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Cover design by Charlotte Winter from a photograph by Roy Vollmer of the Presidential Plaza at Dacca (page 48).



TH YEAR OF PUBLISHING 1892-1972

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# FOCUS







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### ROTATING SQUARES

Squares set diagonally one inside the other distinguish the Ecole d'Architecture de Nanterre, recently completed on a site adjacent to the new Paris development, La Defense (skyline, top). Architects Jacques Kalisz (with Roger Salem) designed the build-ing as an extension of the school's philosophy that scientific and technological advances affect cultural development. Hence the building is conceived as a montage of cellular units, analogous to biological cells. The cell units comprise steelframed boxes. One square is the base for a second, larger square constructed on the diagonals of the first; a third square is parallel to the first, but twice its size. These form the basic building blocks of the building and define its spaces. Service, mechanical, and sanitation facilities are placed in independent "cylinder" units, which fit into the square elements without "interrupting" the underlying geometry, say the architects. The spaces are partitioned to provide a wide variety of teaching areas, from lecture halls to workshops and to intimate seminar and study rooms.

FORUM-JULY/AUGUST-1972





### NOT TO BE OUTDONE

It has been almost seven years since plans were first announced, but SCOPE, a new entertainment, sports and convention center in Norfolk, Va., has opened. Led by Architects Williams & Tazewell Partnership, the design team included Pier Luigi Nervi whose influence is clearly shown in the dome structure of the convention hall. The center stands on a 14-acre plaza and includes four major facilities: a domed convention hall with 12,000 seats; a theater; an underground parking garage and exhibit center with 140,000 sq. ft. of exhibition space, plus meeting and reception rooms. The convention hall is the dominant structure (top) and offers unobstructed views from all seats; its dome spans 340 ft. and covers a floor area of 25,000 sq. ft. Chrysler Hall stands in rectilinear counterpoint to the dome and includes two theaters, one with 2,500 seats (right), the other with 350. Dressing and meeting rooms are included.









### A LITERATE CENTRAL PARK

Their designer, Architect William Hamilton Roehl, describes them as a collision between the Seine and a lunar module. In fact, they are two new aluminum bookstalls along Central Park on New York's Fifth Avenue. Sponsored by The Parks Council, a civic organization, the stalls give the area an atmosphere reminiscent of Paris' Left Bank. But the structures themselves are new-slick, neat, and distinguished by bold graphics, plus the booksellers' banners on top. Open, each stall contains about 1,000 books. These stalls are just the beginning if the intellectual minds they attract behave well enough to calm the luxury hotel managers across the street who fear "undesirable elements" will gather at the bookstands.



(continued on page 8) On Readers Service Card, Circle 304→



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### PLAYFUL STUDY

An architect's attempt to represent Korean traditions in modern architecture has resulted in the new Chejoo National University, a concrete design that is bold in form, delicate in detail. This is a typical esthetic for Kim Chung Up, the building's architect. As a young man, Up studied with Le Corbusier, working on the Chandigahr project in India. Many of his own buildings reflect Corbu's influence, including this, the Chejoo University. The first floor contains mostly large meeting halls and dining rooms; the second has a library, administrative offices and study areas. The professors' offices fill most of the third floor. The covered roof terrace serves as open air teaching and recreation space.



# 

### SUPER A-FRAME

Reminiscent of the Contemporary Hotel at Disney World (see June issue) and looking like an italicized A-frame is the new Regency Hyatt Knoxville (Ky.) Hotel. Designed by associated Architects David Liberman and Barber & McMurry Inc., the 14-story reinforced concrete structure includes an atrium lobby almost large enough for a stadium. In it are trees, fountains, sitting and lounge areas, glass-enclosed elevators and skylights. The 420 guest rooms are spread over 11 floors, with

two floors of additional luxury suites. The remaining space includes shops, restaurants and ballrooms of every size and description (one ballroom can seat 1,500 persons.)



### BUILDING BLOCKS

A megastructure atop a hill is the concept for a new dormitory complex for 2,300 students at the City University in Tananarive, Madagascar. Designed by Roland Simounet, the new facility is a combination of adjoining structures with interior circulation. The architects hoped to create a village atmosphere within the building and to make it blend with the environment and architectural traditions of the country. No earthmoving was required; a small number of simple, prefabricated elements are repeated. The circulation routes are varied - some are covered, some open-and include ramps, stairs, internal gardens and terraces (see plan). The small photo is of the assembly hall on the left of the structure.

PHOTOGRAPHS: Page 5, Gerard Du-Fresne. Page 6 (top) Lawrence S. Williams, (bottom) Peter Krasnow. Page 8 (top left) courtesy of Japan Architect, (top right) Otto Baitz.







