a severely restricted site near the Engineering School on the Backs (the greenbelt between the backs of the old colleges along the high street and the River Cam) has dictated a more high-rise solution for the William Stone Residence of Peterhouse.

The new building at Chichester Theological College, while not part of one of the great universities, is as notable a version of the court and staircase plan as the two variants at Cambridge. It is more monastic in treatment, but the use of its exterior space has the same horizontal and diagonal traffic patterns as older colleges. Access vertically is constrained to smaller "experiences" of stairway and truncated corridor, as was the case in older colleges.

These buildings certainly indicate that British architects designing university residential buildings, in what some call a "neo-Brutalist" idiom, are operating within a wonderfully viable tradition, one that, given the sensitive and individualistic interpretations illustrated here, can continue to produce the wealth of meaningfully atmospheric space for scholars it has provided since the first court of Corpus Christi took form at Cambridge in 1350.
With a few space-saving exceptions and modern variations, the basic plan for a new college nucleus at Cambridge follows the old courtyard formation.

Harvey Court, Gonville and Caius College, Cambridge University, England.

Although Harvey Court and the William Stone Residence at Cambridge seem to exemplify the “neo-Brutalist” style, the architects themselves were more concerned with preserving a traditional building type—the college court—rather than participating in the latest architectural fashion. Both Sir Leslie Martin and Colin St. John Wilson, the architects, were grounded in a theoretical rather than a indeed, it is through them that a culture can be defined.”

To both architects, the court and staircase plan at Cambridge was the basic order of the community—the core of its formal and social organization. The courtyard system was dominant over the centuries, and it unified and subordinated transitory styles: the various convolutions of British Gothic—Lancet, geometric curvilinear, rectilinear, etc.; and diverse stages of the Renaissance, Elizabethan, Stuart, etc.

Harvey Court, built in 1962, was to provide living quarters for 100 students. Since this residence was to be located at some distance from the parent college, it was to be self-sufficient with a dining hall and common room; architecturally, it had to hold its own in a relatively isolated spot and function as a nucleus for a new college development. Finally, it was to follow the broad outlines of the traditional college plan, but not without certain space-saving modifications and adaptations.

First, the common room and service areas are located below the courtyard, and the yard itself becomes a plinth, surrounded on all sides by residences. Instead of rising vertically, however, the surrounding façades are terraced back from the court, and one side turns its back on the yard and opens its terraces onto a garden to the south. This outward-facing wing is the link for another court to be built in the future.

A significant divergence from the traditional plan is in the handling of the vertical staircase pattern. Instead of having several staircases leading directly upward from doorways on the court, the entrances from the square cut through the building to the outside perimeter, where an ambulatory circumscribes the structure. From this ambulatory, staircases branch upward and outward like trees, and, somewhat like Aalto’s building at MIT, unite several levels on a diagonal line. The branching form is so efficient that only about half the usual number of flights are needed to serve the upper rooms.
INDICATES CIRCULATION PATTERNS

A  GROUND LEVEL  B  COURT LEVEL

C FIRST FLOOR  D  SECOND FLOOR

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Canopy over east entry (1) shelters staircase leading to courtyard and doors to common rooms at left in photo. View from the entrance (2), past the porter's room, extends through exterior ambulatory showing detached brick piers that support upper levels. In north elevation (3), setbacks and branching staircase read clearly. Fellow's suites, situated at corners of the building (4), project slightly under the top cornice and visually tie the adjoining elevations together. Interior court (5) centers around plinth, which protects skylights for the breakfast room below.
Another short circuit of the traditional circulation plan is by way of the horizontal thoroughfares of the terraces. Instead of each individual having a private space partitioned off from the others, the terraces run clear around the sides, providing ever-expandable party areas, as well as unobstructed horizontal passageways on each level. These turn out to enrich the circulation scheme immeasurably.

One of the major design aims of the architects was to show that a deliberately restricted palette of materials was not a limitation but a freedom. Brick is used throughout, both as facing and as load-bearing material. Unlike the construction of many recent English buildings, even concrete lintels and wood frames are hidden or subdued. A certain amount of a second material, vertical wood siding, appears on the outside only in conjunction with the window walls of the ambulatory. There was apparently some temptation at an early stage to handle the diagonal stairway elements in another material. But a great deal of the rightness and strength of the forms comes from the decision to use brick alone.

Continuous terrace (1) runs around three sides of court; south wing turns its back on complex. Typical study room with bedroom at rear (2). Skylight detail (3) of breakfast room: plastic dome at center, fluorescent lighting strips at two levels in coffers below. Exterior view of skylights (4): stair landing at second level with built-in seat (5). Below courtyard level, breakfast room (6) is unadorned with plain brick surfaces.

Facing page: Forms are bold, simple, and contribute to deceptive appearance of monumentality. The building's deceptive scale is apparent when the terraces are lined with people; balcony windows especially appear small and low.
2. COLLEGE TOWER:  
NEW FORM FOR OLD SPATIAL RELATIONS

How does a lone high-rise tower fit into the conventional courtyard plan?
According to our observer, Nathan Silver, the "radical" new form carries with it the attitudes, social customs, and spatial relations of the old college quadrangle; it is a radical in disguise.


The Peterhouse block is the first elevator-access collegiate residence in Cambridge. Its appearance is as massive as Harvey Court, although it is of course considerably smaller. The requirement was for housing for far fewer people: about 24 undergraduates and suites for 8 Fellows. The site was right on the Backs, hemmed in by the massive Engineering School to the south. After some preliminary tries at a low-rise configuration of rooms in echelon, following the line of the river to the west, the building suddenly and rather literally found its place in the sun: as a high-rise building, turned like a leaf stalk to the daylight. The eight-story structure occupies as little ground space as possible and the parklike landscape is preserved.

Although a high-rise tower seems to bear no resemblance to the collegiate plan, similar spatial relationships are maintained. Here it is a garden, bounded by a wall, shrubs, trees, and the river, which becomes the courtyard. In the tower itself, the single vertical access system is retained and the small number of inhabitants are still clustered around the "gyp rooms" (self-service kitchens). Each floor accommodates three undergraduate study bedrooms and one Fellow's suite.

Like Harvey Court, this is a load-bearing brick structure. There is enormous power in the confident modeling of its brick planes, which grow immeasurably in force by not being combined with other facing materials. An ingenious system of polished metal vertical fins preserves the privacy of the rooms in the echelon.

The residence has been criticized, in a purely formalistic sense, for being too squat, or not soaring enough, or at any rate appearing to be as broad as it is high. It is rather difficult to see the broad side of the building in any viewing sequence that begins in the middle distance. One compelling vista—from a car crossing a causeway alongside the Backs—reveals it as an element against other buildings, no more. There are, however, subtle but compelling relationships between the structure and the surrounding buildings that add up to masterful siting. Such minor touches as an abrupt grass rise at the foot of the building add incalculably to its presence. On foot, one suddenly arrives at it close-up. Walking around, the zigzag brick window spandrels move past each other at varying speeds, aligning and unaligning, like a visual perception demonstration of relative movement. The building seems far more significant in motion than it does in still photographs. But, even abstractly considered, one tends to conclude that the manipulation of building forms was never the most important factor in the design, but that it was the idea—the extension of the collegiate plan—which was the most compelling architectural consideration.
Metal louvers in side windows (1) direct views away from adjoining rooms and out into countryside. New version (or no-version) of the newel post (2). Cluster (3) of residential rooms on upper floors. Fellow's living room (4) and study (5) beyond. The eastern elevation (6)—like any self-respecting member of an in group—turns its back on the buildings that don't belong to the courtyard system. Facing page: detail of western façade.
3. THE DETAILS ADD UP

Loving attention to materials, details, and appropriate sequence of spaces has caused a small complex to become immediately an integral part of its older surroundings.


The new building at Chichester Theological College furnishes 35 study-bedrooms, four staff flats, library, lecture room, and five service areas in 12,000 sq ft. The structure has brought together the existing school; formerly, it was necessary to use the public roads to go from one part of the college to another. With this building, "the College has now achieved a unity of place and all interelemental circulation takes place inside the College grounds," the architect states. Moreover, the building will act as a visual and pedestrian link between the existing school and the church (see site plan). Those enviable concomitants of English school life—interesting views and nearby playing fields—add to the charm of the site.

The essential part of the design here was the stepping back of each floor to create a pedestrian courtyard and top-lights on the outside over the study-bedrooms. The latter rooms are on the perimeter of the building, each with a window for sun and a glimpse of view in addition to the toplight over the study area. They are grouped around service areas including a gyp room open to the short corridor on the staircase. The architect considers this a sort of social node of the common landings. Vertical movement has been treated in the traditional manner of English schools: "They connect one potential experience with another," the architect comments—in other words, the larger and more public space of the courtyard with the corridors and gyp rooms. In addition, further potentialities are created by the connection of the corridors with the linkage of outside bridges. The architect feels that these bridges can be used for sunbathing and theatrical functions. The entire court area, for that matter, was designed so that it could be covered with a removable canvas marquee on special occasions. In the future, a chapel will open directly onto one of the corridors for Mass and private prayer.
The use of toplight in the building has led to a privacy and openness in the rooms and the library, and, because of the stepped profile of the building, a strong but not gymnastic building elevation. In the study bedrooms, the toplight washes the wall behind the desk, leaving plenty of room for bookshelves and student paraphernalia, but, as the architect remarks, gives “an undefinable sense of freedom to the space like that experienced in rooms at the top of buildings.” The adjacent window satisfies the psychological need for looking out. The library’s principal natural lighting is from above, through 6-ft-high structural baffles that have been used to reflect and soften the direct rays of the sun.

Furniture is built-in wherever possible, creating a snug, shipshape feeling. Everything except the chairs and wastebaskets in the study-bedrooms is built-in; variation is achieved by providing a divan-mattress that can be changed into different positions, making possible different arrangements of the room.

Structure is loadbearing, 6-in. concrete-block crosswalks, with reinforced concrete floors and a timber joist roof. External cavity walls are faced local brick or reinforced concrete with an inner skin.

Attention to brick and concrete details is seen in (1) downsouts, which cause water to become coursing part of movement pattern; (2) diagonal pattern of court floor, giving sense of movement across space; (3) slit windows, allowing just enough horizontal light into library and meeting room; (4) interconnecting bridges, which can be used for outdoor theatricals, sunbathing; (5) “pull” of entranceway under low element to lighter, more open areas beyond.
Study-bedrooms have view window plus toplight over desk (1). Detail (2) shows toplight arrangement. Other end of room contains built-in wardrobe, wash basin (3). The library (4) is toplit through deep structural baffles. Social nodes of short hallways occur around gyp rooms (5). Balconies and bridgeways (6) afford outdoor social areas.

of concrete block. Cavity is foam-plastic-filled and window frames are stained softwood. Concrete toplights are double-glazed. Interior finishes are simple: ceilings are plastered and painted white; walls are blockwork painted white; doors are painted orange, blue, or yellow; joinery is either left natural or stained. Ceiling of the library is timber-lined.

It is pleasant to see a theological college observe Mies's dictum about details. The loving care given to both exterior and interior detailing at Chichester goes far toward making the building the success it is: the honest meeting of brick and concrete at beams, downspouts, and bridges; the subtle changes in pattern in the courtyard to achieve a sense of movement and direction; the thoroughly effective toplight above the desks; the humane touch of using wood to soften the library ceiling—all of these bespeak an integrity of design and execution that make this soft-spoken statement ring much truer than all the chestier campus planning pronouncements we have been hearing in recent years.

—JTB
Some observers have commented that examples such as Harvey Court, Peterhouse, and the Chichester new building show a maturation of Britain's "Brutalist" architecture of the 1950's. Certainly the materials are less self-consciously treated and more respectfully handled as productive not only of their own textures and forms but also of interesting and sophisticated relationships with others. Sir Basil Spence, though never a Brutalist, said recently when describing his proposed British Pavilion for Expo '67: "We are an island people, proud of the fact that we are rugged." Perhaps the proclivity of the English for giving each design trend a nickname as soon as it appears might be held in abeyance henceforth with the evidence shown in these buildings that her architects can handle both their great tradition and contemporary materials to invoke it in contemporary design.
How many times has the wrong color number on an order slip materially affected, or even ruined, a design? Yet how many times have the right initial decisions so governed a building through completion that even ungodly final details have been absorbed by the solid planning and personal vision of a strong initial concept?

The Library-Museum of the Performing Arts at New York’s Lincoln Center—a forcefully simple exterior concept with a contrastingly complex interior arrangement—is a classic example of the values of early decisions. For, when Gordon Bunshaft, designer of the $8,100,000 Library-Museum, and Eero Saarinen, designer of the Beaumont Theater, evaluated the inadequate sites allocated for their separate buildings, they determined that, if they combined the two into a single structure, they could produce a work of architecture for which the site would be adequate.

The result of that design collaboration (between Eero Saarinen Associates and Skidmore, Owings & Merrill, New York, as Associated Architects) is a strong, temple-like pavilion sheltered by a faceless, overhanging attic, which is supported on pin-connected columns (2). It is the most serene and most uncompromisingly modern gem at Lincoln Center.

However, whereas Saarinen progressed to develop the interior theater facility into an imaginative new form (perhaps because of his knowledgeable clients and collaborating designer Jo Mielziner; see November 1965 P/A), Bunshaft seems to have been content to refine the exterior; for he has produced no new concept so forceful for the Library-Museum interior.

“There isn’t much of a story in the interiors of this library,” Bunshaft notes. “It is a series of rooms for function—nice, neat, business-like spaces for flexibility. Fortunately, they were spaces that could wrap around and make a feasible building for a theater and library.”

Yet the Library-Museum, which comprises a reference department, a lending library, and a museum, all devoted to subjects related to the performing arts, is a unique combination of functions, and it is puzzling that what might have become a distinct new type of educational-research building—a facility to barrage knowledge with an implosion of electric
perceptual devices as well as with books—
seems to be an ambiguous interspersing,
or else an expedient juggling to squeeze
the facilities for the multitude of users and
activities into the established package.

**The Research Library**

Not all of the library facilities exhibit this
questionable ambiguity, however. What is
unmistakably clear in planning is the
research library—the separate, scholar­
oriented reference collections on theater
(1), music, and dance—that gave the
impetus to the initial collaborative scheme.

These three research collections,
which form the lifeblood of this edu­
cational heart of Lincoln Center, are
the most important of their kind in

the country, second only to those at
the Library of Congress. The Music
Division (4, 5) contains over 100,000
musical scores and critical and historical
volumes. The Theater Collection (1) com­
prises a vast quantity of plays, photo­
graphs, clippings, designs, promptbooks,
and related materials. The 26,000-volume
Dance Collection (6), devoted to the
literature and iconography of the dance,
is unique. Also in the reference depart­
ment are the Archives of Recorded Sound,
the country’s first major sound archives
(more than 100,000 discs) open to the
general public (7, 8, 9).

What the research library wanted, op­
timally, was 60,000 sq ft of closed-shelf
space on one level and separate from the
circulating library. The architects there­
fore located the three collections in an
elevated, rectangular-plan doughnut that
appears as the deep travertine fascia of
the pavilion exterior (see isometric; 3).

Depth of the fascia was a coincidence
of the need to use 20-ft-high Vierendeels
to span the 200-ft width of the
floor; conveniently, the library spaces
pass through these Vierendeels.

One gains access to this floor via ele­
vators behind the stagehouse of the Beau­
mont, which, incidentally, fills the hole
in the doughnut that in today’s libraries
is customarily occupied by an interior
court. Entry to the elevators is through a
lobby on the Amsterdam Avenue side of
the building, which also provides access
to offices and to a 200-seat auditorium.

Thus the isolation required for the
comparatively few scholars who will use
the research facilities proved to be ideal
both in terms of planning and separating
circulation from the mass traffic in the
lending library and in terms of achieving
the “umbrella” aesthetic.

Paradoxically, what is most clear in
terms of planning—this research floor
—has come under most censure from
architectural critics in terms of hu-
Manistic environment. Since light control rather than natural light was deemed essential for the rare manuscripts, climate-controlled reading rooms that are windowless are at the center of the plan, with stack and storage space on the perimeter. (Bunshaft, who feels that the great traditional skylights of libraries would have been ineffectual here, would have liked, however, to provide garden courts that opened to the sky, if there had been room and budget available.) Yet the windowless scheme permits flexible use of the perimeter storage space by adjacent collections.

As far as interior finishes are concerned, the research floor exhibits the relatively reveal-less, spacer-less joints of the latest SOM style: clean, unarticulated white plaster envelopes dominate, with glass and aluminum partitions and lighting troffers punctuating them. White-enamedled, open-shelf stacks (some wanted by the directors of their collections, some unwanted) are built into the walls of the reading rooms. White oak furniture inspiredly updates the traditional mission oak we are accustomed to in libraries. All furniture, of course, had to be cleared by the N.Y. Public Library and city purchasing authorities—with component difficulties.

Artificial lighting is by fluorescent tubes (requested by the library) in square troffers that have a surrounding air-conditioning vent, which is designed as a black reveal. Originally designed for SOM's Emhart Building, these now-standard troffers are unfortunately filled with tubes that are too blue, and have an anemic effect on the colors of the rooms. In time, however, they can be replaced with warm white tubes.