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# BOOKS

AMERICAN BUILDING 2: The Environmental Forces That Shape It. Second Edition. Revised and Enlarged. By James Marston Fitch. Published by Houghton Mifflin Company, Boston, Mass.  $6'' \times 9\frac{1}{2}''$ . Illustrated with drawings and photographs. 349 pp. \$15.

### **REVIEWED BY RALPH KNOWLES**

At a time when many and deep changes are unsettling the architectural profession, James Marston Fitch presents a clear and rational guide to the future. In his new book, American Building 2, Fitch holds strongly to a thesis which he first stated in 1948 with the publication of American Building 1. His thesis was then and is now that the function of architecture is to act in "Its purpose favor of man. is to maximize man's capacities by permitting him to focus his limited energies upon those tasks and activities which are the essence of the human experience." While the thesis remains unchanged, the material has been expanded and updated in a book that is remarkable for its comprehensive and thorough documentation.

Fitch's work is remarkable in another respect. It presents a clear alternative to those among us who no longer find sanctuary in the slogans of the past, who are unwilling to experiment irresponsibly with forms discovered while slicing our morning's grapefruit, and who do not find redeeming social significance in copying the repetitious forms of

**Professor Knowles** is a member of the faculty of the Department of Architecture at the University of Southern California.

### a popular culture.

In a series of careful steps, Fitch builds the reader's awareness of the total sensory world of man. He takes us on a kind of voyage beginning with the initial launching shock of birth. "The external physical environment into which the human organism is projected at birth differs profoundly from that in which its fetal development occurred. Instead of a habitat designed specifically for its optimal development, it now finds itself in one, many of whose properties are hostile to survival and all of whose properties, friendly and hostile alike, are in continuous and often violent fluctuation across time and space." From there, Fitch himself carries the reader in time and space through a world that only occasionally provides completely for the biological needs of man. After analyzing those needs, Fitch breaks the environment down into components, describes man's physiological and psychological responses to each of these components, then demonstrates not only man's evolved capacities for adaptation to external change, but the historical role of building in reducing environmental stress resulting from that change. He emphasizes that while the natural environment goes through fluctuations that are sometimes extreme, the metabolic requirements of the individual organism are fairly constant and that its capacity for adaptation to external change, though very broad, is strictly limited. "Thus arises the fundamental paradox of human existence."

In describing a resolution to this paradox, Fitch strikes again and again at the point that what architecture is about is the maintenance of an optimal environment, not merely He is iman adequate one. patient with the architect who does not use a vast store of information that has accumulated through time and that has accelerated during the space age. Fitch points back to the primitive shelters of man as a beginning source of information and architectural inspiration. With such an accumulation of information about architectural solutions to the problem of environmental load he wonders why we solve our problems so badly today.

Fitch is particularly critical of a limited attitude about technology that allows us to oversimplify problems. He points out that rather than integrating natural and artificial light for example, we are inclined to rely exclusively upon the use of artificial light. Rather than combining mechanically supplied and fresh outside air, we are inclined to rely exclusively on the mechanically supplied air. He points out that by mechanical means, we can now create any set of environmental conditions we desire but there is an inherent danger. "The contemporary designer runs the risk of accepting electrical air filters as a satisfactory substitute for clean fresh air: of feeling that electrically operated louvers are preferable to natural foliage; of preferring sound insulation to plain ordinary silence. There are, as we have seen, many specific situations in which our synthetic environments are superior to nature's. But this is no adequate basis for the mechanistic solution that we 'don't need nature anymore.' On the contrary, with the complexity of modern building we need nature more than ever before. It is not a question of air conditioning versus sea breezes, of fluorescent tubes versus the sun. It is rather the necessity for integrating the two at the highest possible level."

In seeking an objective basis for building, Fitch does not ignore the architect's aspiration to the creation of beautiful buildings. He quotes Gropius who spoke of "an authentic act of love." But he is not willing to leave critical environmental decisions affecting the health and well-being of people in the hands of individuals who consider it their privilege as artists to impose esthetic decisions. He says, "It may well be true as is often charged, that the average American has a low level of taste. But there are historic reasons for this situation, one of them being the architect himself. For it is also true as we have had occasion to see, that the esthetic standards which the architect is advancing, are all too often incorrect in the light of experiential reality." Fitch wants a democratic esthetic in a democracy. He wants the esthetic judgments of the architect tempered by an accumulated base of knowledge. Fitch makes it clear that history has provided us with an adequate base if we will not ignore it.

While design depends upon imagination, Fitch makes clear that imagination itself depends upon the terms of reference given to it. In the decade that followed the publication of American Building 1, this idea led many to a rational search for architectural form. There followed a difficult time for the country and for architects who were seriously concerned with building. While there have been potentially useful developments in the space industry, the period of moon shots served as a distraction from the difficult task of building America. The Vietnam war has served to drain our resources and our will to work hard enough to build anything. If we can learn to take proper advantage of the spin-off from space technology and if we can see ourselves as a nation of builders following the terrible destruction of the Vietnam war, then this book has a strong message for us. It is rich with information, readable, and useful. It provides a basis for a rational approach to physical decision making. It offers hope that we can bring our vast technology to bear in an organized and productive way. American Building 2 should be read by everyone concerned with the essential relationship between what man builds for his own purpose and the natural environment.

THE ARCHITECTURAL INDEX FOR 1971. Edited and published by Ervin J. Bell. P. O. Box 1168, Boulder, Colorado 80302. 66 pp. 5½ x 8½ in. \$7.00 (paper).

The Architectural Index for 1971 is now available. This booklet carries complete cross-references to articles from eight periodicals and is an invaluable aid to architectural research. The indexed magazines are Architectural Forum, AIA Journal, Architectural Record, House & Home, Interiors, Journal of Architectural Education, Landscape, Progressive Architecture. Articles are listed under building type, and cross-indexed under designer, location (state or foreign country) and subject. Back issues, from 1950, are available. A six-issue hardboard binder is \$4.50.

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am encouraged to think that the universities are promoting this kind of spirit, which this nation needs to lift up our urban environment.

ADAM M. KAAS Architect Washington, D.C.

BASIC RIGHTS

Your article Twentieth FORUM: Century Bricks (June issue, p. 48) bemoans the fact that a presumed natural "right to shelter" has not yet been realized. My comments will not argue with the concern for decent housing for all, implied by the writer of the article, but rather with the fuzzy, one-side-of-thecoin thinking in the classification of "rights."

Housing consists of economic goods. Economic goods, by their very nature, require an expenditure of labor-always someone's labor. If there is some presumed right that persons have to economic goods, then quite obviously there must be an obligation imposed on others to furnish the labor to obtain them. In other words, the "rights" of some people automatically become the obligations of others.

The article's writer is not alone in presuming to impose obligations on others through the misuse of government force. The point is, whatever else one may have thought of Robin Hood, he was no less a thief. No civilization can long exist with a system of organized plunder. It is self-defeating, laudable though its aims may be. E. W. DYKES Architect Canton, Ohio

SPIRIT OF ST. LOUIS FORUM: In this Walt Disney World of ours, not always as amusing as the Florida one suggests, the Spirit of St. Louis' Washington new University buildings by Schnebli, Anselevicius, and Montgomery revive my faith in modern architecture, which at its roots was created to service people. As William Marlin rightly put it: "service which goes beyond accommodating present-day wants, service which shows people new ones:" The same would apply to the new George Gund Hall at Harvard's Graduate School of Design, by John Andrews.

Viewing these two examples in Forum's June 1972 issue, I MIRROR MIRAGE FORUM: Rhone and Iredale and their Skyhook Tower (May '72 issue, p. 36) have provided us with an unusually handsome example of a suspension structure, avoiding the common camouflages that provide phony peripheral supports where none are needed. But they have somehow missed an opportunity to expand their engineering feat into a convincing architectural entity.

While the concrete core showing above and below the mirrored shroud tells the story of the considerable loads involved, one can hardly believe that the narrow bands dividing the cube into 12 vertical sections are the tension cables that carry, after expressive an inauspiciously start above the roof level, the 12 floors below. This is partially due to the exterior treatment, which covers translucent openings and solid floors and parapets alike. (How convincing it looked under construction!)

The magician's trick that destroyed the visual substance of the wall serves especially poorly in this case, where the top floor receives the total spreading load exerted by the cables but only appears to be a delicate picture frame holding the glass and less substantial than even the cables themselves. Am I confusing ethics with esthetics? What is wrong with a handsome package that doesn't reveal its means of support?

I see the building's weakness in the half-hearted attempt to make its structure tell an interesting story, which misses the point, and its ending. If this is a cable structure, let it show its muscle, the cables and their supportive connection to each floor panel. Or let the whole box float from its expensive skyhooks and conceal the tension members within the mirrored envelope. Both solutions would have given greater satisfaction to me.

It's a tantalizing building, almost great, and it stimulates criticism.

JOHN OSTWALD Berkeley, Calif. (continued on page 34)

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# 62-63

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(continued from page 17)

### ON DUCKS

FORUM: Here is my comment on the April '72 (p. 60) article by James Wines concerning "The Case for the Big Duck."

To D. D. T. (Duck Design Theory) To freeze a duck in building form To stretch a point to ponder Hardly an accepted norm, Is yet a passing wonder.

Though fantasy in nature Appeals like sculptured beauty, It fails in Architecture Like Blinding love to duty!

But a contrast must be found. Rigid lines enclosing space Dull our minds like deafening sound.

Sculpture is our saving grace.

Reality is disciplined In human institutions. Artists are forever pinned by laws and constitutions.

Buildings tall and narrow rise Obeying rules for being. Fantasy must live, for wise Man make them all worth seeing.