Critics have been merciless in their opinions of the principal color effect of the research floor: the light-orange vinyl chair upholstery combines with raspberry-red wool carpeting in a disturbing clash, and it is not even strong enough to produce a viable optical effect.

"It is there to cheer up the enclosed space," Gordon Bunshaft notes. "I don't mind it." Others find it merely too jazzy for sober study, or that it intensifies the effect of the windowless enclosure. Masses of people and book jackets somewhat dissipate that disaster, however, and for scholars used to the previously cramped and gloomy quarters of the music and theater collections, the new surroundings seem a dreamlike coral tower.

The Circulating Library and Museum

Less clear as far as planning is concerned, but much more "human" (as the phrase goes) in terms of "environments-for-people," are the intermingled Museum and Circulating Library. These two functions are wrapped around two sides of the building: behind the stagehouse of the Beaumont and in a two-story link between the theater and the Metropolitan Opera House (see isometric; 3).

The usual entrance to this facility for the general public is from the plaza level—past Alexander Calder's stabile "Le Guichet" ("The Box Office") (10)—directly into the metal-and-glass-walled link (11, 12)—that most curious architectural phenomenon, which is part library and part museum in its visible section (13, 14, 15), and, in addition, houses a projecting transept of the opera house.

On the second story of this link is a children's library (21) with appropriately scaled furniture (23) and an auditorium called the Children's Oval (24, 25), which was donated by the Hecksher Foundation. Overhead, the exposed roof structure alternates with tubular lighting and a ventilating ceiling (22).

The dovetailing of the library and museum here, and on alternate floors on the Amsterdam Avenue side, is deceptively unapparent (although displays are, here and there, mixed with circulating books and recordings) yet it is somehow con-
fusingly uncohesive. In this area, the architects' program was relatively open, the main concern being for flexibility.

What SOM provided for the Circulating Library and Museum, therefore, was a series of generally useful spaces, and, most ingeniously, a flexible display-and-bookstack system that can be used for exhibition of photographs and memorabilia (18, 31) as well as for storage of books (14). Displays themselves (including a sprightly circus exhibition installed on white-painted pipe scaffolding; 19, 20) were subsequently designed by director Paul Seiz and Donn Matus of the museum staff and executed by Display Studios, Inc.

The furnishings the architects have provided on these levels include handsome built-ins of travertine and white plastic laminate (15) to blend with the pale, bland, monochromatic wall and floor surfaces; oak and white-enameded stacks, beige wool carpeting (used more extensively here, perhaps, than in any other public library and in a questionably impractical weave for the color) and stainless-steel and both red and black vinyl upholstery complete the scheme.

Interspersed among the bookcases and displays are audio drums where recordings can be heard through earphones by two listeners simultaneously (28). Donated by the Asiel family, the drums also carry a music or drama performance pre-programmed by the staff.

The treasures of the Library-Museum are exhibited in the ceremonial Vincent Astor Gallery (26).

Of the spaces, only the Main Gallery (27 to 31) with its exposed concrete, coffered ceiling and coffer lighting (repeating that of the Beaumont Theater lobby) could have been considered as "major." The museum, according to the architects, unfortunately wanted that gallery subdivided into browsing cubicles by display cases. But surely those cases should be run longitudinally, so as to reveal the actual impressiveness of the room and give the Library-Museum at least one high-ceilinged major space.

The architectural lessons to be learned from this project are difficult to accept, for if Miesian designers cannot organize space with greater clarity and cannot detail with greater purity, then the dead end of that aesthetic is sufficiently proclaimed. However, decorating details are remedial, and therefore can only be disappointing.
Measured in terms of the interiors SOM has produced in the past, this project is not a milestone; measured in terms of exterior architecture—and the architecture of Lincoln Center—the Library-Museum is a winner.

For the city, however, such aesthetic considerations are relatively insignificant. More importantly, the calm and generous, clean and unsqualid atmosphere of this civic building, and its concept of making the background of the performing arts more readily available, can be received only with gratitude and acclaim by all the citizens of New York.—CBS
The major problem still facing the profession of architecture today is the mandatory shift of scale in the concept of its work—from emphasis on the single building to the larger-scale concept of planning, designing, and building entire cities. In an age when single buildings are sometimes more vast than complete towns of the past, new design techniques must be developed to cope with the design of the enormous Megalopolises of today.

Several people, of course, made significant contributions to contemporary methods of urban design. Among the most notable are: Barclay Jones, while at Berkeley; Kevin Lynch in his *Image of the City*; Appleyard, Lynch & Myer in *View from the Road*; Philip Thiel in his “A Sequence-Experience Notation” (*Town Planning Review*, April 1961); Paul Spreiregen and others in “Guide Lines for the Visual Survey” (*AIA Journal*, April 1963); and Lawrence Halprin in his book *Cities* (Reinhold, 1963) and his article “Motation” (*July 1965 P/A*).

Architecture schools are also doing valuable research in developing such new design techniques for the notation of sequential experience in cities, and it is as a continuation of P/A’s previous discussion of this subject—Urbanography—that we present some of the contributions of the University of Cincinnati’s Department of Architecture, headed by Richard Wheeler. Discussions by two members of the department follow: concerning, first, the over-all problem, and then descriptions of specific class work and contributions.—CRS

**BY SAMUEL NOE**

An architect-urban designer, Professor Noe first became interested in sequential design while doing graduate studies at Harvard, where he was exposed to several members of Team Ten, a group of European architect-urbanists whose work emphasizes the movement system as the organizer of urban form. He was also a student of Fumihiko Maki of Japan’s Metabolism Group, whose attitudes parallel those of Team Ten.

One of the by-products of the on-rush of Megalopolis and other forms of giantism (especially economic) is, of course, the increasing interest in urban design. The effects of this interest on the upper years of architectural curricula have been quite evident, for some sort of urban design option or graduate program is fast becoming essential in order to establish an architectural school among the “in crowd.” Even among the strictly architectural programs, the incidence of large-scale, multiple-building studies seems to be increasing.

Yet because of inadequate early preparation, many students are unable to cope satisfactorily with work at this scale.

One of the primary causes of this inadequacy, in addition to the academic parochialism of the typical architectural school (enforced by tradition and the state board of examiners), can be traced to the “A Small” syndrome, which is traditionally characteristic of second-year design courses. By this I refer to the succession of studies entitled: “A Small House for a Painter,” “A Small Hunting Lodge,” “A Small Animal Hospital,” etc. The intent of these problems is clear: The student

**BY B. L. ABERNATHY**

Architect-urban planner Professor Abernathy studied at MIT under Kevin Lynch and Donald Appleyard, where he first became seriously interested in urban design. Subsequently, he has been particularly concerned with attempting to devise a totally workable technique of sequence design in cities. In January 1966, he was appointed Chief Planner for the City Planning Commission of New Orleans, Louisiana.

The main shortcoming of the systems that are producing urban designers seems to be the lack of concern with time and motion as a basic design element. Traditionally, design schools have dealt with spatial relationships, but only recently have a very few schools become interested enough in time and motion to include them formally in academic curricula. Until these design elements are firmly entrenched, there will not be an adequate urban design method nor an urban designer.

Because of the scale of a city and because of the way people experience and perceive it, time and motion are of paramount importance in a technique of urban design, which is essentially a problem of sequence design. The crux of the problem seems to be an adequate design language, and perhaps the most critical aspect is the statement of the problem.

The requirements of an urban design technique are several. The system must be capable of being used, firstly, for recording existing situations, then, for analyzing situations, and, finally, for designing situations.

For designing, the system must be capable of rapid and
Noe (Continued)

prepared in a first-year course in basic design principles is now directed to apply them, and the elements with which he must contend are limited to a manageable few. In later years, the buildings will become larger and increasingly complex.

An unfortunate side-effect of this approach, however, is that it strengthens an already ingrained tendency of the student to conceive of a building as a lump of solid matter resting on a ground plane, and capable of summary analysis at a few glances from the street. This tendency may persist *sub rosa* in spite of the instructor’s constant insistence that the essence of architecture is space.

By the time the student is allowed to undertake urban scale work, this basic thinking may have become fixed. The result is that urban design is approached as “big architecture,” to be evaluated by inspection of a static, well-composed model. The real-world extension of this approach is that cities are designed to be appreciated primarily by passengers of low-flying aircraft.

In an attempt to prevent this attitude, the design sequence at the University of Cincinnati has become increasingly “motion oriented,” particularly in the early years.

Abernathy (Continued)

flexible use. Furthermore, to be really acceptable, the system should be understandable and usable by laymen and less skilled technicians (although this is not an essential requirement).

Of the notable systems already developed, although each is useful in one or more ways, none of them seems to provide a totally useful method.

For example, Lynch’s recording system, as set forth in *Image of the City*, has two apparent shortcomings: First, the system seems most useful at a very general or large scale, and second, the system as set forth seems best equipped for recording rather than for design and analysis. Perhaps the main asset of his image system lies in its simplicity—its capacity to be easily understood and utilized by laymen and technicians alike.

Because of the complexity of the urban environment and the interrelationships of individual sequences, a method capable of expressing these relationships is necessary. This requirement points up several difficult problems in the development of a comprehensive system.

While a time scale appears to be necessary for sequence design, it also appears almost impossible to use in a total system approach. (The possible development of techniques such as films and models cannot be excluded, but their utility appears severely limited.) A distance scale and plan technique seems to be almost the only possible basic method. The result is the apparent paradox of the time and distance scale. Also, the problem of incorporating a method of depicting three-dimensional or elevation differentials becomes a consideration.

In conclusion, the problems and requirements of an adequate language for urban design can be and will be satisfied in the very near future, due to the tremendous interest in the subject that has been developed in just the last five years—interest not only among design professors at various institutions, but by students, architects, planners, and, most importantly, by lay citizens, politicians, government officials, and legislators. Not only are we producing designers more and more qualified to tackle the looks of our cities; we are also producing cities in demand of better looks.

*Urbanography* 185
Environmental Design Course, Master of Community Planning Program, University of Cincinnati:

Professors Abernathy, Noe, and Goetzman

In response to a four-week team problem to develop a graphic language for mapping and designing the visual form of cities, graduate students in the environmental design option of the Master of Community Planning program developed a system that, in view of other systems and previous assignments, is commendable in several respects. Typical completed maps using this system are on the preceding page.

The objectives of the study were to develop a graphic language that: (1) can be used for mapping and designing the visual form of a city in two dimensions; (2) can be understood by architects, urban planners, and lay people; (3) can be expressed simply and quickly with the use of commonly available materials, and can use black-and-white techniques in order to keep reproduction simple; (4) is capable of mapping dynamic as well as static features of a city; and (5) is comprised of symbols that can be, or are, commonly understood. Further objectives were: to explore the possibility of mapping sensory stimuli other than visual ones and to develop a technique that can easily be incorporated into other planning processes and can act as a supplementary tool to existing systems.

The major element, the city, was broken down into element characteristics, element arrangements, and element types; all of which are capable of being mapped. Chart 2 divides the element characteristics into "Static" and "Dynamic." The charts further reveal the implied definition of dynamics, as follows: (a) those elements of a city which, by virtue of their make-up, move, either at random or in patterns (Chart 2); (b) the change of visual form that occurs as the observer moves through the urban environment (Chart 1).

When dynamic elements are mapped, they appear as stationary objects, that is, as they would appear at a given point in time. Another phenomenon in the visual form of a city is that it changes as the observer moves through it.

These factors require a mapping technique capable of showing the visual form as it changes through a given length of time and distance.

Each of the elements on Chart 2, in addition, is modified by form variables and sensory variables (Chart 3). These two charts indicate a methodical approach to specifically defining the elements, and the variables consistently found in the form of these elements.

The system also refines or expands the symbol vocabulary to enable the designer to work at a regional level or at the neighborhood-block level, depending on the specifications of his assignment (following two pages).

The element types listed on Chart 2 have been represented by new symbol vocabulary. These are the basic symbols, and in each case there will be sensory variables as indicated on Chart 3. Constants will be adopted to illustrate the modifying variables, e.g., height will always be indicated by line weight—that is, line width.

As can be seen from the maps on page 185, the system is capable of a fairly sensitive suggestion of an area's character as well as of conveying a significant amount of technical information.

As developed, it can convey the effect on the observer of movement—either his own or that of the object. It can accommodate changes within the framework of the environment. For example, if the helicopter were to supersede the automobile in popularity of use, experiences now recorded for the automobile could be recorded as they were experienced, visually, from the helicopter.

In addition, the system is logically ordered and requires a minimum of explanation to enable professionals in the field of design to use it. And it has the ability to provide a cogent whole to the varying scales and levels of investigation. This is accomplished by related symbols. The basic symbols are in themselves generative of more specific notations.

Some of the shortcomings of the system, however, are the following:

a. A more adequate method needs to be evolved for dealing with the differences between actual physical relationships of

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*Chart 2*

<table>
<thead>
<tr>
<th>ELEMENT CHARACTERISTICS</th>
<th>ELEMENT ARRANGEMENTS</th>
<th>ELEMENT TYPES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static</td>
<td>Dynamic</td>
<td>Static</td>
</tr>
<tr>
<td>Movement</td>
<td>Change</td>
<td>Dynamic</td>
</tr>
</tbody>
</table>

*Chart 3*

<table>
<thead>
<tr>
<th>SENSORY VARIABLES</th>
<th>FORM VARIABLES</th>
<th>LOCATION</th>
<th>SCALE</th>
<th>SYMBOL</th>
<th>DESIGNATION</th>
<th>DIFFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>Line weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width</td>
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<td>Color</td>
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<tr>
<td>Texture</td>
<td>Texture</td>
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</tr>
</tbody>
</table>

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elements and their apparent relationships as perceived by observers traveling at various speeds.

b. The inability to deal with the time and motion aspect of the environment as established by the observer is apparent; future studies concerned with developing a technique for urban design might therefore best concentrate on the environmental aspects and the implications of time and motion.

c. The physical size of the paper limits how much can be plotted on one map—a universal problem in mapping. Overlays can increase the information potential.

USGS maps are carefully standardized, marked, and cross-referenced so that the necessity of slicing them into usable portions does not reduce their effectiveness. Attention would have to be given to this aspect of this system.

d. It requires a degree of special information to enable the user to understand a symbol system. Therefore, it would be necessary to train the people who would do the mapping. Very little training, however, would be necessary for the casual viewer; the legend would be self-explanatory. But the illustrated symbols may need more adaptation, refinement, and/or expansion, a need that may become evident when the symbols are applied in the field and when they are used in design synthesis.

It may be that applied use in subdivision layout, for example, or in conservation areas, would reveal the need for expansion of the symbol vocabulary. Use by people from various backgrounds might similarly indicate a need for further clarification or universalization.

In order to create a map of a city from which selected information could be obtained quickly, investigations should be conducted into the development of a screen-filter technique. This is a refinement that would be added in the workshop, not in the field. A technique such as "photoclinometry," which was described in Newsweek (pp. 56-57, March 8, 1965), might be utilized to express angle of slope and resultant elevations in a more easily comprehensible manner.

The method for depicting height characteristics by line width is probably the single most significant graphic contribution of the system. However, its flexibility, rapidity of use, ease of comprehension, and apparent comprehensiveness cannot be overlooked.
USE OF SYMBOLS

NEIGHBORHOOD SCALE

FUNCTIONAL

Land use is indicated with color; if color cannot be used, shading is suggested.

Density of traffic is indicated by symbols for vehicles and people.

ACTIVITY PATTERNS

People-movement symbol.

Vehicle-movement, with an arrowed front indicating direction.

PHYSICAL FORMS

Building heights indicated by weight of the line; the heavier the line, the taller the structure. Topography similarly illustrated.

Visual illusion is illustrated by broken lines of the apparent continuation of form.

UNIQUE OR SPECIAL EXPERIENCE

Nighttime visual experience illustrated by white on black.

SEQUENCE DESIGN

SPEEDS

Speeds determine the amount of detail perceived while in motion. 40 mph.

CHARACTER

VISUAL CHARACTER

Skyline illustrated from a single viewpoint.

Panorama illustrated from a single viewpoint, with a series of lines radiating toward the view.

AUDITORY CHARACTER

Auditory character illustrated with a series of arcs radiating from the source; used only when sound is a dominant feature.

olfactory character

olfactory character illustrated by means of undulating lines; pungence illustrated by degree of wave proliferation; odor by line frequency.
Second Year
Architectural Design,
University of Cincinnati:

Professors Noe, Rudd, Stevens, and Williams

Design studies in the second year architecture program at the University of Cincinnati are set up to consider a particular slice of physical environment, rather than a specific building type or building object. The method of study is one of arranging sequentially those experiences of solids and voids that one might have in walking or riding through a given complex.

Exercises assigned are of three types: Problem 1—analysis of existing places; Problem 2—design of abstract spatial sequences; Problem 3—design of real spatial sequences that must accommodate particular functions.

Students generally experience little difficulty in approaching their studies in this manner, partially because they have had some slight exposure to motion studies in their first-year basic design work. Equally important, however, is that they have never been confronted with static design techniques. This approach to second-year design studies has not been employed for a sufficiently long time to gage its effects on advanced work; however, a similar attitude is employed in the fifth year of a six-year design sequence.