Lest the issue be confused, Starting a semantic war I admit, I've not refused To say that whimsy is a bore.

So, seek well designers, while Poets you may not please, You may find at last a style, Call it Howard Johnsonese! N. IAN MACKAY South Weymouth, Mass. Architect

NECESSARY OBIT? FORUM: In your April issue (p. 44), Ada Louise Huxtable winds up her article, "J. Edgar Hoover Builds His Dreamhouse," with an obit for the Pennsylvania Avenue Plan: "Ten years and on the way to a billion dollars worth of building later, we are back where we started. Perhaps there was never any place to go."

Not so. Had the Kennedy Center for the Performing Arts been located on Pennsylvania Avenue instead of out on the almost unreachable banks of the Potomac, the Pennsylvania Avenue Plan-in fact, any plan or even no plan at all-would have succeeded in reviving that great

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street. It would have kept the Avenue lighted and busy most of the night, revived the moribund downtown restaurant and night-life trade; and stimulated new eating places. (Have you ever tried to get a meal and see a performance at the present Kennedy Center?) Also, it would very likely have encouraged a proliferation of music schools and teachers in the vicinity.

As a former staff member of the Temporary Commission on Pennsylvania Avenue, I can recall that Yamasaki quit the Commission because of this issue.

SYDNEY H. KASPER Urban Land Institute Washington, D.C.

ONLY LOGICAL Forum: An important point in the Logical Sequencing Method (see April issue, p. 66) is that the cost is relatively slight as compared to CPM and that the Logical Sequencing charts can be prepared for any job without cost being a determining factor. Also, the statement that some architects may consider such systems a threat to "so-called professional secrets" should not have been attributed to me.

ARTHUR GAVENDER City University of New York New York City

**CREDIT DUE** Forum: While I was pleased to see Forum (May '72 issue, p. 40) note the exciting graphics that have given new life to Detroit's Eastern Farmers' Market. I wish you had been able to credit Alexander Pollack, the young architect responsible for the entire idea.

His real accomplishment was not in the design (which is both imaginative and colorful), but in his being able to persuade the dozens and dozens of merchants and property owners to take pride in their surroundings and to make the personal and financial commitment to their rejuvenation. Farmers' Market is a heartwarming example of public and private enterprise cooperation. Hurrah for Alex Pollack, may his tribe increase!

JAMES P. GALLAGHER Dir. of Public Affairs Smith, Hinchman & Grylls Associates, Inc. Detroit, Mich.

### ADDENDUM

All graphic symbols depicting Walt Disney World which appeared in the Forum's June 1972 story on that subject are protected by a Copyright held by Walt Disney Productions. ED
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FORUM-JULY/AUGUST-1972



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"The headquarters of the New York State Bar Association," as a most distinguished critic recently wrote, "is an object lesson in how to build intelligently, sensitively and well... In a happy alliance, the lawyers and the architects, James Stewart Polshek and Associates, have preserved a row of handsome 19th-century town houses and incorporated them, not as a false front, but as a working part of a completely and strikingly handsome contemporary complex built

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VISIBLE CONFERENCE

Like formal schoolroom educa-

tion, conferences are coming in

for a lot of criticism these days,

and for some of the same rea-

sons-rigid scheduling, lack of

individualized program, lack of

real communication. The 22nd annual International Design Con-

ference in Aspen, June 17-22, de-

parted from the usual conference

format in a number of ways,

and this was only fitting since

its subject matter was, basically,

new departures in education.

This is the last issue of the ARCHITECTURAL FORUM that will carry the name of my friend, Paul Grotz, on its masthead. He started on the FORUM in 1934, as the magazine's Art Director. That was 38 years ago, before some of our present staff members were even born. He continued as the Art Director of the ARCHITECTURAL FORUM for the next 33 years, working with some of the finest editors our field has known — Howard Myers, Henry Wright, George Nelson, and Douglas Haskell. Yet, it was, in a sense, always Paul's magazine. In 1967, I decided that it was time to acknowledge this fact. and so he became the FORUM'S

Managing Editor. He must be the best known, and the most widely admired Editor of any architectural magazine in the world today. He has enriched the lives of everyone with whom he has worked, and those of you who have met him know what I mean.

All of which will embarrass him when he sees it in print. I apologize for the embarrassment, but I thought the occasion of his retirement should be recorded—in part, because Paul might otherwise forget that he did, in fact, retire a couple of days ago, and show up again in these precincts tomorrow, from force of habit—when he is really supposed to be in some place like Asia Minor, digging for old bricks. It should also be recorded that Paul Grotz, in a great many ways, made this magazine what it is today—and those of us who were privileged to work with him had the best times of our lives. —PETER BLAKE

> Theme of the conference was "The Invisible City" (see interview with program chairman Richard Saul Wurman, May issue, pp. 40-45). 1,539 participants came to share their experiences at making the city visible (i.e., understandable and usable) and at using the city's resources for learning.