One result of this course has been a number of urban design theses in the final year that demonstrate remarkable sophistication of thought. Generally, the students producing these efforts have been those most sympathetic to the "sequential experience" approach. It is hoped that a higher proportion of the students in future classes, having had exposure in the early years, will be able to deal realistically with large-scale projects.

Problem 1: Analysis of an Existing Series of Spaces: By means of a three-dimensional abstraction, the student must give expression to the experience of a walk between two points on the campus. The route passes through a number of different types of spaces. In this expression, he is to be concerned (as far as this is possible) only with voids.

The solution to this exercise is not to be a representational description of form (a model of the campus). It should clearly express the effect on each student of the spaces, rhythms, light, or any other sensations encountered on the walk. As in any artistic expression, emphasis or exaggeration of elements significant to the artist are encouraged, if the effect is more clearly expressed thereby.

This is an exercise in perception. Each person will perceive different elements and each will respond to these elements in a different manner. The variety of the interpretation forms a basis for later discussion.

Photos above illustrate two impressions of the same walk. In one case, the student felt it necessary to illustrate nearly all spatial impressions. In the other, sufficient repetition of types of spaces was found so that the total impression was one that required the recording of only a few of these types.
Problem 2: Design of an Abstract Spatial Sequence: In this exercise, the student explores the variations in perception as one moves through space at different speeds. The problem assumes a straight path upon which man moves at possible speeds of 30 mph or 3 mph. The student is asked to design one spatial sequence that will have meaning for persons moving at both speeds—that is, the particular rhythmic repetition of spaces must be the same for persons moving at both speeds. In the solutions illustrated below, the larger geometrical spaces are designed for perception at 30 mph; the bands of texture and tone within them (detail, bottom) are perceivable only at 3 mph. The pattern of repetitions is identical in the two sequences.

Problem 3: Design of a Speed-Scale Transition: The means of accommodating the transition from high-speed movement to slow speed and then to high speed again are investigated by focusing on a small suburban train station, where commuters transfer from cars to trains, and where they also wait as through-trains pass. The site, dead level and featureless, is at the intersection of an interstate highway and the main-line track. The student must consider the effect of the station on through-rail and highway travelers, on the commuter, and others. Some particular considerations are the effect of the station on: Mr. A, who has been traveling for 45 minutes at 70 mph and must stop suddenly within a distance of a few hundred yards and then resume speed for three more such stops before he gets off; or Mr. B, who rides the express and speeds through the station at 70 mph, or Mrs. C, who is waiting for the local line when an express speeds through; or Mr. D, who must adapt from the long, constant, lulling experience of high speeds in a small enclosure to that of a vast, wide, open area quite active with both people and vehicles; or Mrs. E, who sees the station from the highway on her way shopping; or Mr. F, who drives to the station area itself from the highway, parks, walks to the station, and has breakfast while awaiting the 8:30 train.

These are just a few of the possibilities of different changes in speed-scale that will result from such a complex, but they all must be understood and dealt with. Top photo demonstrates the ciné-like perspective sequences used to describe the total experience. Photo at left shows a station building in which the structural members are varied in size and spacing to build to the climax of the waiting area; the tall glass cage straddles the intersection of highway and railroad, thus serving as a landmark for motorists as well.
Plato has suggested that, from the earliest years, the future architect should busy himself with the building of houses. And Frank Lloyd Wright, as if in answer to the philosopher, has written about the importance in his own life of the Froebel "gifts"—the small geometric blocks, bright in color, honest in material, that his mother provided for him as a boy.

We are a nation of toy consumers. Retail toy sales in 1965 exceeded $2,400,000,000, more than three times what they were 15 years ago, and the prospects for the immediate future are even more promising. Half the population is under the age of 32, and thus either creating the demand for toys or creating the children who create the demand. With our increasing affluence, where a Christmas stocking would once be stuffed with a necessary item of clothing, it is now likely to contain at least one small toy, priced somewhere under $2. (Small or not, half of all toys marketed sell for $2 or less.) As a society, we are child-oriented, buying-oriented, education-oriented, and, if not pleasure-oriented, at least increasingly able to enjoy a Fun Thing without being torn by guilt. The toy market is an expanding balloon with no indication of bursting.

How many of these toys pertain to architecture, environment, construction? What do they "say"? And what impact are they likely to have on tomorrow's creators and consumers of architecture? It is not simply a question of the next generation of professionals, but of a whole design-conscious public; if clients and citizens have to be "educated" to demand good design, it is probably several decades too late by the time the architect gets to them. Is creativity in these matters being sufficiently developed in the important and impressionable years, no matter what the future occupation of the child? Is sensitivity to material, form, structure, connection, and modularity a byproduct of these toys? How will children of today react to the immense urban and environmental crisis that will be full-grown even before they are?

**TOYS OF THE PAST:** an elaborate folding dollhouse, patented 1894 (above); a set of brownstone blocks, circa 1850 (far left, top); so-called "stone" blocks, actually a clay product, from Germany, turn-of-the-century (far left, bottom); all from the extension Museum of the City of New York collection; and a put-together cardboard house (left) from the collection of Jerry Smith, recently exhibited at the Hallmark Gallery, New York City.
Perhaps this is asking too much from what are "only toys," made by manufacturers who are in business primarily to make money. It is a very competitive industry: New items are constantly sought, new styling and packaging are important in selling older items, and new marketing techniques have been employed (notably, selling in supermarkets and discount houses). A new toy can literally make a fortune: This past year's Super Ball, for example, hit the top in one bounce. Yet there are old-timers: Lionel trains are more than 60 years old, and Erector sets have remained seemingly unchanged in design for more than five decades. There are rumors that certain toys have a built-in obsolescence to guarantee a limited life, just as in the "real" world. One manufacturer, Playskool, argues against this point of view: "Obsolescence is built into the child instead; he changes radically every few months."

Advertising is an important fact of life in the industry; a recent survey found that six-tenths of the adult toy buyers had decided on a particular toy before they went out to buy it, and almost half of these had been "presold" by their own children—through TV, comics, and word of mouth. But television adds a new tightness to the pricing formula; an item that retails for $1 must ordinarily be manufactured at a cost of 25¢ (the jobber buys it for 45¢, and the retailer buys it for 60¢); but with television in the picture, this 25:100 ratio can be no more than 16:100. There are some opinions that TV preselling is on the wane, however, and that the industry should try to reach parents on a sounder basis.

The Wall Street Journal pointed to another possible trend, claiming that this past Christmas witnessed a comeback of old-time and (relatively) noiseless toys. "Along with dolls and soldiers, big sellers this season include Lincoln Logs, Erector sets and wooden blocks. Creative Playthings, Inc., a Princeton, N.J., company that is one of the country's biggest sellers of blocks, says its block sales are up 100 per cent this year." Yet this was also a year of spy sets, monster dolls, the men and matériel of modern war, even an electrocution set.

What are the actual figures? Again, from a recent industry study, dollhouses account for 1 per cent of the total sales; handicraft and models, 4 per cent (of which building kits are only a part); games and puzzles, including all board games, 6 per cent; preschool, including all blocks, 2 per cent. All other categories are outside the scope of this article—and include riding toys, 22 per cent; nonriding transportation (trains, trucks, etc.), 12 per cent; dolls, 13 per cent; sporting goods, 12 per cent; guns 5 per cent; musical instruments, 5 per cent; educational and scientific, 5 per cent.

"Educational toys don't sell," is the widespread opinion, and, to be sure, the figure is only 3 per cent. Yet in a sense all toys are educational, if education is defined in terms of exploring, expressing, experiencing. One firm that takes its educational role most seriously is the crusading Creative Playthings. Through its catalog, and in its showrooms (now scattered across the country, in various department stores), the firm conveys its strong respect for children as children and a matching belief in their potentialities as human beings. It is probably fitting that the Creative Playthings toys are what most architects would consider "good design." (So, too, are some of the similar-looking doll houses of the similarly named Community Playthings.) But good design for children is a complicated question. "The environment of reality is limited; only abstraction can excite the imagination,"

says Frank Caplan, president of Creative Playthings. But there are other firms who believe just as strongly in realism—realism not only sells best, but means more to the child. Thus, points out one toy designer, "Erector won't be able to hold out much longer before they go plastic; kids just can't feel comfortable with those parts that don't look like what they're supposed to be."

The evaluation of toys from almost any point of view is controversial. The Toy Manufacturers of the U.S.A., Inc., has its own opinion (as a trade association with some 400 members of the industry's approximately 1500 manufacturers; these 400, however, do 80 per cent of the dollar volume). According to market research done for this association, 9 out of 10 toy buyers are satisfied with what they buy. According to others, there is little reason for contentment. A. S. Neill, of the famous Summerhill School in England, believes there are far too few creative toys on the market and that "one should never show a child how a toy works." He also believes that toy destruction is a valid form of play—it is simply to find out what's inside. Sylvia Ashton-Warner, in her extraordinary and revolutionary book Teacher, writes in despair about the "shiny toys" that are so alien to the spirit of adventurous and creative learning: "The shine and the color should be supplied by the child's own imagination." Most educators feel that children are far more conceptual than adults, in general, think them to be; children are easily bored or unnecessarily restricted by many of the limitations that adults impose on them.

Who has designed these toys? Several of the following group have been designed by architects, or by those close to architects (Flexagons by Fred Bassetti; the multilevel House of Cards by the many-sided Charles Eames; Lincoln Logs by a son of Frank Lloyd Wright). There are design staffs in all the toy-manufacturing firms; one firm, however—Kenner—retained an architect as consultant for its Girder-and-Panel set. In addition, there are numerous "toy developers," the leading ones being Marvin Glass & Associates in Chicago, and Ned Strongin & Associates in New York. These offices, which are supplied ideas from designers on their own staffs and from outside "inventors," develop a toy design up to the point where a manufacturer can take it over. The Museum of Modern Art has encouraged the design of toys through various programs in its Department of Education, although the best of these toys are no longer on the market. The magazine Art in America recently commissioned a series of toys from a group of painters, sculptors, and architects (Bucky Fuller is reported to have been enthusiastic, but too busy to participate).

Architects have frequently been connected with the design of dollhouses, dating back to 18th-Century England, when architects would design accurate Palladian mansions for the children of their clients. More recently, the New York firm of Delano & Aldrich was gleaning a living for otherwise unemployed architects during the Depression with the design and construction of $200 Georgian dollhouses. Still more recently, Lissa Finney, the wife of a Bay Area architect and herself an architect, designed a Bay Area dollhouse circa 1950 that was sold by I. Magnin. And possibly the most extraordinary dollhouse of all time, the $2,500,000 mansion presented in 1924 to Queen Mary (with hot-and-cold running water, etc.) was the work of an architect—Sir Edwin Lutyens, who also designed New Delhi.

With this background as preface, P/A presents a catalog of architectural toys currently on the market. It involves a slightly
altered vocabulary—"bloks" to "lok" together, "stix" to arrange in "stax"—that has all the crunchiness of breakfast-cereal jargon and all the froth of detergent semantics. The catalog also displays an amazing range of architectural design—some of it so excruciatingly bad that its like has never before appeared in the pages of P/A; some, however, is on par with the best of the "full-scale" world. Some of it looks backward, watery-eyed, to the past; some of it is startlingly and truly contemporary. It would be unfair to evaluate solely on aesthetic terms an object that is not intended primarily as an object of beauty; a toy presents its own special criteria for judgment. Educational value is obviously prominent, using the term education in its broadest sense. Process becomes as important as product in a construction toy. Not least: Is it fun? Is it imagination-stretching? Is it a toy to live with and grow with? Is it well-designed in the sense of having appropriate materials, joints, finishes? Does it work? Does it last? And what, finally, is the message that it delivers to a child about buildings and bridges, cities and towns? A few comments on this final question will appear on p. 198.—EP

WOODEN BUILDING BLOCKS (Import, Japan). A bag of minuscule blocks, in a two-of-a-kind distribution that calls for classical façade-making. Delightful, within these limits. Surface patterning is a good compromise between the abstractionists and the realists. Nontoxic, and too big to swallow. (72c)

DESIGN BLOCKS (Childefraft). A set of 25 small cubes, brightly enameled in the primary colors. Nice to handle and turn over so the colors can be followed, Pleasant to build with, while they last—we've already lost one. ($1.35)

X-BLOCKS, H-BLOCKS (Import, Finland). Painted wooden blocks sold at Design Research, Cambridge, New York, and San Francisco emporiums of good design that is run by Hip Thompson, many-hatted head of Harvard's department of architecture. D/R reports that although the X's are more expensive, they are also more popular than the H's. Each is the work of designer Juho Jussila. (X, $4.50 per dozen; H, $3.50)

FLINTSTONES INTERLOCKING BUILDING BOULDERS (Kenner). For those who have missed this on TV, FIBB are lightweight plastic knobby shapes, in four sizes up to 24" long. Amazing cantilever constructions (see frontispiece) maintain their stability as long as the boulders' knobs remain intact (they are easily broken off in active play). Each set of 50, 100, or 155 boulders comes with two knock-down boulder balls, which can be used either to topple the whole thing, or to serve in the construction as half-melon feet or domes. Will stand up outdoors, will float in water, and the dog can probably eat them and live. ("About 10¢ per boulder")

HEXAGONAL DESIGN TILES (Creative Playthings). Directions include a series of pictures as guides: by plugging tiles directly on the picture, you can create an animal, car, etc. Throw these away, and enjoy the 100 plastic tiles for their patterns and colors alone. Good size for small fingers—1 1/2" across. ($2.50)

"THIN ARCH" (Creative Playthings). A new block shape to add to standard sets. Molded plywood, 11" x 2 1/2". (Set of 6, $4.25)

GIANT BUILDING BRICKS (Kid-Proof Toy Div., Donrudy Products). Seven vivid pastels in each box of 25 full-sized bricks. Material is an expanded polyethylene foam, unpleasant to the touch. However, they are punctureproof, will not scratch furniture, can be stacked, will not slide. Fun to throw around. Catalog proclaims this "a toy for the future builders of America," and it does not hock well that the cardboard carton is printed in a woodgrain texture. ($8.95)

BLOCKBUSTERS (Berr Products). Instant monstrosity. Ugly but clever. Same structural principle as hollow blocks by Creative Playthings, but without the variety of sizes. Medium blocks are 10" x 5" x 5"; a slightly larger set is also available. (Sets of 12, depending on size, $4.40 and $6.60)

BLOCKHEAD (Sanifield Publishing). Actually a game, but suitable for architects, and in any case only a variant of what children do with blocks anyway. This is a game of balancing; the loser is the one whose block causes the growing tower to fall. Fun. ($1)

LOCKS are an all-time favorite, lending themselves to whatever level of constructive activity and imaginative play the child has attained. There is nothing permanent about a block construction, since there are no attachments between blocks (and often little attachment between the child and his work after it is done—the fun is in the doing and the soon-after). Actually, some of the most satisfying and imaginative play occurs in the destruction of a block construction, and blocks must be durable. Blocks provide some of the earliest lessons in mass, weight, balance, and form. Little or no embellishment is needed, yet a well-thought-out decoration can make for a well-loved set of blocks. Shape, however, is perhaps the most important attribute, and even in a world of few basic primary shapes, new blocks frequently turn up.
AMNESIA "Playing house" is one of the perennial games of childhood, but its architectural implications are its least important ones. In any case, "House" can be played almost anywhere—and with many playthings or with none. (There is, of course, extensive housekeeping equipment on the market for little girls, everything and the kitchen sink, either in abstract form or "just like Mommy's." ) Games of a more specific kind, however, are the board games that fill the shelves of every family room. Perhaps the most famous of these is Monopoly (Parker Brothers trademark for its Real Estate Trading Game Equipment). There have been 40 million copies of Monopoly sold (in all languages), and rumor has it that Parker prints more money than the U.S. Mint. The model for it all, of course, was Atlantic City, N.J. And in the face of any suggestions to airports, Monopoly will probably go on in the future exactly as it is. Money rises out of rough terrain. Double-fold playing board is 235" x 16". Deluxe implement trays contain plastic railroads, road markers, boundary markers, subdividers, apartments, factories, a shopping center, church and school, plus pawns in four different colors to indicate ownership of tracts. Included are planning cards, zoning markers, a 1-cent bank note of paper, value card that stands like an envelope, over $4 million in play money, and extra tract cards. Item did not sell well and will not appear in 1966 line.

PARK AND SHOP (Milton Bradley). Taken from the catalog: "Here's the nation's hustle-bustle traffic game sensation. The object of this exciting family game is to outsmart the other players by parking your car in a strategic place, completing your shopping quickly, and being the first to return home." ($85)

CAT AND MOUSE (Schaper). The players guide cat and mouse from underneath with rabbit-tipped paws. Mouse tries to get through a cluttered interior to his wall hole. Cat tries to get mouse. Adults try to get out of earshot. ($84)

RUBBER JIG-SAW PUZZLE (Creative Playthings). One of a series, this one entitled "Cityscape." Not very accurate as a cityscape, though, with three buildings and only three cars. Wild colors—turquoise, purple, and orange— but then, who cares? It knows that the city is a wild place and unsuited to habitation. The windows make good erasers. ($1.50)

HOUSE OF SHAPES (Import, Japan). Not strictly a puzzle, except to the very young, for whom getting the right shape through the right window is a problem of some magnitude. ($1.50)

PUZZLE (import, Holland). Less than 2" x 4", this tiny puzzle is diverting—and surprisingly difficult. The density of living looks a little difficult, too. ($7.55)

TRY-IT MAZE (Milton Bradley). A fascinating pastime, trying to work the black ball out through the intricate transparent maze. Even when you've done it, you can't remember how. Reminds us of those cities where one part of town is fairly much like the next, or of those buildings where the elevator is always down another turn in the corridor. ($82)
ONSTRUCTION, OPEN-ENDED. These are the construction sets that begin with bits-and-pieces, sticks and connectors, cardboard and rubber bands, and end up as a construction—abstract or realistic. "Open-ended" does not mean absolute freedom of possibility, though, because in fact there are always limitations imposed by the design of the parts, the number of parts, the appropriateness of materials, and the resemblance to real things.