> Mornings saw a kind of Dick Cavett format in the great tent, one session featuring high school students from three of the nation's most interesting educational ventures—Parkway Program in Philadelphia, Metro School in Chicago, and the ex

perimental schools in Berkeley. Afternoons saw a vast array of programs, on the IDCA premises and throughout Aspen; people could rap about what they and others were doing to make their own cities more visible, or they could go out into Aspen to explore the special people and resources of this unique place. Evenings, back in the tent again, with (successively) Nicholas Johnson (Federal Communications Commissioner), Lou Kahn and Everett Reimer, author of 'School is Dead."

A few highlights of the week: • John Holt, author of many books about education, giving his definition of a teacher—not an expert, more like a travel agent.

Warren Bennis, President of the University of Cincinnati, answering the question of what an eight-year-old child should have in his school day: "the opportunity each day to say 'No."
Doreen Nelson, elementary school teacher, describing one result of her Purium City simulation exercises with nine, ten, and eleven-year-olds: "It's hard for their teachers to put these huge models in a closet. This is a way for the students to go beyond the teacher."

• Ronald Gross, Adjunct Assistant Professor of Social Thought at NYU, joyously describing the graffiti "epidemic" as *people* in the city becoming visible.

• Judy Seidenbaum, founder and Executive Director of Open Space, Inc., explaining their efforts to research city resources for Los Angeles schools, and to get an environmental program into the regular curriculum.

• Albert Eide Parr, Director Emeritus of the American Museum of Natural History, discoursing on how the architecture profession has not yet done what his native Norway did a century and a half ago—dispensed with its priesthood.

• Simon Nicholson, lecturer at Britain's Open University, asserting that the adventure playground is already outdated, because it sets up an unreal separation between work and play. • Charles Rusch, Associate Professor of Architecture at UCLA, describing his year exploring LA on a full-time schedule with seven children and a van. "This could work for 1/10 of the school system, or 80,000 kids-as long as all the vans didn't arrive at once."

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• Harry Parnass, architect and urban designer, visualizing the designer "as a packager of things that aren't necessarily physical." The Metro Education project he has devised with Michel Lincourt would use Montreal's subway as the corridor and home base of the urban school system. The facilities are there; they just need putting together. Thirteen cinemas, for instance, could be rented for \$1/seat/month/during the otherwise idle school hours.

Several fine documents came out of the conference: Aspen Visible: A guidebook to the natural and man-made environment in and around Aspen, Colorado, under the responsibility of Joel Katz of the Murphy Levy Wurman office, funded by the Atlantic Richfield Company and distributed by The MIT Press; Yellow Pages of Learning Resources ("a handshake with a city"), published by The MIT Press with the support of Educational Facilities Laboratories: and a series of excellent "urban posters" for national distribution, supported by the National Endowment for the Arts with a matching contribution by the graphic artists, and done as "an invitation to discover the city as a learning resource."

A final document was in doubt as the conference ended: a spontaneously generated catalog of everyone at the conference, with each person taking a page to tell what he does, and where. Beyond all the exhilarating films, panel discussions, exhibits and events scheduled for this or any conference, what often stands out for anyone attending is the chance discovery of a kindred soul and the unexpected exchange of ideas with a new acquaintance.

#### LEMON AID

The rich have their problems with the landlord too. Sometimes they bang on the pipes for heat to no avail. Tenants of a 24-story luxury building on Manhattan's Central Park South recently hung out sheets over their balconies for all the world to witness how desperate things had gotten. Dr. Eugene Saland. whose wife is chairman of the tenants' committee, put out a sheet with his opinion of the highrise clearly stated, "This building is a lemon." Nearby, a balcony featured a plaintive warning on bed linen, "A teepee



Letting it all hang out

in the park is better." Another balcony featured a pink sheet timidly marked "Help!" What brought on this Revolt of the Rich? Thirty-two days without air conditioning last summer, and no air conditioning this year, not to mention 12 days without heat this winter, including Christmas Day. When you're paying \$1,000 a month, that hurts.

The landlords responded to these pleas with admirable speed, not to the basement to repair the cooling system, but to the State Supreme Court to have the tenants ordered to take in their laundry. To add insult to injury, they claimed \$1 million in damages from each of 41 tenants. (A hearing on the suit has been postponed pending negotiations between the landlord and the tenants' committee.)

Tenants in despair won't have to spoil their lovely percales next time they have a communication problem with the management. A west coast marketing firm is offering 12-inch, selfadhesive, vinyl lemons, in bright yellow, edged with green—\$2.98 for a set of two lemons. Write D.M. Corp., Dept. 4009, Box 11133, Santa Ana, Calif. 92711.

## TRANSPORT

#### MINI-BUS OR MAXI-TAXI

Like every other metropolis traffic-jammed by private cars, taxis, and giant buses and trucks, Manhattan has been looking for a nice little vehicle that will do, roughly, what buses and taxis do—but do it better and without bringing all traffic to a screeching halt. In New York's case, the specifications were even more specific: Midtown Manhattan Planning Chief, Jaquelin T. Robertson, has been working on a 48th Street crosstown mall that would give precedence to pedestrianism, and permit only some limited, neat, clean and comfortable form of public transport. Robertson's consultants, the Montreal-based planning firm of Blanche and Sandy Van Ginkel (see Oct. '71 issue) knew just exactly how to fill the bill: after rejecting existing vehicles in the U.S. and abroad as inadequate, the Van Ginkels decided to design their own. Result: the Ginkelvan, a 20passenger, persimmon-colored, fiberglass-bodied, mini-bus or maxi-taxi, with a short wheelbase, comfortable chairs, large expanses of glass, sliding doors, and a floor only 6 inches above



A good idea for Manhattan but . . .

the curb (so that the elderly, the very young, wheelchairs, baby carriages, etc. can embark and disembark without trouble). If and when a pollution-free, electric engine is developed, the Ginkelvan can accept that, too.

It is a "nifty job," as Robertson put it when Ginkelvan-One was unveiled in a Rockefeller



#### . . . no plans for mass production

Plaza ceremony last month. To fanciers of antique automobiles and other lunatics, there was something vaguely familiar about the Ginkelvan; it was, of course, a direct descendant from those wonderful Detroit Electric jobs of around 1912-glass walls, tall silhouettes, breadbox engines up front, and all. It is a heritage that Detroit has long ignored, to its own shame. It took a couple of avant-garde architects and planners associated with Team Ten, who had never designed any vehicle of any sort before, to put Detroit back on the track-or on the city streets, anyway.

#### TRANSPO EXPO

It opened to an aerial display of 100.000 balloons released by rockets, 110 parachutists carrying flags of the 50 states and foreign nations, and to predictions that it would create the largest traffic jam in the capital's history. When it closed, there had been mechanical and program failures of some equipment on display, the traffic jams were not as bad as projected, ticket receipts could document only a small fraction of the reported attendance figures, and meetings mostly repeated transportation truisms of the last decade.

This was Transpo. It cost taxpayers an estimated \$9 million (to be partially offset by revenues) and was at best only a qualified success. It did popularize the current problems and developments in transportation even as it failed to show the revolutions in transportation its publicists promised.

The show—and it must certainly be called a grand one was held the first week in June at Dulles Airport, near Washington, D. C. To draw an audience, the show featured demonstrations by the Navy's Blue Angels, the Royal Air Force Red Arrows and other military stunt and flying teams. Skydivers and airplane-wing-walkers were also on hand to provide thrills. Against this, 350-odd manufacturers and other exhibitors displayed their transportation wares.

Products ranged from aircraft, automobiles, prefab buildings and rapid transit systems to the components and support services for all of these. Included were anti-collision lights, automatic train controls, catering services, computers, dynamic test systems, pilot trainers, seaplane floats and survival kits.

The biggest single product display was an installation of four people-moving systems that formed the central spine of the entire Transpo site. The four prototypes were built with \$6 million of federal money, with the companies each investing between \$600,000 and \$1.5 million of their own money.

Ford, Transportation Technology Inc. (TTI), Dashaveyer Co. (a subsidiary of Bendix Corp.), and Monocab, Inc. were the four people-mover manufacturers. Each system was impressive in concept, but each suffered delays in operations. The people-movers and other displays at Transpo are prototypes, not yet fully developed, in part because they have not been installed at full-scale before, where many bugs are revealed. But Transpo helped educate the public to what is and will be available for travel. And many of the attendees of Transpo will be among the purchasers of this equipment. It was a super trade show, if no more.

## BIG PLANS

#### RAINBOW PLAZA

The New York State Urban Development Corporation has announced a competition for the design of an eight-acre plaza facing the Rainbow Convention Center now being built in Niagara Falls. Deadline for registration is Sept. 15, 1972; deadline for submissions is Oct. 31, 1972. The program is open to architects and landscape architects in the U.S. and Canada. Write: Charles G. Hilgenhurst, AIA, c/o New York State Urban Development Corporation, 1345 Avenue of the Americas, New York, N.Y. 10019.

#### GAMES PEOPLE PLAY

Blistering across the now welldeveloped landscape of the Munich Olympic games is the controversial (because so costly) Frei Otto-inspired acrylic roof (photo). The largest pivoted suspension roof ever built and about 800,000 sq. ft. in area, the translucent structure wraps around the Olympic stadium and covers a sports hall for 12,000 spectators and a swimming stadium (foreground). The Stuttgart architectural firm of Gunther Behnisch won a design competition for the roof design and Olympic layout. The games will open at the end of August.