AMERICAN PLASTIC BRICKS (Hansam Products, Division of Playskool). Five sets with from 119 to 999 interlocking pieces—full brick, half brick, coping brick, lintel, glass-block windows, cupolas, paneled doors, dangerous book. Direction book says that these will build "most anything that can be imagined," that gives front elevation, rear elevation, and foundation plan for what surely must be the most prosaic group of buildings ever imagined. With luck, youngsters will either lose the guidebook, or will grow up to become biologists. (Sets from $2 to $15)

SNAP STICKS (Childcraft). Hardwood dowels fit into a connector that can receive only one dowel, but two or more connectors can snap onto each other. ($1)

FINGER PUPPET STAGE (Creative Playthings). Same construction principle as the Emmett Stiles figures. Large colorful and sturdy cardboard pieces, assembled in varied arrangements; need not be restricted to puppet presentations. ($2.95)

SNAP 'N BUILD (Kohner). Small-sized building blocks, in yellow and red plastic, for the small-sized child (aged 3 and up). Patented snap feature was added to the design several years ago, making it possible to build floor upon floor without toppling. Most other construction toys are too intricate for this age group. (Set of 56 pieces, $2)

LOCK-A-BEAM (Child Guidance). Small slotted polyethylene beams, in pleasant colors. A good basic building block, with good interlocking device. Recommended for ages 4 to 7. (Set of 86, $1.)

MOBY LYNX (Kendrey). An ingenious "mobile linkage" principle, essentially the work of the common rubber band. These rubber bands, however, are not common, being attached to each other along a spine of more rubber. The Moby-maker will cut off a segment of several rubber links, then slip a single rubber band of it over a single plastic clump, and insert this assemblage into the end of a polyethylene tube. A clip-and-band is inserted into as many other tubes as come together at that joint. Materials are reusable, but, because of low price, are expendable. From the concealed joint, the Moby Lynx can project its elements at any angle, in any direction or plane, either in a straight line or a curve. An unlimited variety of geometric and free forms is possible. The inventor, Luke Kestenfeld of San Mateo, Calif., reports that later editions will permit encasing the frame with molded siding when a solid effect is desired. ($2.50)

LINCOLN LOGS (Division of Playskool). Not illustrated. Designed by John Wright, son of Frank Lloyd Wright. Round wood logs, 3/8" in diameter, are not to be confused with American logs, also made by Playskool, but square. Too easy to assemble. Fun would seem to lie in doing a whole town; fun for the manufacturers, too, who have six sets for increasingly larger buildings. (Sets from $1.25 to $6.50)

CONSTRUCT-0-STRAWS (Parker). Flexible polyethylene straws, brightly colored, fit onto the prongs of plastic joiners. The joiners are of varied design—from two prongs up to eight, all in the same plane. Straws can be cut to varied lengths. ($2.55)

FLEXAGONS (Forde). Miniature form of the Flexagon playhouse, which was also designed by Fred Hassett, architect. In fact, the toy developed from table-top study of the playhouse in model form. Fastening technique is a simple rubber band along the length of the slange. Colorful and durable, lends itself to geometric forms, houses, towers, villages. The term "flexagon" is borrowed from an English mathematician who created it for his flexible polygons of folded strips of paper. ($2.50, $10)

LEGOS (Samsonite). Another system of interlocking bricks, originating in Denmark but licensed world-wide. The manufacturer reports that it is currently accepted to a much higher degree in Europe, and must be motorized to appeal to the American market. Photo shows a Norman Mailer construction, not yet fully accepted anywhere, alas. (Sets from $1.95 to $25)

CONSTRUCTIVE THINKING (Child Guidance). Not Thoughtful Construction. The method of building is to construct a "twist" which was also designed by Fred Hassett, architect. In fact, the toy developed from table-top study of the playhouse in model form. Fastening technique is a simple rubber band along the length of the slange. Colorful and durable, lends itself to geometric forms, houses, towers, villages. The term "flexagon" is borrowed from an English mathematician who created it for his flexible polygons of folded strips of paper. ($2.50, $10)

STAX (Orange). Hard plastic rods, in the usual red, yellow, blue, and green. Despite the name, these are difficult to assemble. They are especially unstable when the flexible plastic connectors are utilized. Recommended for ages 4-12. Two or more children are required for some of the more adventurous constructions. ($30)

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The Child at Play in the World of Form
HOUSE AFIRE (Renwal). Not a toy in any sense of the word, say the manufacturers, but a hobby-kit item in HO scale, intended for use with model railroading and model racing. This accessory appears to burst into flames with the press of a button: smoke pours from the roof, and a fireman sprays a stream of water on the blackened roof as his engine pumps away. Motor, pump, lights, and smoke-generator come with this kit. A pleasant enough house. Sorry to see it go. ($9.95)

BELGIAN VILLAGE (Village Creations). This photo of the Belgian Village, like many an architectural photograph, obscures more than a few clumsy connections, and some outright gaps where we could not find the B to paste out the A to. ($1.50)

PLAYTOWN FIREHOUSE; PLAYTOWN GARAGE (Creative Playthings). Two of the Playtown Village settings: others are barn, stable, and various single-level or multi-level houses. Each unit is 12" x 16" in plan, has three sides of maple and a floor of birch plywood. Just enough realism to give the houses detail and a certain charm, as fireman's pole, water hose, vehicles, and elevator for rooftop parking. (Firehouse, $17.95; Garage, $19.95)

DOLL HOUSE (Hallmark). Kit set. Good value for the money—lots of punch-out activity in thin perforated paper. ($1)

PRINCESS PATTY DOLL-HOUSE FURNITURE (Ident). Luxurious furniture in various styles. Left to right: a marbleized end table with nude-lady lamp base, in what might be called Plain Old-Fashioned; a dining room suite in some sort of Empire; an occasional chair, in Genuine Grampa; and a breakfast-room set in Mawkish Modern. Many other items are available, each in its colorful cardboard box. ($1.50, $2.50, $3.50, $5.00)

COMMUNITY BUILDER (Community Playthings). A set of four houses and four roofs which to make any combination of houses, schools, bars, garages, etc. Each unit is scaled 1" to the foot, and in 16" long, 12" wide, and 8" high. Walls are 5/o solid maple; roofs are tempered hardwood. Made by the Society of Brothers, a group of families working together in a spirit akin to the early Christians. They are now in Ripton, N.Y., and in several other locations, but were originally (until the 1930's) in Germany; their play equipment dates from 1954. (unfurnished, $36; furnished, $56)

COMPUTER BUILDING (Superior Plastics). Model kit, complete with historical fact folder. When and if fully assembled (each step is glue-and-let-dry-thoroughly), the finished size is a 10"x14"x5" (the Secretariat can be used as a savings bank). Among other model kits produced by Superior from Sumeron plastic are: the Taj Mahal, "in Solomon-ter-like Superlon"; the Lincoln Memorial, "in marble-like Superlon"; and Mr. Bones, the Human Skeleton, in "bone-like Superlon." (£2.50)

CONSTRUCTION, PRE-PROGRAMMED (Superior Plastics). A series of walls, exterior and interior doors, wall finishes, bathroom fixtures, cabinets, and so on—to build a series of vacation houses, split-levels, and ranches. Plastic sections are notched to grip together, the surface textured to look like brick, shingle, and a few other unidentifiable materials. In 1/4 scale. ($7, $10)

BUILDINGS. For better or worse, some buildings are already pretty well put together. These include everything from Mr. Kelly's Car Wash to Casey's Car Wash (by different manufacturers); from Noah's ark to a heliport; from numerous barns to a $59.95 supermarket. Then there are houses—houses for suburb, plantation, and city, houses that nest, stack, fold, roll, or just sit there. A few items from this motley cityscape:

Nesting Houses (Import, Japan). A variant of the usual nest of dolls, boxes, etc. Despite a certain holiness, these have all the essentials of "houseness"—roof, walls, door, windows. (set, $1.25)

FOUR-STOREY BUILDING (Playwell). A 109-piece set of furniture, $21.95; 27-piece set of furniture, $19.95

PLASTICVILLE, L.S.A. (Bachmann). More HO-Gauge accessories, these in the "modernistic" idiom. Among them are a ranch house, trailer, motel with pool, car showroom, drive-in bank (most of these look alike), and contemporary house (photo). Directions are staggering. ($2.95)

DOLL HOUSE (Hallmark). A series of walls, exterior and interior doors, wall finishes, bathroom fixtures, cabinets, and so on—to build a series of vacation houses, split-levels, and ranches. Plastic sections are notched to grip together, the surface textured to look like brick, shingle, and a few other unidentifiable materials. In 1/4 scale. ($7, $10)

FOLDING FLOOR-PLAN DOLLHOUSE (Creative Playthings). Partitions can be moved or removed during play; house can be folded away for storage. Size is 39"x30"x8" when open; 31½"x29½"x8" when folded. Outside walls and spine are 5/o plywood; room dividers are 1/2 thick. There is no roof. Developed especially for Creative Playthings at the Yale Child Study Center. (Unfurnished, $21.95; 27-piece set of furniture, $26.50)

U.S.A. (Bach.) More HO-Gauge accessories, these in the "modernistic" idiom. Among them are a ranch house, trailer, motel with pool, car showroom, drive-in bank (most of these look alike), and contemporary house (photo). Directions are staggering. ($2.95)
BARBIE'S NEW DREAM HOUSE (Mattel). The very fashionable Barbie doll, who has costumes for every imagin­able activity, has a house to match. A suitecase of Tamanaki arches and shutter windows opens out into a four-room house, and the layout can be changed at each laying out. Mattel's furniture also offers something for everyone: Danish-modern living room, and an 18th-Century dining room—easy to assembly in color­ful chipboard, and impossible to forget in later life. ($8)

INTERIOR DECORATING SET (Irwin). "House & Garden coordi­nated colors and 1909-and-four interchangeable combinations." A vase becomes a lamp, a chair becomes a table, a couch becomes a bed. Pieces interlock without glue; walls, panels are also interchangeable. Furniture is accurately scaled to 1/2" x 1", and the whole is styled to within an inch of its life. ($12.95)

MOBILE HOME (Nylint). Scale model of a typical trailer, 29" long x 6 1/2" wide. Catalog enumerates its deluxe features: sturdy trailer hitch and re­tractable support; tandem-mounted wheels, extruded­hearing for long axe life; smartly styled detachable trailer; heavy steel construction; smooth rolled edges, high-gloss baked enamel finish; window­making white wall tires, chrome hub caps." Furniture made in Hong Kong is included, but is a let­down in every way; dull­brown plastic, badly colored. $7.98

NATIONAL ROAD SYSTEM (Teach-A-Tot Toys, Division of Play­skool). Jumbo and all­inclusive set in a series that begins with village roads, and goes on up to city, county, and state road systems. This one has 376 pieces, mostly in plastic, plus a design sheet with layout suggestions. ($20)

GUIDANCE TOWN, U.S.A. (Child Guidance Toys). Buildings and cars sent through traffic wall on floor, from white plastic. End result of this particular Guidancetown looks like a reformatory. Sounds like one, too. ($5, $5)

BUILD-A-HOME AND SUBDIVISION SET (Kenner). Not illustrated. No one knows why this didn't sell, but despite great hopes for the set, it is being discontinued. Toys very often have no relation to reality. (Originally $10)

WOODEN BLOCKS (will be produced by Playwell). Substan­tial blocks designed with great freshness by Geré Kavanaugh, a West Coast designer who is also at home with interior design and industrial design. This city is truly down to a child's scale—with flowers (the cylin­drial shapes), a fire hydrant, and buildings that lend themselves to imaginative play. (approx. $10)

BUILDING HOUSE (Hall's). Six rooms plus a full attic, or "9 sq ft of usable floor space." Can be assembled with screwdriver alone. Southern charm includes "wrought­iron" balcony, solid-brass hinges on panelled door, and four-piece porch furniture finished in "Natchez green." Six other sets of furniture are available separately. ($30, including porch furn.)

PLANTATION HOUSE (Hall's). New design. Six rooms plus a full attic, or "9 sq ft of usable floor space." Can be assembled with screwdriver alone. Southern charm includes "wrought­iron" balcony, solid-brass hinges on panelled door, and four-piece porch furniture finished in "Natchez green." Six other sets of furniture are available separately. ($30, including porch furn.)

CONTEMPORARY DOLL­HOUSE (Marx). From the catalog: "Marx has done it—gone modern with a completely new design in a lithographed steel dollhouse. The roof lifts off for direct play into the six tastefully decorated rooms. Past the plastic hanging en­trance way lanterns, through the plastic operating front door, the junior homemaker finds a new world of modern living. Of course, the living­room/dining­room flow to­gether with easy access to the kitchen. For privacy, the bed­rooms and bath are in one wing. For a change, access is available through the 'sliding doors' to the rear patio. If this weren't enough, Marx includes a newly designed world of contem­porary furniture: 153 pieces, making 54 interchangeable combinations of modern furniture. Such furniture is all plastic, all new and all out by Marx. There is no doubt that this will be the leading dollhouse of the year." Marx also manufactures several Colonial models, a split­level and a ranch­style. ($10)

ISCELLANEOUS No survey is complete without a miscellaneous category.

DRAFT-A-PLAN KIT (Lake­sight). The closest thing to a Little Play Ductor kit, this one with electric drafting desk and equipment for making blue­prints. It has none of those little red crayon nubs, though, which may be one reason why the set is no longer being manufactured. Not illustrated. (Originally $10)

PLAYSKOOL VILLAGE (Play­skool). For ages 2 to 6, says the manufacturer. Tablecloth layout­able, is rigid and limiting, as are the buildings with their obvi­ous labels and attributes. Best to ignore all this and improvise. ($6)

KINDER PEG VILLAGE ($10). Delightful from many angles. ($2.50)

ITYSCAPE Most toy cities are actually only villages. And most toy villages are made real only by the motion that goes on inside them. Some of these are train layouts, varying from the simplest configuration to the most elaborate; a recent one imported from Germany by F.A.O. Schwarz was described as having "an overhead bridge and wires, freight yard, turntable, engine shed and commuter village, priced at $650." Some villages are magnetic, with trucks and cars sent through traffic wall by means of wands wielded under­neath the set. One such village consists entirely of police station, fire station, gas station, and supermarket. Another, adding such buildings as church and school, nevertheless had a carwash as the largest and most central building. The city, for children, may be static in itself, but it lives on motion.

GUIDE TO THE CHILDREN'S WATERSHED, 1952 (Child Guidance Toys). "The Child at Play in the World of Form..."
Looking back through this catalog is like the wild-eyed look around a living room the day after Christmas. There is something for every taste, for every age group. It was obviously impossible to include in such a survey all the building toys currently on the market. (Limitations of space also prevent our including the large blocks, playhouses, and outdoor playground equipment that make up a child's special—and spatial—experience of architecture; we hope to present some of these in a later article.) Among these toys, some are "well-designed," others are not. Some will last, others will be broken or become tiresome. But children's tastes vary too, and what one will like, another will not; it may not be the fault of the toy designer that a toy is soon broken or abandoned.

There are worse sins committed by the toy designer. Too many toys are designed as if for adults, with directions to match: too restrained, too tidy, too down-to-earth for a child's imagination. Too many toys are the product of a designer whose reined-in imagination is harnessed to the pursuit of a literalness that will always outrun him. The last thing a child needs in a toy is utter realism. But the highly competitive market makes a manufacturer aim for a first-impression exterior, often to the neglect of long-term delight and creative growth.

Some toys are more exploitative than others. If a girl is sold a bill of Barbie goods at age 10, it seems likely that she will be an avid consumer at age 20 or 30 or 40. The point is not whether she will grow up to like "modern" architecture, but whether she will be pleased by matters of form, relationship, integrity.

Contemporary architecture is no more prevalent in the world of toys than it is in the real world, and much of that is only "modernistic" in its externals. The full range of possibilities of contemporary architecture is not suggested even by the many construction kits and preassembled buildings on the market. Children construct primarily with unitary items—wooden logs, unit (plastic) masonry, and the parts for a tension structure—but nothing approximates the monolithic form, or inflatable form, that is part of the structural vocabulary of the real world.

Perhaps the best construction toys are sand and clay—and junk. An article entitled "A Dolls' Apartment House that an Up-to-Date Boy Can Build for His Sister" (Woman's Home Companion, 1913) combined the problems of what to do with an up-to-date boy and what to do with old grocery boxes. A recent exhibit at New York's Pepsi-Cola Building amplified this idea with an entire show of toys made from cast-offs—one city-scape was made of paper bags, each building given individuality through painted-on windows. But it would take a courageous manufacturer to admit that real junk might be better than the elaborate junk he now takes such pains to produce.