WOMEN ARCHITECTS TO MEET The International Union of Woman Architects will hold its 3rd international conference in Bucharest, Roumania, September 12-15, on the subject "Women architects' specific ideas and effective contribution about the humanization of new urban areas." The UIFA, founded in 1964, has held previous conferences in Paris and Monaco, this last (1969) attended by women architects and planners from 22 nations and five continents. For further information, contact Solange d'Herbez de la Tour, President, 14 Rue Dumont d'Urville, Paris XVI, France, or L. Jane Hastings (one of five Vice Presidents of UIFA), 1314 NE 43rd St., Seattle, Wash., 98105

## ENVIRONMENT

LANDSCAPERS FLEX MUSCLES Unquestionably the most significant event at the annual meeting of the American Society of Landscape Architects in Philadelphia, June 28-30th—and one with significance to all architects, planners and engineers was the final report, "The Study of The Profession".

Delivered by its author, Dr. Albert Fein, Director of Regional Studies at Long Island University, professor at Harvard's Graduate School of Design, and author, it is the result of a three-year study sponsored by the Ford Foundation and the American Society of Landscape Architects Foundation.

Fein's suggested new definition of landscape architecture echoed what members heard previously from Ian McHarg, from Prof. Philip Lewis of Wisconsin and other panelists and speakers. In essence Fein described landscape architecture today as: "the art of supplying scientific principles to the land, to its planning, design and management." It is an applied art, he said, which utilizes applied science, natural science, physical science and behavioral science.

The study finds that landscape



PHOTOGRAPHS: Page 39, George Cserna. Page 40 (right) Max Sauer Studio. Page 90 (bottom, left) Rondal Partridge; (top, right) courtesy Japan Architect; (bottom, right) Gil Amiaga, and J. Veltri. (continued on page 89)

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The mind of Louis Kahn is a cross between a gaslight and a laser beam.

It is a mind full of connections, respecting the past, perceiving the future emerging from it.

It is a mind full of compassion, having known poverty, having known the frustrations born of talents isolated from opportunities.

It is a mind full of grace. Of grace under pressure.

It is a mind ever searching for tranquility amidst turbulence, and for continuity amidst contradiction.

A mind reaching out to pull tight the final ring. To amass harmony in the service of man.

Born in 1901 on the Baltic island of Osel, his parents brought him to Philadelphia in 1905. Reared in a home which revered the Old Testament, later schooled in the Beaux-Arts tradition at the University of Pennsylvania, Louis Kahn's life and works have been marked by the sense of beginning.

There is not a book about "modern architecture" in his office-an office encrusted with books, Viollet-le-Duc, Choisy's Historie, Ruskin. His sense of beginning is as rooted in Siena, as was Le Corbusier's at Paestum, or Frank Lloyd Wright's at Katsura.

"I really look for the beginning," he will say, the clamor of downtown Philadelphia just outside the window, "but, in reading books on history, I somehow always want to read Volumn Zero and dispense with the others."

In Volumn Zero are beginnings, unwritten parables of the first human agreements, the basis for what Kahn calls "the mystique of building."

In his works--"offerings," he calls them-temporal needs and eternal values come into complete interaction. He means



Salk Institute, meeting house concept study





it when he says, "Architecture does not exist." Or when he says, "A building is an offering to the spirit of architecture." That building, then, becomes more than just the solution of a problem; rather, it becomes an interpretation of its spirit. With respect to bare needs, Kahn's buildings will never measure up, for they have to do with deeper needs which include, he believes, the desire to express, the desire to be. That, for him, is eternal—as a priori for the architect as the speed of light is for the scientist.

One reason Kahn's work manifests such primal qualities is his reverence for light as "the giver of all presence." Light, *natural* light, is Kahn's Constant, and he defers to its properties as he defers to those of brick, steel and concrete. He has said, sounding like an oracle, "Some can reconstruct the universe from just knowing a blade of grass." Light is Kahn's blade of grass and, as the following buildings and projects express, he *has* reconstructed—in many places, in many shapes—those timeless values which persist through space and time—those which, in transcending bare needs, fulfill them.

Scientists like Jonas Salk, for whom the Institute for Biological Studies at La Jolla, California was designed, have been on speaking terms with this sense of things—more so than architects. When Kahn says, "Architecture is the embodiment of the unmeasurable," the scientist understands. The Salk Institute becomes, more than laboratories, a place of encounter, a place where the interdependency of scientific disciplines is realized, a place where *human* connections count. Since the early 1930s, when Werner Heisenberg first talked about Indeterminacy, all science has come to embrace the unmeasurable as being part of the most exacting calculations.