And, in the meantime, new toys proliferate. As yet, most of the "villages" are only in vaguest contact with the experience of an urban child. Perhaps the game world, being as gamey as it is, will leap into the breach. Monopoly, after all, got its start during the Depression, when people did not have much real money to play with; perhaps there are vicarious possibilities in such games (not yet invented) as Demolition, Rapid Transit, Pollution, Fight City Hall, or Housing Scandal. There might even be some intrigue to a game called Environment, although the concept is hard enough to sell in the real world.—EP
The Why and How with designer
Maria Bergson:

**WHY:**
Rooms have six, not four walls, ... Plaster is sculpture within the box.

**HOW:**
What you do earns the workmen's respect ... make drawings they can't chisel on.

**WHY:**
A lack of fluidity is poorness of enjoyment.... Plaster is fluidity.

**HOW:**
Careful detailing... assures contracted work.

**WHY:**
We wish a charm of life; no one likes to be in a barracks.

**HOW:**
Our details force up the price.... Contractors think we are fussy; we are.

**WHY:**
Good plastering has not gone out of fashion.

**HOW AND WHY:**
Make prideful work for both designer and contractor.

If beauty is skin deep, then the beauty of interior design can be measured to the depth of its plaster. As the skin covers the bones, sinews, and respiratory system of the human body, the plaster coat of the building's interior conceals the bare facts of structure and the awful nakedness of mechanical systems.

The extremely difficult problem of coordinating work on the mechanical systems and plaster framing to keep the skin unblemished is complicated by a series of not necessarily compatible premarital concepts held by the trades prior to their "Marriage of Convenience" on the construction job.

*Mechanical Contractor:* "Get there fustest with the mojestest."

*Architect:* "You can't rent mechanical space."

*General Contractor:* "Coordination, spo-ordination.... Everything will come out in the end."

*Detailer, Alias the Artist:* "All masterpieces should have an air of mystery enhanced by the things left unsaid."

It is a wonder that, with this combination of concepts, ceilings are not built on the floor. The fact that they are actually
constructed so that a person can walk erect beneath them is the wonder of the age. However, there is no denying that, in the doing, there does result some of the longer, more interesting job deliberations accompanied by some of the shorter tempers.

The ceiling details shown here are an example of the approach to the joys of plaster as a medium and a menace by a competent designer and her staff. They are important because they reflect careful consideration of the factors involved. However, drawings cannot solve all of the field problems, as the as-built illustrations show, although they are a fine first step.

Careful detailing is probably the only honest method of alerting the contractor to the designer's intent. It is unfortunate that a certain amount of confusion often results, due to several types of construction being lumped into one job. Wise contractors know that when interior designers are called, special conditions must be met. The contractor will price accordingly and watch for trouble. Another name for trouble is coordination.

The question has been raised—and, it seems, with justice—that the contractor should be compensated for additional coordination. This form of coordination is an essential corollary of careful detailing; it is a factor that should certainly be considered if quality work is to be produced. No matter how well the job is detailed, without coordination the right details will be in the wrong place.

The detailed drawings shown here should illustrate some of the reasons that interior design and construction is so fascinating and often so difficult to contain within the building for which it was designed. The as-built drawings have been added to show that, despite the excellent and careful detailing of the designer, these are the actual conditions the artisans had to coordinate.

From the drawings, it would seem that the designer managed by the skin of her teeth to keep the skin-deep beauty of the interior from becoming a beast. It is hoped that all coordinating parties were thick-skinned enough not to be skinned. In summation, I would like to quote an old construction stiff, Chips the Dowel Knocker, whose immortal words seem to sum up the situation: "No matter how hard we work, they seem to finish the job anyway."

—FW

Plastered in Paris: Getting High is Hard Work
PITTSBURGH TRIES OUT NEW TRANSIT TECHNIQUE

Driverless vehicles, spaced two-minutes apart, travel a two-mile track to demonstrate a transit system suitable for medium-size cities.

With $5 million and an eye to the future, Government and industry have built a demonstration transit system near Pittsburgh, Pennsylvania, to study a new method for moving large numbers of people through a medium-size city.

The system, called Transit Expressway, carries passengers in driverless, rubber-tired vehicles that ride on concrete tracks. Three of these vehicles travel an approximately 1½-mile-long test circuit at South Park near Pittsburgh. Most of the track and one station is elevated; a second passenger station and a control station is at grade level.

Transit Expressway is testing schedules for running vehicles singly during slack periods and connecting the cars into trains during peak fare periods. At all times, the time interval between vehicles will be kept constant. Thus, a passenger will know that, whatever time he enters a station, the next vehicle will be no more than, say, two minutes away.

With an attractive service such as this, transportation planners hope to induce motorists to use public transit instead of overloading streets with cars that sometimes carry only one person.

Vehicles on the Transit Expressway tracks seat 28 persons and carry 42 standing passengers. Each vehicle is 30 1/2 ft long by 8 1/2 ft wide, weighs 9 tons, and travels at 50 mph on a straight track. At curves, it slows down to 20 mph.

Engineers modeled the riding quality of the vehicles on the performance of a high-quality automobile on a new interstate highway. However, vehicles differ from automobiles in that there is no steering mechanism. A transit car drives on eight rubber tires mounted on two axle assemblies that swivel when the vehicle enters a curved section of track. A set of horizontal wheels, also mounted on the axle assembly, holds the vehicle against a center guide beam.

A system of mechanical and air springs located between an axle assembly and a vehicle body cushion the ride and also prevent the horizontal guide wheels binding on the guide beam when the vehicle enters a banked curve. Steel safety wheels superimposed on the guide wheels stabilize a vehicle against any overturning forces.

Who Paid the Fare?

Federal, state, and county agencies financed nearly 80 per cent of the $5 million project. The Federal Housing and Home Finance Agency contributed the major share: $2,872,000. The Port Authority of Allegheny County gave $886,000, and the Pennsylvania State Department of Commerce, $200,000. Industry supplied the remaining $1,042,000.
Presumably, Philip Johnson’s truncated hollow pyramid for the Ellis Island national shrine will not suffer the same fate as the Tower of Babel—unless it chances to give Robert Moses offense—though we wonder about the strong reference of a monument designed to celebrate the absorption of many languages and many people by the U.S. to a form and a time thus celebrated in the Bible.

The monument is actually part of a larger plan for the Island and 400 acres of New Jersey swamp 1300 ft away. On Ellis Island, the immigration station building and hospital group (designed in 1898 by the New York firm of Boring & Tilton) on either side of the ferry slip will be preserved as “romantic” ruins, with most of their interiors removed and trees, vines, and other foliage planted around and encouraged to grow up and into the old structures. A system of raised walkways around and through the buildings will “let the spectator . . . recreate the feeling of those hard times,” according to Johnson. Paths will thread through this portion of the site. A moat will separate the old group from the rest of the island. In stark contrast will be the “Wall of the 16 Million,” a 130-ft high (20 ft short of the base of the nearby Statue of Liberty), 300-ft-diameter concrete structure rising from a bare, crew-cut grass plain. Sixteen million refers, of course, to the number of people who entered this country through Ellis Island.
The cone will be spiraled within and without by 3-ft-wide ramps ascending to viewing platforms at various points of the structure. Johnson hopes to have plaques bearing the names of the immigrants who entered the U.S. through Ellis Island mounted between the vertical, pre-stressed concrete ribs of the building. A 100-ft-diameter pool will be located at the interior of the great court.

Another new building, this one described as "fortress-like," will contain an off-shore restaurant and will be placed north of the immigration station looking at the New York skyline through slit windows. The 400 acres in New Jersey were dedicated by Secretary of the Interior Stewart Udall as "Liberty State Park" at the same ceremonies that saw the unveiling of Johnson's plan. They may eventually be connected to Ellis Island by a footbridge. Landscape architect is Zion & Breen.

Reaction to the project in New York was somewhat mixed. Even The New York Times, the only local newspaper with an interest in architecture, was somewhat schizophrenic: critic Ada Louise Huxtable coming out mostly in its favor one day, and an anonymous editorial questioning the appropriateness of a "wailing wall" symbol for this entrance to democracy in the following edition, and calling for a restudy of the monument's design. Babel, indeed.
LIKE, IT’S JUNK...BUT THE GOOD KIND

You are seeing the constructions on this page in the wrong manner. If you hold the magazine at arm's length and pass it rapidly in front of your eyes, you will get a sense of the way it really is on the shores of East Bay not far from the Berkeley campus of the University of California. There, between the bay and the Nimitz Freeway near the approaches to the Bay Bridge, students have been using flotsam and jetsam found along the shore to create giant-size junk sculptures, some of which could stand comparison with many current exhibitions in New York and San Francisco art galleries.

There is the requisite—for Berkeley—amount of comment and protest: ban-the-bomb insigne, “Peace” signs, and what looks like a bomb about to hit a babydoll over the head. One suspects, however, that most of the creation done here was out of sheer high spirits and a what-the-hell-it's-going-to-fall-down-in-three-days-anyway kind of abandon. And that ebullience comes through splendidly.

Commuters on their way home from a Market Street job to the consolation of that first Martini probably do not think much of these objects as they zip by, not as much as they mull over the merchandising impact of the cigarette billboard they just passed. But the two artifacts by the side of the road are both products of the same culture, and, of the two, we prefer the one with the guts and life in it, transient though it might be. (The sculptors will probably be zipping home to their own Martinis in a few years!)
In 1962, William Mileto was asked to design housing for Colombia that could be erected simply, efficiently, and economically. His solution was a system of right-side-up and upside-down trusses and connecting walls that could be slid against each other both backwards and forwards and up and down according to the dictates of varying topography.

That project never went through, but when Mileto, now New York partner of the Rome-New York firm of McMillan, Griffis & Mileto, was commissioned to design a proposal for housing on a wooded, partially swamp-like site in New Haven, Connecticut, he brought out the drawings for the Colombian venture and found that, with updating and maturation of his original scheme, the concept fitted the new problem admirably.

According to Mileto, the New Haven design is an attempt to create "a tight, a very tight, urban feeling" for the development. He has therefore clustered the units at the central portion of a site approached over a kind of "causeway" past the most swampy portion of the site. Parking areas are found at either end of the central circulation spine; both the parking and traffic are slightly below grade—about 3 ft—so that residents will be aware of cars and delivery trucks, but will not be intimidated by them. "Ladies like to look out of the kitchen window and see what's going on," he says. There will be little landscaped "experiences" in the unbuilt portions of the property: tiny islands, bridges, and footpaths.

A sense of entrance into this little community will be emphasized by overhead footbridges that will connect third-floor elements near the beginning of the "street." These upper units will be reached by outside stairs—"suitable for bachelors," the architect says. As one progresses along the lowered main street, the units will splay out and become lower. A guest parking lot screened by trees will preserve the line of the street.

The architect feels that the truss system of construction, aside from the merits of economy and flexibility, can be exploited for variations in interior treatment. There can be the expected, exposed "cathedral" ceiling effect, a plain dropped ceiling, a half-and-half arrangement, an exposed, reverse truss arrangement on lower units, or, where the truss is interrupted by a partition, an exposed and concealed bottom truss.

As in the Colombia design, the units slide easily against each other horizontally and vertically. The emphasis on creating a compact hamlet in the New Haven project has lead Mileto to place all entrances on the
street side, where miniature sidewalks would parallel the depressed roadway. Unlike the Colombian plans, all living rooms here would face the rear, overlooking views of the common woodland.

The project's major attribute, one feels, is its search for a "tight" community experience. The site seems particularly well suited for such an experience, allowing an approach over a marshy space to the gateway (bridges) for a communal block. A miniscule Mont-St.-Michel, so to speak. It is to be hoped that this project, or a similar one, could better realize the possibilities of the plan by extending it to a greater number of units, and therefore a larger variety of urban spaces. This observer is less happy with the design of the individual elements. Aside from their acknowledged economy and fluidity, they have, in drawing and model form at least, a repetitious similarity of silhouette and elevation, recalling the "roof play" of the late 50's and early 60's. The architect states that the use of color, balconies, stairs, will tend to give life and variety to the project, and it is hoped that these elements will also answer this objection.
When the 23rd Avenue Overpass in Oakland, California, won a Public Use Citation in the 1963 P/A Design Awards Program, the jury comment was that this was "a commendable design effort by a team of architects, engineers, and landscape architects in an area of construction activity seldom explored architecturally."

Since that time, California has launched a number of transportation projects involving architects, such as the use of Mario Ciampi in designing highway bridges and the program of using different offices for stations on the Bay Area Rapid Transit System. The Oakland Overpass, however, has the distinction of being one of the first projects completed, and it successfully proves the value of the interprofessional dialogue lauded by the 1963 jury (Paul Rudolph, John Johansen, Robert Geddes, Aline Saarinen, John Silling).

The original solution, unfortunately, seems to have lost some of its refinements along the way, no doubt in the name of expediency and economy. The landscaping has yet to appear, and there are reportedly no plans to proceed with it. Also, and probably more importantly, an integrated handrail-luminaire (see detail sketch from initial Citation-winning design) that removed those omnipresent lighting stanchions that so often contribute their unique form of weediness to the civic bouquet, has disappeared, and, in its place, we find a gaggling procession of gooseneck highway lamps. (Protection against vandalism also figured here.) A pity, for what re-
its vertical compactness, loses power and becomes diminished. One wishes that some means of terracing, burying, or otherwise concealing the parking structure could have been employed.

A professional who recently visited Durham reports to P/A that he found the structural idea bold but somewhat obvious and self-consciously handled. The vertical rhythm of the exterior columns, reiterated by the repetitive vertical elements in the truss floors, he felt were misleading and not representative of all the interiors.

Nevertheless, this building is yet additional evidence of what has evidently become a decided trend in the past few months: the re-emphasis on design as a major factor in architecture by many of our large, “business” firms. In Chicago, in Los Angeles, in Detroit, in New York, we have become aware that big and/or old-line firms notable for a steady if not-too-exciting production of buildings have suddenly started turning out some pretty exciting designs. In some cases, it is the result of hiring new talent and giving it its head (cf., this year’s First Design Award, January 1966 P/A). In others—and this is the way the North Carolina Mutual Life Insurance Company Building looks from here—it is the case of a wealthy, dependable outfit maturing in the design sense. A very heartening development, and one we will watch with deep interest.—JTB

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Fuel Cells for Houses

BY WILLIAM J. McGUIINNESS

Small chemical batteries fed on natural gas may generate power for a house and use the excess heat to good advantage. McGuinness is Chairman, Department of Structural Design, School of Architecture, Pratt Institute, Brooklyn, N. Y.

Overhead power lines will be eliminated from future housing developments if the natural gas industry realizes its ambition to develop an economical, domestic-size fuel cell. A fuel cell is a form of chemical battery that silently and continuously generates electricity.

The American Gas Association believes that fuel cells fed with natural gas will be commercially available in 1975, and should produce electricity for half the price of conventional power sources.

These new energy sources would do the same job in houses as the gas-turbine, total-energy installations that heat, air-condition and generate electric power in large buildings. Eventually, fuel cells may be perfected for replacing the gas-turbine generators in commercial and industrial buildings.

Proponents of fuel cells list among its advantages silence, low-cost operation, and small size. The cells, or, as the Institute of Gas Technology prefers to call them, continuous feed batteries or galvanic combustion engines, are silent because they contain no moving parts. This, in turn, reduces maintenance. Space requirements are minimal: A cell suitable for a house would occupy less than 2 cu ft, and cost about $50.

Much smaller fuel cells are installed in spacecraft. Research into this application of power generation led to the subsequent development of fuel cells for domestic use. However, the fuel cells in space capsules are quite different from earthbound models because they are designed for a limited life, and because the cost of miniature cells is extremely high.

A cell to serve the total power requirements of a building would have to be low in cost and suitable for long, continuous operation. It would use natural gas, which contains hydrogen, and air, which contains oxygen. The IGT is investigating two types of cell: a high-temperature cell, and a low-temperature acid fuel cell.

The high-temperature fuel cell is expected to be available commercially within 10 years. Current is produced by a flow of electrons from a cathode to an anode. These electrons are liberated by passing oxygen and carbon dioxide from air over a porous copper cathode. A ceramic, molten-carbonate electrolyte heated to 1200 F envelops the anode and cathode in a cell. (An anode consists of porous nickel.)

The natural gas supplies heat and gases; it is used to make steam for a process called steam-reforming, which produces hydrogen by mixing natural gas and steam over a catalyst. The hydrogen is then consumed at the anode of the cell.

Refinements in development of this cell have increased its performance and reduced its cost, as shown below:

<table>
<thead>
<tr>
<th>PERFORMANCE: MATERIAL COST</th>
<th>watts psf</th>
<th>per kilowatt</th>
</tr>
</thead>
<tbody>
<tr>
<td>1962</td>
<td>12</td>
<td>$6000</td>
</tr>
<tr>
<td>1963</td>
<td>20</td>
<td>200</td>
</tr>
<tr>
<td>1965</td>
<td>100</td>
<td>40</td>
</tr>
</tbody>
</table>

The second system, a low-temperature acid fuel cell, is in a more advanced engineering stage than the high-temperature cell, but its components are more expensive. Both types are in need of further development, but the sponsors are sure of the feasibility of fuel cells for supplying power and heat for homes.
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Ten Years: A Summing Up

BY HAROLD J. ROSEN
On the occasion of his tenth anniversary as columnist for P/A, Harold Rosen reviews the highlights of developments in specifications writing in this period, and looks toward the future. The author is Chief Specifications Writer at Skidmore, Owings & Merrill, New York, N.Y.

This issue marks the tenth anniversary of this column. Such an occasion justifies a review and an analysis of its originally stated purposes, its subsequent fulfillment, and a look into the future.

In the April 1956 P/A, the column opened with this prologue: "From time to time, this space will be used as a clinic to diagnose materials that appear in specifications. Formats for specifications are plentiful, but information on the chemical and physical properties of materials and combinations of materials, while available in voluminous reports from many sources, requires considerable time to digest, evaluate, and incorporate in new specifications. Carefully planned designs require materials which will not cause the loss of a client because your dream house leaks, doors warp, calking sags, built-up roofs blister, paint peels, and plaster pops."

Looking back, it would appear that, although some of these objectives have been fulfilled, new areas have also been explored in order to keep pace with an expanding technology. Looking to the future, it seems that perhaps even newer concepts may have to be evolved to deal with both the materials explosion and the system under which projects are constructed.

Ten years ago, we stressed that information on the chemical and physical properties of materials, and combinations of materials, was essential for avoiding failures. Many articles appeared concerning the properties of materials and their interaction in a composite design. The need for this type of information will be never-ending, because an expanding industrial technology, fed by research for the space and missile program, provides new data that finds its way into products for the building industry. The realization that more and more building materials will be the products of chemistry, has focused attention on the educational curriculum for future architectural students. There is an urgent need for educators to recognize that future professionals will require a more basic understanding of man-made materials if they are successfully to incorporate these materials into composite designs. A license to practice architecture carries with it a responsibility to be conversant with all aspects of the profession, including familiarity with the products selected and specified. The profession today is handicapped by its inability to obtain men properly grounded in the science of building materials.

Another area occasionally reported in this column covers the basic principles of specifications writing. We originally thought that formats for specification writing were plentiful, but we mistook an excess of methods for adequate methods.

As far back as 1957, this column advocated a system of organization of specifications on a national basis. Such a system was promulgated in 1963 by the Construction Specifications Institute with its Format for Construction Specifications. This principle will be further extended into a nationwide system of data filing that involves the cataloging of products and manufacturers' literature and codifying contractors' estimates. This enlarged system will be forthcoming this year. Called the Uniform System, it was sparked by the AIA, under the leadership of James Hemphill, and with the backing of CSI, the Associated General Contractors, and other groups in the building industry.

The arrangement of material in the Technical Section, a generally neglected area, was discussed in this column last July. Such an arrangement will serve a useful purpose when attempts are made to use the computer as an aid in writing specifications. Systems engineering will only work when there is order and arrangement. And standardization of the arrangement of the Technical Section will be the next order of business to be formalized and agreed upon.

A materials specification method that encourages competition but does not have the drawbacks of the pernicious phrase "or equal" was the subject of a new concept, "Product Approval Standards," in the May 1962 P/A. This method permits competition during the bidding stage but stops the auction after the contract has been awarded. Control over the selection of material thus rests with the architect.

In the November 1962 column, we suggested a method for presenting product information by manufacturers. We called it "Product Data Sheet," and, since then, the CSI and the Producers Council have evolved a "Spec-Data Sheet" that will provide a more meaningful system of communication between the producer and the specifier. This system of product information will be administered by CSI and will be available this year.

It is difficult to forecast what direction specifications writing will take in the years ahead. Will the architect be the master builder and retain control? Or will others—namely, those responsible for product manufacture and building construction—understand their responsibility and share in the team effort that is required in the coordination, integration, and accomplishment of the completed structure? CSI believes that, insofar as improvement in specifications writing is concerned, success can only come through a joint effort by specifiers, manufacturers, and contractors.

If I were to restate the objectives of this column, it would be simply to keep readers fully informed on the latest developments of basic principles and materials engineering that affect specifications writing.
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Warranties and the Home Builder

BY BERNARD TOMSON AND NORMAN COPLAN

Is a builder's warranty, express or implied, merged in the transfer of title at the time of purchase and thus extinguished, or does it survive acceptance of the deed of title? P/A's legal team discusses the legalities involved.

There has been much controversy and litigation involving the measure of liability of a builder in circumstances where defects in the building project are discovered or revealed after it is sold. The sale of homes in residential developments has been a particularly fertile field for controversy. The legal issue generally centers around the question as to what warranties, implied or express, survive transfer of title to the buyer.

The general rule is that the seller of a completed residence makes no implied representations or warranties of its fitness for habitation, even if the house is new and has not been previously occupied. The buyer purchases such a house at his own risk and must rely on what his own inspection reveals. This rule is generally followed in Alabama, Arizona, Georgia, Illinois, Indiana, New York, Ohio, and Oregon. Many states, however, have followed the principle that an implied warranty arises when the seller is the builder and the house is incomplete at the time of contract of sale. Some of the jurisdictions following this rule are Colorado, Illinois, Indiana, Louisiana, New Jersey, Ohio, Oklahoma, Texas, and Washington.

This implied warranty is described by some courts in terms of a guarantee that the house is “fit for habitation” and by other courts in terms of an undertaking that construction has been performed in a “workman-like manner.”

If a builder, when entering into a contract of sale for a project yet to be constructed, furnishes express warranties guaranteeing a standard of performance, or, under the law of the state involved, is subject to implied warranties, such builder may nevertheless escape liability for failure to satisfy such warranties if the project has been accepted by and conveyed to the purchaser. The legal issue presented is whether or not the builder's warranties, express or implied, have been merged in the transfer of title and thus extinguished, or whether they survive delivery and acceptance of the deed of title.

Typical of litigation in this area is a recent New York case, Staff v. Lido Dunes, Inc., 262 N.Y.S. 2d 544. In this case, the purchaser of a one-family home entered into a contract with a development company whereby that company contracted “to erect and complete a one-family dwelling substantially similar to the Model House Type Victorian on exhibit by the Seller, which dwelling shall be constructed in accordance with the requirements as to materials and workmanship of the municipality wherein it is located.” The contract also provided “that the acceptance and delivery of the deed of conveyance at the time of closing shall be deemed to constitute full compliance by the seller with the terms, covenants and conditions of the contract on its part to be performed” and “that none of the terms of the agreement except those specifically made to survive title closing shall survive such title closing.” After the conveyance and acceptance of title, the purchaser asserted that he had discovered defects in the shower tiling, the result of faulty installation of the sheet rock behind the tile; that the dining room and den flooring were improperly laid, without proper allowance for expansion and in the same direction as the subflooring; that the sill plate was below ground level, in violation of the Building Code; that the footings were not of the required depth; and that the piers were not centered on the footings. The purchaser claimed damages based on the seller's breach of express and implied warranties, and the seller defended on the ground that any such warranties were merged in the conveyance and acceptance of title as specifically provided in the contract above quoted.

The Court ruled that the builder was obligated under its contract to furnish a structure that met the requirements as to materials and workmanship of the municipality in which it was constructed, and that the Building Code required that “workmanship in the fabrication, preparation, and installation of materials shall conform to generally accepted good practice.” The Court held that if the defects complained of were the result of the failure of the builder to meet this standard of “good practice,” and were latent or undiscoverable as of the time of the conveyance of title, the express promise or warranty of the builder to meet the standard of “good practice” survived the conveyance of title and his liability continued. The Court stated:

"Whether obligations of the purchase contract are merged in the deed is generally a matter of the intention of the parties. Under paragraph 24 (of the agreement) none of its terms except those specifically made to survive title closing shall survive such title closing. To the extent that construction defects are discoverable at the time title closes public policy is not violated by enforcement of the contract provisions because the purchaser can protect his interest by either demanding a 'specific written agreement' covering the defect or refusing to close until it has been corrected. With respect to latent defects, however, the provision if enforced is an absolute bar to action with respect to defects which by hypothesis are unknown at the time barred. It is with respect to latent defects, the cause of action is extinguished at the moment it is created. It has long been the law of New York that while limitations may be 'prescribed by written agreement' an unreasonably short limitation period is against public policy and unenforceable. The court concludes that as concerns defects not discoverable at the time of title closing paragraph 24 does not bar this action."
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Architects Without Architecture

BY SIBYL MOHOLY-NAGY

Perspecta 9/10: The Yale Architectural Journal. Edited by Robert A.M. Stern. Published by the School of Art and Architecture of Yale University, New Haven, Connecticut, 1965, 336 pp., illus., $6.00. The reviewer, Professor of Architecture at Pratt Institute, is author of Carlo Raul Villanueva and the Architecture of Venezuela. She is lecturing this month at New York’s Museum of Modern Art on “The Past In the Present.”

Architectural criticism finds itself today in the same boat with the body rental service. Both are threatened with extinction through unfair competition from their own clientele.

This is not the place to mourn the decline of the oldest profession. What concerns us here is the peril to the second oldest: architecture. Its death by verbalization becomes startlingly apparent in this issue of Perspecta—large, heavy, and expensive enough to rate as vade mecum of contemporary architecture. Despite a variety of themes, architects Robert Venturi, Charles W. Moore, Romaldo Giurgola, Philip Johnson, Edward L. Barnes, and Louis I. Kahn have as their common denominator a more or less total break between theory and practice. Not that these vast expositions of architectural and city-planning theory are incompetent; they are almost painfully soul-searching and carefully formulated, illustrated with historical and contemporary selections that would carry the message if the reproductions were larger than windshield stickers. What is so startling is the frantic effort to justify architectural performance through historical evidence that is totally unrelated to the actual results. Robert Venturi, in “Complexity and Contradiction in Architecture,” flings a massive challenge at “the powerful orthodoxies of 20th-Century architecture” by advocating “... forms that are impure rather than ‘pure,’ compromising rather than ‘clean,’... ambiguous rather than ‘articulate,’ allusive rather than simple, perverse rather than impersonal.” Whatever one might think of a definition that identifies personal and perverse, Venturi’s exposition of architecture as grandeur and delight, from Karnak to Chandigarh—with a predictable preference for the Baroque—is fluent and erudite. The 23 pages of buildings designed by him that follow this ringing proclamation of architecture as art constitute such a blatant contrast to the splendor of complexity just expounded that it would be ludicrous if it came from a man less committed and less innocent than Robert Venturi. His little villas, shown without a trace of environmental context, belong to that peculiar contemporary school that has replaced the functionalist basement-above-ground with the attic-in-search-of-an-elevation. These cardboard models, which retain their cutout two-dimensionality even when they have been built, are as unambiguous as the pilgrim houses of Dedham, shooting their 45° roofs straight from the ground, and as articulated in exterior-interior relationships as the most sinful of the Bauhaus master-houses. Most of all, they are totally devoid of that “perverse” delight in visual complexity and aesthetic intoxication the architect demands so eloquently in the long introduction to his own testimony.

This let-down from lofty intellectualism to tangible proof continues in Philip Johnson’s “Whence and Whither.” One of the most educated of architects comes up with the proclamation that: “Architecture is surely not the design of space, certainly not the massing or organizing of volumes. These are auxiliary to the main point, which is the organization of procession. Architecture exists only in time.” In a thoughtful article in the same issue, “What Can Historians Do For Architects?,” George Kubler explains why architects are concerned with space and historians with time. It looks good on paper to stand his theory on its head and assert that it is the architect who deals with time. The trouble is that 5000 years of evidence prove this whimsical liquidation of space and form as first causes of building wrong. Timelessness, immutable permanence in the flux of time, distinguishes architecture from all other concepts of a man-made world. The generous credit Johnson gives to the precisely few Great Spaces created in our time defeats his own thesis. They, as well as what work of his own he shows, are spaces defined by form, and form in exterior space. Not one of them shows “movement in time” beyond a
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more or less successful building approach. All lack the processional aspect claimed for laboratory "temenos" and penthouse alike, because the meaning of *processum* is a declaratory ritual, continuous and self-purpose, whose architectural definition is without functional destination—like Imhotep's colonnade at Sakkarah, the Via Triumphalis at Timgad, or the open-ended axis of a Byzantine palace compound.

It is not actually the individual idea that is so puzzling in these intellectual confessions by architects turned their own critics; it is an almost frightening blindness to visual coordination. Edward L. Barnes contributes "Remarks on Continuity and Change" that start with a fine exposition of historical continuity and a sensitive analysis of his own response to the flow of the natural building site. When he projects tradition and transformation into the contemporary urban landscape, he advocates the earliest Corbusian fallacy of "the vertical village"—"large comprehensive units where the cycle of daily life, the shopping, schooling, working, and worshipping are all expressed in one neighborhood structure···"—as if this were not the ultimate death of the city, of historical and social continuity, of interchange that generates the forward changes of mankind. His final appeals for "a common visual plane" and against the "building by building approach" lack any corroboration in the presentation of his own work, which emerges as anti-urban and additive-Euclidian, setting the theme for the city planning analyses of Romaldo Giurgola.
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The author, Richard P. Dober, has served as consultant on planning and design to M.I.T., Harvard University, Drake University and Goucher College. He has prepared master plans for the University of Rhode Island, University of Colorado, Dana Hall School and others.


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Continued from page 236

and Charles W. Moore. Giurgola’s “Reflections on Buildings and the City,” with the subtitle, “The Realism of the Partial Vision,” is the hardest piece to appraise in this collection of essays. Such effort, such profusion of facets and definitions of that spectral image—the city! The historical references, verbal where they were pictorial in the other pieces, devaluate rather than enhance the weight of some profound and constructive insights. The scale at which cities in history were torn down and rebuilt exceeds anything we are attempting today, and there is nothing “voluntary confused” or romantically “private” in the uniformity of residential street elevations from the Renaissance Grandes Places to the Baroque Isle St. Louis, Georgian London, or the rank and file of Hausmann’s Paris. It is this devaluation of pragmatic experience by inept historical criticism that weakens the significance of the contemporary argument, reducing design, in Giurgola’s own words, “to a search for evidence of predetermined theories.” When he approaches the city directly he comes to fresh and unequivocal conclusions: “Order comes, rather, from . . . facts that extend from the historical experience of human events to the functional logic of its structures.”

“Buildings are the formative element of the city.”

His call for spontaneous growth and “the city as a complex of poetic essence” seems strangely defeated in the published plan for Tel-Aviv, in which serried ranks of high-rise boxes and Kahn-esque block patterns of oppressive formalism defeat every promise made in his 12 long, verbal columns.

This imprudent exhaustion of the reader’s patience by overstatement is even more deplorable in Charles Moore’s contribution, “You Have To Pay for the Public Life.” He appropriates 29 columns of fine print and 62 illustrations, in addition to a 17-page portfolio, to make the excellent and much-needed suggestion that we avert our gaze from the housing and redevelopment problem to consider “monumental architecture as part of the urban scene.” In the name of THE PEOPLE, modern city developments have been robbed of “. . . the act of ‘marking’ . . . as a function of society’s taking possession of or agreeing upon extraordinarily important places on the earth’s surface, and of the society’s celebrating their pre-eminence.” Public buildings that are “monsters of equivalent rootlessness” have destroyed a sense of urban identification without which civic existence cannot flourish. As proof of the continued effectiveness of an architecturally expressed public life, Moore concludes his monumental exposition with a portfolio of—Disneyland! This schizophrenic split between a rare insight into the true architectural essence of city planning and the nonarchitecture of Fantasy- and Tomorrow-Land lies in the aesthetic nihilism of this “enormously important” pastiche, creating for the planner-architect a spurious equation between the historical scale of preservation and the electronic scale of communication. The split deepens with a selection of executed work by Moore’s office. Here are the same grounded attics, hanging like bird cages from the California slopes; they are the unmodified descendants of Harvard’s Snake Hill colony of 30 years ago. Even the one urban apartment project that could bridge the gap between Moore’s splendid urban theories and his own con-

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APRIL 1966 P/A

On Readers' Service Card, circle No. 387→
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Because Mr. Randell is an acknowledged expert in his field, and has no connection with any phase of the electrical industry, we believe you will want to read his speech in full before you plan your next office building. For a free copy, write: NECA, National Electrical Contractors Association, 610 Ring Building, Washington, D.C. 20036.

Mr. Randell's speech was carried in the August, 1965 issue of SKYSCRAPER MANAGEMENT
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Continued from page 246

enjoyable when one finally comes upon it. On the highly professional side of architectural criticism is an instructive piece by Vincent Scully entitled "Dol­

drum in the Suburbs." He offers a much needed clarification of the "de-urbaniza­

tion" of American architecture in the 30's that cut off concern with the city­
scape at a date when it would have been of the most critical importance. After an astute evaluation of the American Bau­

haus influence on the diminution and dispersal of urban scale, it comes, how­

ever, as a shock to find Mies van der Rohe glorified as the savior who led American architecture "... out of the suburbs, back into the city, to make monumental architecture once more." Scully, like every Giedionesque archi­

tectural historian, pretends that there never was a Second Skyscraper Age in America. He ignores that the suburban designers of the 30's turned their backs on the truly urban monumentality of Albert Kahn, John Root, Raymond Hood, and that superb achievement of a new city scale, the Philadelphia Savings Fund Society—all created a decade before Mies van der Rohe started his own monumentality.

Henry-Russell Hitchcock's "Aalto versus Aalto" could teach the architects bent on becoming critics what a critique should be: terse, objective, factually precise, and thoroughly, exclusively architectural. From a critic's viewpoint, this is the redeeming contribution to the Perspecta issue. Anyone wanting to know about the curious path of Alvar Aalto's architecture from a fresh regional interpretation of functionalism to a latterday self-plagiarism will have to take Hitchcock's analysis as his guide.

The visual sustenance of this volume comes from excellently reproduced architectural drawings that underline the deadly schematism of the diagrammatic renderings illustrating the treatises. It is sheer pleasure to study the eloquent wordless genesis of The New City Hall at Boston by Kallmann, McKinnell and Knowles, furnishing environmental, spa­
tial, and structural information, and to compare it with "Some Unpublished Drawings" by Henry Hobson Richard­

don, on the one hand, and Louis I. Kahn's sketches on the other. What emerges is a kinship between Richard­

son and Kahn that could perhaps best be characterized by paraphrasing Wright. His "Sullivan's ornament be­
came my structure," here becomes Kahn's 'Richardson's elevations became

Continued on page 258

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transfiguration of Comlongan Castle, this time in the guise of the Adele Levy Memorial Playground, appreciation wears thin: "I did not speak in terms of architecture. He did not speak in terms of sculpture." When Kahn tells about his collaboration with Noguchi, one can only sigh: "Would they had!"

In a thoughtful, concise biographical analysis, Adolph Placzek compares "Youth and Age in Architecture," coming to the documented conclusion that the architectural maturing process cannot be shortened and that the greatest design achievements have been the fruit of long years of anonymous apprenticeship. We shall take heart from this fact and hope that the young architects of this issue will mature and develop a unity of idea and performance. We also hope that future editors of Perspecta will not continue the dangerous trend toward glorification of architects without architecture. The only justification of an architect is his building. It is not up to him but to the critic to weigh his performance against the historical perspective, testifying, as Kubler writes, whether it . . . "communicates a pattern that was invisible to his subjects when they lived it, and unknown to his contemporaries before he detected it."

A Static Gallery
BY ROBERT A. M. STERN

World Architecture II. Edited by John Donat. A Studio Book published by the Viking Press, 625 Madison Ave., New York, N.Y., 1965. 250 pp. illus., $15. The reviewer, presently holder of the J. Clauson Mills Fellowship of New York's Architectural League, edited the most recent "Perspecta" (see preceding review) while at the Yale School of Architecture. He is now organizing a number of exhibitions and seminars for the League.

Though the second volume of John Donat's yearbook, World Architecture, is more beautiful and more complete than the first, it is really no better. The same pretension and confusion of purpose that gave the first volume little value save as a picture book become evident from the opening sentence of Donat's introduction: "This second issue of World Architecture continues the aims and objects of World Architecture One published a little over a year ago: to bridge the gap between architects and people and to provide a platform for the confrontation of ideas between a new generation and the established masters."

Such a duality might have been resolved if Donat had written a text as well as the introduction. As it is, he divides the writing chore among 37 editors (approximately one per country), and the many more architects whose work is illustrated. Not surprisingly, few take Donat's call for a criticism addressed to the general public very seriously. Save for David McKay's nearly heart-breaking account of the "Rape of Spain" by tourists and other postnuclear phenomena, and a loving discussion of a
American colleges and universities face a tremendous challenge in housing their students, despite record-breaking building programs now under way. The problem: current enrollment—6,200,000 men and women. Total residential accommodations are adequate for handling about 1,300,000 students*. Around the country architects are busy designing new college dormitories. And many of them will be steel framed.


HEDGES HALL—Montana State University, Bozeman, Montana

Two 11-story towers, one complete, the other under construction, will provide dormitory space for a total of 1,300 students. Between is a circular dining room. The steel-framed towers, which so well express the beauty of steel framing as an architectural element, are placed on lower ground than the rest of the campus.

ARCHITECTS: Berg & Grabow, Associated Architects
ENGINEER: Hurlbut & Kersich
STEEL FABRICATORS: (First tower and dining facility) Paper-Calmenson & Company (Second tower) Crown Iron Works
STEEL ERECTOR: Industrial Steel, Inc.
GENERAL CONTRACTOR: Haggerty-Messmer Co.
HENDRICK HOUSE—University of Illinois, Urbana, Illinois

A luxury, seven-story dormitory for 249 men, air-conditioned, soundproofed, with two elevators. Tinted windows on west and south. Dining room, lounges, barber shop and four-man suites are included.

One of the main reasons the architects chose a steel frame was speed of erection. They were not disappointed. Total time between arrival of steel on the site until the frame was complete—including joists and solid centering: seven weeks.

ARCHITECTS:
Doyle/Brotherson

GENERAL CONTRACTOR:
Sloog Construction Co.

STEEL FABRICATOR:
International Steel Co.

STEEL ERECTOR:
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OWNERS:
Hendrick Dorms, Inc.

PROSSER HALL—Muhlenberg College, Allentown, Pa.

This steel-framed structure houses several hundred women, yet blends into the residential character of the neighborhood. Triangular bay windows run the full height of the building.

After a nation-wide survey of costs for dormitories housing over 200 students was made, it was found that steel framing gave the architects a better price—lower than the national average.

ARCHITECTS: Everett Associates

GENERAL CONTRACTOR: Thomas A. Armbruster, Inc.

STEEL FABRICATOR: Reading Steel Products

BETHLEHEM STEEL
DORMITORY
Canisius College, Buffalo, N.Y.
This 298-student dormitory was constructed with a steel frame of about 400 tons. The L-shaped building contains a 12-bed infirmary and a student lounge on the street floor. The steel frame permitted large expanses of open space in the social areas of the building. Service facilities are housed in the basement.
ARCHITECTS:
Pauly, Hauck & Welch
STRUCTURAL ENGINEER:
Duchschere & Okerst
STEEL FABRICATOR:
Rebay Steel Corp.
GENERAL CONTRACTOR:
Balling Construction, Inc.

CHARLES EVANS HUGHES RESIDENCE HALL
Cornell University, Ithaca, N.Y.
Built for students in Cornell's law school, this 60,000 sq ft dormitory rises six stories at its highest point, though the architects adapted it to its multi-level terrain. Some 200 tons of steel are in the framing. The residence hall is a good example of how steel framing can be adapted to traditional architecture as well as to completely contemporary buildings.
ARCHITECTS:
Eggers and Higgins
ENGINEER:
Distasio & Van Buren
STEEL FABRICATOR:
Bethlehem Contracting Co.
GENERAL CONTRACTOR:
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S. TOWN STEPHENSON RESIDENCE CENTER
Washington State University
Pullman, Washington

These two dormitory towers (with a third slated for the future) were designed with structural steel and composite slab. Steel framing was chosen because it offers architectural flexibility and decreased clear-height requirements. The towers are the University's latest high-rise structures.

ARCHITECTS:
Walker & McGough
ENGINEER:
Lyerla & Peden
STEEL FABRICATOR:
Artistic Iron Works
GENERAL CONTRACTOR:
Max Kuney Construction Co.

TWO DORMITORIES—State University Agricultural & Technical College, Alfred, N.Y.

Designed and built for the Dormitory Authority of the State of New York, each of these two 4-story units at Alfred, N.Y., houses 200 students. The architects selected steel framing because structural steel helped simplify erection on the site, which has a 30 per cent grade. Each of the four floors contains lounges as well as student rooms.

ARCHITECTS:
John S. Burrows
ENGINEER:
Goldrich, Page & Thorp
STEEL FABRICATOR:
Rogers Structural Steel
GENERAL CONTRACTOR:
Decker Construction Corp.

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Bethlehem Steel Corporation, Bethlehem, Pa.
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"Ceiling areas were the size of a city block, unbroken except for columns," states L. Kenneth Mahal, of Ellerbe Architects. "We, as the architects, wanted an effect of intimate study areas, with really pleasing ceilings and, of course, good lighting. To help achieve this, we decided on 4' x 4' surface-mounted fixtures, placed equi-distantly. For appearances, our choice was Day-Brite’s ‘Daylume’. Except that it isn’t a combination light and air handling fixture. And we wanted to avoid ceiling clutter and the soil problem common to many diffusers. We were quite concerned! But thanks to the magnificent job of customizing by Day-Brite, the library has ceilings that are 100% aesthetically satisfying, good lighting and the finest air distribution system our firm has had tested."

Day-Brite Custom Designing is just one of several services which can make a valuable contribution to your creative lighting needs. To learn more about them, contact your Day-Brite representative. He’s eager to help and there’s no obligation. For the best solution to any lighting or air distribution problem, look to Day-Brite and Barber-Colman . . . where the creative answers are coming from.

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Continued from page 258

popular housing project in South Africa, most of the presentations seem recherché to the extreme.

Even as the book addresses itself to architects, a wave of obscurantist intensity of expression prevails and renders a good deal of the verbiage useless and downright unreadable. The real problem, however, is that most of the editors and many of the architects feel impelled to go beyond straightforward reporting or even criticism toward the creation of whole philosophical systems phrased in highly complex vocabularies relating to Zen, Existentialism, and the doggedly precise thought-patterns of Wittgenstein.

Though the architecture shown is, on the whole, superior to the words lavished on it, Donat's failure to edit vigorously and to provide a continuing commentary make it difficult to relate the extreme diversity of styles and postures presented to the second of the "aims and objects" already referred to. Donat seems unable to decide whether he is editing a magazine of record or one of opinion. In short, to the layman and the architect alike, the absence of context that finally reduces most heavily illustrated books on architecture to coffee-table literature prevails, and, high-sounding ideals notwithstanding, World Architecture II is just another one of these. Too bad, because some of the individual projects illustrated (Tange's Tokyo Plan of 1960; Sea Ranch; Nottingtom Centre; Philharmonic Hall, Berlin; Scarpa's work at the Querini Stampalia Palace, Venice) give testimony to a validity and vitality of expression prevalent in architecture today that goes beyond the parochialism of revisionist philosophy ("confrontation of ideas between a new generation and established masters") toward a full recognition and rejoicing in the multiplicity of means now available. There is yet hope that we shall have so many slogans and positions, eventually, that architecture, all means of talking around it having been exhausted, will prevail and then once again buildings will be discussed on their own terms.

A Dowager's Biography
BY C. RAY SMITH


For this last season in its 83-year-old, Renaissance-palazzo home, the Metropolitan Opera Company—and all opera lovers—have been provided a splendid commemorative volume by the editors of Opera News magazine about the soon-to-be-demolished house. Next year, the company will open at Lincoln Center in its new home, designed by Wallace Harrison.

Of specific interest to all concerned with the design of theaters and auditoriums is the over-all view of the life of an opera house that this biography provides.

The Golden Horseshoe is a book about the architects, clients, managers, musicians, designers, dancers, audiences, and events that have influenced—and have been influenced by—the beloved dowager of American opera houses. It is a dewy-eyed and jellying record. Even

266 Book Reviews

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Arch: Leo Kornblath Assoc., N. Y. Decorator: Marilyn Moto, Miami. Inst: Kalsflex Inc., N.Y.

Door schedule of a tall order.
For the entrance to the Constitution Ballroom in the Sheraton-Boston: 12-foot Weldwood doors with bronze-framed ebony panels set over rosewood. The door faces were cut from the same rosewood flitch as was used on walls and columns. Architects can specify a wide range of Weldwood doors to meet virtually any requirements, including fire doors, doors overlaid with resin-fiber Duraply® for smooth long-lasting painting, tough clear Permagard® for invisible protection, even doors prefinished with permanently colored Vigilar®, a polyvinyl fluoride film for which there is no known staining agent and no known solvent. Doors can be supplied in a full range of sizes, premachined to order for hardware and openings.
A beach club of Glasweld brightens a Bahama beach.

Like the Arab tents it colorfully emulates, the Beach Club at the King's Inn and Golf Club, Freeport, Grand Bahama Island, can be folded and quickly moved away. (See detail on following page.) To fulfill the client's wish for a light, cheerful structure with a gay and carefree atmosphere, architect Philip R. Braden of Miami specified permanently colored Glasweld® panels on the exterior and interior of the units. Glasweld, an all-mineral panel with a colorfast mineral surface, is especially valuable in climates where sunlight, salt air, wind and rain are all frequent and severe. Glasweld is inert, virtually maintenance-free, appears optically flat, and is 100% incombustible.

The Sheraton-Boston is no place like home.

The new Sheraton-Boston Hotel offers its guests an exciting contrast to their at-home routine. Prominent throughout the first three public floors is a remarkable demonstration of Weldwood architectural rosewood paneling's range of colorations. On the grand staircase wall in the main lobby, the wood is warm golden-brown. In the Pavilion Coffee Shop (top) it is a deeper purplish red laced with dramatic figures of jet black. Throughout the hotel interior, the rosewood in each panel face was sequence-matched to the designer's blueprints and personally selected by him from more than 300,000 sq. ft. placed at his disposal. Architects: Charles Luckman Associates, Inc., New York and Los Angeles. Interiors by Roland W. Jutras Associates, Inc., Boston. Installer: L. Vaughn Co., Providence.

Architectural materials and systems by U.S. Plywood Corporation.

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The portable beach club. One of the major factors in the design of the Beach Club at the King’s Inn and Golf Club was this: the units were designed so that they could be disassembled and relocated at a later date when the beach front becomes more congested. Glasweld panels fit this requirement fully. Glasweld can be cut and drilled with conventional tools. As indicated by this view of the locker room and accompanying detail, ¼" Glasweld panels were laminated back-to-back and bolted as units to permit rapid dismantling when the time comes for the building to be moved.
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Continued from page 266

those architects and consultants on theaters who do not know the bravado thrill of opera-going will be won over by the kaleidoscope of changing uses and changing users of this house.

One of the underlying assumptions of theater users (both backstage and front-of-house) is that every new theater should, on opening night, be delivered from the mind of a Zeus-like architect full blown, like Venus rising from the sea. This fallacy has had pernicious effects on the reception afforded to theater structures.

Patently, theaters, like their occupants, are living, changing, and (hopefully) growing organisms. And, since on opening night, a theater (or any other building) is an infant, it cannot be expected to be full-bodied and mature. Its physical body, its organs, its spirit, its renown will grow as its companions and users and its environment increase and mature. Ultimately, its ability to function efficiently will come to an end, and, sadly, it will fade and crumble. Like men, like life, so theater buildings.

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The Architect in the Nuclear Age: Design of Buildings to House Radioactive Materials. By James F. Keating. Hayden Book Co., Inc., 116 West 14 St., New York, N.Y., 1965, 241 pp., illus., $22.50. An excellent volume that calls for the emancipation of the architect. It includes a chapter on "The Physics of Nuclear Fission" and another on "The Architectural Opportunity of Nuclear Fission" that expresses the author's hope that a new "fundamental and honest" image of architecture will emerge as a result of architects' efforts to unify and make beautiful the massive housings required for a highly complex, dangerous, and unfamiliar process.


A collection of drawings, etchings, and paintings by leading architectural delineators of the past 40 years. Hugh Ferriss, Theodore Kaufzly, Otto R. Eggers, Robert Schwatz, George Cooper Rudolph, and Helmut Jacoby are among the artists represented. The book provides a recent history of rendering and shows how changes in the design of buildings have affected the manner of illustrating them. It contains information about each artist and his work, plus a Foreword by Edgar Williams.

Buildings for Industry, Volumes I and II. By Walter Henn, Hayden Book Co., Inc., 116 West 14 St., New York, N.Y., 1965. 410 and 355 pp., respectively, illus., plans, drawings. $22.50 for each.

Volume I contains 3000 dimensioned diagrams, plans, and details divided up into 10 logical sections. The book covers external to factories (canals, railways, etc.), building work (wind resistance to steel problems, reinforced concrete), principles of construction, interiors and circulation, natural artificial lighting, heating and ventilation, and fire and lightning protection. Industrial building constructions from all over the world are illustrated.

Volume II includes hundreds of photographs, plans, and evaluations of 140 typical industrial and commercial buildings by architects around the world. These are divided according to individual industries: food and drink, textile, iron and steel, machine tool, automobile, optical, electrical, woodworking, papermaking, printing, pottery and ceramics, rubber and plastics, heavy chemical, and pharmaceutical.

Commercial Timbers of the World. Third Edition, enlarged version of "A Concise Encyclopedia of World Timbers." By F. H. Timms. Published in London by The Technical Press, Distributed by The Chemical Rubber Co., 2310 Superior Avenue, Cleveland, Ohio, 1965. 277 pp., illus. The structure, properties, characteristics, and use of nearly 250 different kinds of commercial timbers are described in detail: photomicrographs are included of some 34 of the woods most commonly used.

Construction Scheduling and Control. By George E. Deatherage, McGraw-Hill

Continued on page 288

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An excellent volume that calls for the emancipation of the architect. It includes a chapter on "The Physics of Nuclear Fission" and another on "The Architectural Opportunity of Nuclear Fission" that expresses the author's hope that a new "fundamental and honest" image of architecture will emerge as a result of architects' efforts to unify and make beautiful the massive housings required for a highly complex, dangerous, and unfamiliar process.


A collection of drawings, etchings, and paintings by leading architectural delineators of the past 40 years. Hugh Ferriss, Theodore Kaufzky, Otto R. Eggers, Robert Schaeutz, George Cooper Rudolph, and Helmut Jacob are among the artists represented. The book provides a recent history of rendering and shows how changes in the design of buildings have affected the manner of illustrating them. It contains information about each artist and his work, plus a Foreword by Edgar Williams.


Volume I contains 3000 dimensioned diagrams, plans, and details divided up into 10 logical sections. The book covers structures external to factories (canals, railways, etc.), building work (wind resistance to steel problems, reinforced concrete), principles of construction, interiors and circulation, natural and artificial lighting, heating and ventilation, and fire and lightning protection. Industrial building constructions from all over the world are illustrated.

Volume II includes hundreds of photographs, plans, and evaluations of 140 typical industrial and commercial buildings by architects around the world. These are divided according to individual industries: food and drink, textile, iron and steel, machine tool, automobile, optical, electrical, woodworking, papermaking, printing, pottery and ceramics, rubber and plastics, heavy chemical, and pharmaceutical.


The structure, properties, characteristics, and use of nearly 250 different kinds of commercial timbers are described in detail: photomicrographs are included of some 34 of the woods most commonly used.


Continued on page 288

282 Book Reviews

On Readers' Service Card, circle No. 439

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PASTEL PAINTING by Stephen Csoka. A comprehensive guide to this brilliant medium. Complete information on: materials and tools-how to select and use them; technical and artistic problems, including choice of paper and colors; sketching and composition; tips on how to blend and apply color, how to create highlights, how to make corrections. The author reveals secrets discovered in his long years of experience, to help you express yourself better in this easy-to-learn, inexpensive medium. Over 150 black and white illustrations (many step-by-step demonstrations), 8 full-color reproductions, all with lively, informative captions. Chapters on: Landscapes, Texture, Perspective, Still Life, The Human Figure, Babies, The Head, Abstract Painting, plus a Portfolio of Sketches. Beginners as well as experienced artists will find pastel a satisfying medium to work in. Commercial artists, designers and decorators will find it particularly useful for quick visual and color combinations.

PASTEL PAINTING, Modern Techniques by Stephen Csoka. 128 pages, 7 x 10, 150 illus., (8 color). $9.95

DRAWING THE LINE by James Ernst. With special emphasis on its application in commercial art, this book demonstrates all the techniques of line drawing: pen and ink, felt-tip pen; brush and paint; combination pen and brush; lead, carbon, litho, grease and wax pencils; charcoal, pastel; scratchboard. Each of these techniques is discussed in great detail and illustrated by the author with many concrete examples. Discover the hundreds of exciting and different effects you can achieve... how to make the line crisp or suggestive, sharp or blunt, sweeping or meticulous... how to simulate tone with line... how to combine lines or vary effects with rough or smooth surfaces. The right implement for drawing each kind of line is specified, and valuable hints are given for making corrections and preserving equipment. Profusely and beautifully illustrated, this easy-to-follow, informative book will prove an invaluable reference for graphic designers, advertising personnel, architects, students and professional artists. DRAWING THE LINE by James Ernst. 160 pages, 8 1/2 x 10 1/2, 148 illus. $10.

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On Readers' Service Card, circle No. 455 ▶
Potential dilemma in the corner office: Look out the window, or look at Burke? The city, with its dynamic buildings surging against the sky... or the chair from Burke’s Star Collection, with its simple lines, flowing contours and inviting fabrics? The city or Burke? It’s a difficult choice, but one your clients will enjoy making; for both reward the eye with a view as new as tomorrow. Let Burke be your first step toward the creation of a successful interior. Let your client discover that, even after years of use, Burke’s beauty remains forever young.

SHOWROOMS IN: DALLAS, CHICAGO, LOS ANGELES, SAN FRANCISCO, SEATTLE, MIAMI, ATLANTA
Hook Co., 330 W. 42 St., New York, N.Y., 1965. 316 pp., illus., $15.
A clear, well-written explication of CPM is included in this treatment of every aspect of construction management.

Another book about the national rape of nature; buy it if you care about what becomes of California.

Describes elderly residents subject to relocation and the general impact of relocation on them. Enumerates some of the programs that are being and might be used to improve the relocation process.

The committee defined "integrated space conditioning" as: "The coordinated design and utilization of heat-producing sources to provide year-round comfort control with quality lighting for the most economical owning and operating cost." Includes articles by specialists from GE, the AIA, and engineers.

Practical and complete information for designing climate control systems is presented in a well-designed handbook. In addition to material covering load estimating, air distribution, piping, refrigeration equipment, and selecting an air-conditioning system, the authors present original design data for including heat storage in heat-load calculations.

Landscape in Distress. By Lionel Brett. The Architectural Press, 3-13 Queen Anne's Gate, London, S.W. 1, England. 159 pp., illus., $4.20.
A book written by a dedicated architect who is worried about the destruction of the rural landscape. He used Oxfordshire as his focus because it is an area certain to be invaded by thousands of people in the coming generation. Brett's purpose of writing the book was to explore what will happen to the area if the "normal processes of local planning, designing, financing and executing development are to continue, whether it be in the southeast or anywhere else. . . . Such a survey can no longer be a one-man job and we mean to show, among other things, what can be done on the fine evenings of a single summer by a small architectural office."

Plans, sections, and photographs of Cor's buildings.

Continued from page 282

Continued on page 304

On Readers' Service Card, circle No. 373 ➔
How many ways are there to build a safe,
sound-conditioned environment?

There are 27 published Gold Bond ways; 27 systems for erecting quiet, 1, 2 or 3-hour Fire-Rated floor or roof and ceiling constructions. Here are five examples. Gold Bond systems provide a complete selection of acoustical tiles and panels in a broad range of patterns and finishes, sizes and edge details. When you are specifying Fire-Rated systems call your Gold Bond Representative. He can save you time and money. Or write National Gypsum Company, Department PA-46C, Buffalo, N. Y. 14225.
Architects told us: Design air conditioning and
a quality roof-top heating unit that:

- has a low silhouette
- cuts roofing problems
- won’t shake the building
- keeps on cooling inside, even when it’s sub-freezing outside!

So we did:

The Fedders Adaptopak roof top unit is only 40” high. No flashing or curbing is needed around the unit. It can even be installed before roofing. Special isolators eliminate vibration problems. Heavy insulation reduces even further the already low operating sound.

A special power vent eliminates unsightly flue stack. Provisions for quick and easy rigging are built into the unit. So is low ambient protection. (Unit operates in coldest weather.)

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Important Note: When specifying roof top equipment insist that the condensing section be U.L. listed for outdoor application; insist, too, that the entire air handling and heating section be AGA approved for outdoor application. Fedders Adaptopak carries both these important labels.

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The result; you can get the fire rating you need at surprisingly low cost.

Over 50% of the cost of any roof deck is the cost of labor. But now Approved Zonolite Roof Deck Applicators have cut that cost.

They have developed methods that allow four to six men to pour and level 30,000 square feet of roof deck per day.

That's fast. So fast that Zonolite Roof Deck Applicators are able to submit low bids. Low bids on a roof deck with a combination of features no other roof deck can offer.

1. Lightweight ... Zonolite concrete has as little as 1/6th the weight of ordinary concrete, so supporting structures can be considerably lighter in weight and cost.

2. Specified insulation value can be obtained by simply varying the thickness of Zonolite vermiculite concrete.

3. Permanent ... composed of completely inorganic materials; won't rot or decompose, lasts the life of the building.

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5. Incombustible ... vermiculite concrete is all mineral, cannot possibly burn.

6. Flexible ... can be used with form boards, paper-backed wire lath, galvanized metal decks or structural concrete.

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8. Economical ... original cost is low, maintenance costs are nil. Insulation efficiency can allow use of smaller heating and cooling units.

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For complete specifications and data file, have your secretary drop us a note at 135 S. LaSalle Street, Chicago, Illinois 60603.
It's never had a power failure.

Can you think of a better reason for windows?
The next time you hear some school board "economist"
touting the idea of a windowless school,
tell him about that God-given stuff called daylight.
And more power to you.

Libbey-Owens-Ford Glass Co.
Toledo, Ohio

APRIL 1966 P/A
On Readers’ Service Card, circle No. 376
for hospital walk-in
refrigeration needs... specify Bally prefabs

These hospitals, like many other institutions and places of business, are benefiting from Bally Walk-In coolers and freezers with revolutionary construction techniques and design features. Bally has set a new high in refrigeration efficiency. When you specify Bally you can be sure that your clients will get many advantages not found in conventional prefab Walk-Ins... never available in on-the-site "built-ins"...and at far lower cubic foot cost than "reach-ins". There is never a need to accept an "or equal" or a substitute. Bally Walk-Ins are available to all dealers everywhere at uniform published prices. Write for Fact File with new brochure, specification guide and sample of urethane wall.

See Sweet's File 25a/Ba.

Bally Case and Cooler, Inc.
Bally, Pennsylvania
Wheeling sold Macy's 335,000 sq. ft. of for its spectacular new store in Queens,

(We wish they'd tell Gimbels.)
smart comparative shopping guides which help us sell.

For example: Uncoated or galvanized, Tensilform is made from Wheeling's own cold-rolled steel. It's quality-controlled from ingot to installation.

Compared to many other forms it saves up to 20% concrete.

In its galvanized form it serves as a ceiling and its greater strength allows for lighter structural supports. Also it gives lateral stability to structural members.

On top of everything else, Wheeling will detail blueprints so Tensilform arrives on the site pre-engineered and ready to install.

And it arrives on time. (That's what all of Wheeling's hustle talk is really about.)

So come on, Macy's. We'd sure appreciate it if you'd tell Gimbels about Tensilform and where to buy it.

From Wheeling.
The steel store.

Have you looked at Wheeling lately?

Wheeling
Wheeling Corrugating Company/Wheeling Steel Corporation,
Wheeling, West Virginia
Why waste a penthouse view on a cooling tower?

There's a rent-paying tenant atop this new office building—because it's heated and cooled with G-E Zoneline.

At first, the F&A Development Corporation was considering a four-pipe system for the new People's Savings Bank office building in Bridgeport, Conn. "But as plans evolved," says Bennett Delle Bovi, project engineer of F&A, "it became obvious that General Electric Zoneline would do everything a four-pipe system would do—and free an extra 5% to 10% in usable, rentable floor space."

Here are some other benefits F&A found in G-E Zoneline:

- **NO PIPES**, ductwork, valves, compressors, storage tank or boiler with G-E Zoneline. But enough added space on the roof for penthouse offices that give a net return of $15,000 a year. Overall, a gain of 5% to 10% in usable, rentable floor space.

- **40% SAVINGS** on first cost, compared with the estimates for a four-pipe system.

- **CHOICE OF STYLE** in exterior grillwork. A special grille was designed for the People's Savings Bank to complement the building's architectural styling.

- **INTERIOR FLEXIBILITY** was a consideration, too. Zoneline units will fit over doors

(Marina Towers, Chicago) or under window seats (Century House, Lincoln, Neb.).

**ROOM-BY-ROOM CONTROLS** provide individual, year-round comfort. A tenant who is chilly can turn up his heat at the same time another is running his air conditioning.

For motels, dormitories, garden apartments, nursing homes and medical centers—and high-rise construction like the People's Savings Bank office building, G-E Zoneline heating/cooling systems can almost always make dramatic savings in space and first cost. Call your General Electric Zoneline Air Conditioning Sales Representative for the facts.
Owner: F&A Development Corp.
Architects: Fletcher-Thompson, Inc.
Contractor: Fusco-Amatruda Co.
Utility: The United Illuminating Co.
This richly illustrated volume should more properly be called "100 (plus others) most beautiful rooms (along with gardens, hall­ ways, and building exteriors) using antique furniture in America." No furniture later than mid-19th Century is featured, and it is all distinguished. The aesthetic quality of the rooms varies, however, so the book provides both a sometimes rich, and a sometimes static pictorial tour.


In explaining why museums are where they are and who was responsible for them, the authors have written a social history of the United States, from 1748 to the present. Appendix lists more than 2500 museums by city and state, and briefly indicates what a visitor may expect to find. Useful for general reference.


This is the first publication of lectures by Jay Hambridge in New York during the winter of 1921. Drawings of natural forms were selected from his unpublished material and included here to make the distinction between static and dynamic symmetry clearer. Students are urged to develop an understanding of mathematics and to apply the Greek method of area analysis in order to make their buildings seem to grow organically—the way trusses grow into a maple leaf. "The Greek way is the New Way; not to accept the appearance of things but always to search for the inner truth."


The author discovers for the reader that the basis of the "lost art" of stained-glass design is not the coloring of the glass but the effective placement of compositions of colored glass in front of a light source. Sowers examines the problem of whether art of any kind can be incorporated successfully into contemporary architecture and the problems of creating a viable religious art in a secular age. A beautifully illustrated book by a thoughtful writer.


A book consisting of two parts: The first is a thumbnail summary of the architectural development of the city from early times to the present; it comprises the frame of reference for the six subsequent studies that will be made. The second part is devoted to the topography, economic growth, and the architectural evolution of the area of East Cambridge as evidenced mainly in its houses and tenements.
Do you measure architectural excellence by the pound-price?

Coppermetals are not the cheapest material you can specify for architectural accents—nor are they always the most expensive. But no other metal offers the inherent beauty, range of colors, forms, versatility and durability of true copper alloys. Furthermore, you can attain all these advantages without upsetting budgets, by using coppermetals in locations where the eye can appreciate fine design and component quality. And remember, the texture and colors of copper architectural metals are more than skin-deep. Copper may cost a bit more than substitutes. Don't you think it's worth it?

To see what imaginative designers can accomplish through the judicious use of coppermetals, turn page...
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Lehigh County Courthouse, Allentown, Pa.
Fabricator: Trio Industries, Inc., Bridgeport, Conn.

Window Frames and Reversible Sash are Everdur®, an Anaconda high-strength engineering and architectural copper alloy. Tubular components are fabricated from strip by the economical roll-forming process.

First National Bank, Wilkes-Barre, Pa.

Here the rich beauty of bronze in sheet, rod and tube products accentuates the fine marble, ceramic tile and wood used in this circular stairway and elevator shaft. This is a typical example of architectural beauty with bronze.

First National Bank Bldg., Lincoln, Nebr.
Architects: Davis & Wilson; Clark & Enersen, Lincoln, Nebr.
Fabricator: Fenesta, Inc., Lima, Ohio

Bronze-clad steel standard curtainwall units on the eight-story section of this building provide the beauty and durability of bronze at a cost considerably lower than for custom-built, solid bronze curtainwall construction.
Unique New Guide And Reference Frederic Whitaker, often referred to as "Mr. Watercolor" because of his outstanding reputation and devoted service to the cause of watercolor, has organized his newest book as a series of related themes, to serve both as a working guide for the beginner, and as a reference for the advanced student. The novice can start at the beginning, and progress step by step at his own pace, from basic techniques to advanced technical problems. The more experienced student, aided by a unique cross-reference system, can quickly and easily select those themes which are of particular interest to him.

Covers The Entire Field In Detail Here is everything the beginner needs to know about producing watercolors. The author discusses the selection of all materials, from blotter to folding stool . . . describes how to prepare paper, how to handle brushes, how to apply a wash . . . explains, step by step, how to plan and paint a watercolor. Included is a full-color demonstration of the development of a Whitaker watercolor, from small sketch to finished painting, as well as basic instruction in composition, drawing, perspective and color. Also included are many hints on specific problems that plague the beginner.

Advanced Instruction For the more experienced student, the author describes various ways to experiment in applying and manipulating watercolor . . . illustrates many tricks for working over watercolor . . . offers tips on finishing a picture. Specific suggestions are given for painting more than 20 familiar picture components, including: clouds, boats, trees, foregrounds, flowers, shadows, portraits and figures.

Convenient, Workable Reference System An excellent cross-reference is provided by the numerous marginal notes, directing the reader to related themes in other sections. The experienced student will find this reference extremely helpful in locating information on specific subjects, or for quickly putting his finger on other pertinent material all through the book.

Special Sections In "Do's and Don'ts of Exhibiting," Mr. Whitaker gives many useful suggestions gleaned from years of experience on watercolor juries. He tells how to find out about exhibits; how to mat and frame your pictures for exhibition; how to keep records of the paintings you send out; even how to avoid irritating the judges. "A Brief History of Watercolor," which traces the development of watercolor as an important art medium in Europe & America, is a first-of-its-kind discussion . . . never before available in any book.

110 Illustrations . . . 24 In Color This lavishly illustrated book contains over one hundred beautifully reproduced paintings and drawings, many created especially for this volume. Lucidly written and easy-to-follow, "Whitaker on Watercolor" is the summing up of the works of a man considered by many to be the dean of watercolor painting in America. 8 3/8 x 10 1/4, 164 pp., $12.50.

Available at your bookstore, or write to: Reinhold Book Division, 430 Park Avenue, New York 22, N.Y.

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APRIL 1966 P/A

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IT’S "Mr. WATERCOLOR" HIMSELF
(with his complete new guide to the watercolor medium)
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by RUBEROID

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