Beginning the same time, architecture assumed a different philosophical stance. The International Style embraced the functional, measurable aspects of life. Everything had to fit, to work. Volumn Zeros were thrown out in the name of building Zero Volumns, pack ice pure, attesting the primacy of the machine. Kahn, his own suits threadbare, Duomo, Florence, Italy



Duomo & Giotto's Campanile, Florence, Italy



Salk Institute, preliminary meeting house elevations

- !

early saw the frayed collar of functionalism. Through the 1930s and 1940s, he worked seldom and waited. During the 1950s, he taught and waited. But the time was not lost. Volumn Zero was always at his elbow; he taught its contents without knowing he was a teacher.

For Kahn, form never followed function. He began saying that ".... Form has no shape or dimension"; that ".... Form has the integrity of inseparable elements"; that "... Design is a translation of this inner order into being." Form, for Kahn, is not what you see; it is the beginning of what you see. Only through Design does Form become a visible, functioning thing. "I came to a statement that 'order is' because I could never write what it is," he explains. "I made a long list of what I thought it was. And when I threw the list away, 'order is' remained. It sort of included everything by not trying to say what it is. That word 'is' has a tremendous sense of presence." One is compelled to reflect on those buildings which try to say it all, and on those cities which have, on sterile streets, accounted for everything but that which can not be said. In his concern for the unmeasurable, Kahn has created, in his mind, a point—almost tangible—beyond which thoughts do not progress. Every element-be it a beam, a wall, a brick, a vault—is thought of in relationship to the inner Order that a particular problem or program suggests. Every institution-be it education, health, home, secular or sacred—is thought of in relationship to the same inner Order by which people interact, inform and enrich each other. In this way, Kahn goes beyond the element to make a building; and beyond the institution to conceive a city. His plan becomes ".... a society of rooms"; his streets, ". rooms of human agreement, organized as to space and structure as any other work of architecture.'

Louis Kahn accepts E. M. Forster's admonition to society, "Only connect." From boyhood, through the lean years of the Depression, right up to the 80-hour weeks of his present workload, he has sought to build so society might regain its sense of wonder and stretch its concept of what is possible. He could not have built as he has without his innocence. Looking around Philadelphia, he can still say (and *mean* it), "A city is a place where a small boy, as he walks through it, can see something that will tell him what he wants to do his whole life."











DACCA, Bamboo scaffolding covers the unfinished concrete of the Assembly (opposite). Bamboo baskets protect newly planted trees from ravenous goats. This view is from the lower right hand corner of the plan (above).

"I kept thinking how these buildings could be grouped and take their place on the land. On the night of the third day, I fell out of bed with the prevailing idea of the plan, the realization that assembly is of a transcendent nature. The relationship of the assembly, the mosque, the supreme court, and the hostels is what expresses that nature. The institution of assembly would lose its strength if its sympathetic parts were dispersed. So this Citadel of Assembly came about to express the psychological interplay of parts which leads to inspiration and which is that moment of possibility when what to do meets the means of doing it."







DACCA, A system of brick arches (above) supports the Presidential Plaza in front of the Assembly. Extending from it at diagonals are residences for ministers (opposite above) and for legislators (opposite below), both done in brick.

"The institution of learning, of work, of health, of recreation should be available to all people. A city is measured by the character of those institutions. Today they are on trial. It is so because they have lost the inspirations of their beginning. When you think of simple beginnings which inspired our present institutions, it is evident that some drastic changes must be made which will inspire the re-creation of the meaning, City, as primarily an assembly of those places vested with the care of a sense of life."











STREET ENTRANCE ARCADE



DACCA. A series of arcades filter sun into Kahn's Outpatient Clinic for the National Hospital. More than waiting rooms, these generous halls provide living space for the families who come along to keep the patients company.

"The sun never knew how great it was until it struck the side of a building."







KIMBELL ART MUSEUM, FORT WORTH, TEXAS. Open porches (above) mark the building's entrance and express its structural character. Connectors between the lofty vaulted areas (opposite) are clearly noted, enhancing the sense of continuity.

"Because of the open porches, how the building is made is completely clear before you go into it. It is the same realization behind Renaissance buildings, which gave the arcade to the street, though the buildings themselves did not need the arcade for their own purposes. So the porch sits there, made as the interior is made, without any obligation of paintings on its walls, a realization of what is architecture. When you look at the building and porch, it is as an offering. You know it wasn't programmed; it is something that emerged."











KIMBELL. The cycloid system creates a sequence of vaults 100 ft. long. Each vault is characterized by a slit of light running the full length. Where vault meets wall, light also appears to mark the juncture. The instrument by which overhead light is softened and diffused took the form of a double curve of highly reflective aluminum sheeting, installed in 10-ft lengths below the slit. The sheeting is perforated with tiny holes which modify the glare (See page 92).

"By the nature of the vault-like structure, you have the play of lofty rooms with a space between each vault which has a ceiling at the level of the spring of the vault. The lower space does not have natural light, but gets it from the larger chamber. In the loftier rooms, how the room is made is manifest; the dimension of its light from above is manifest without partitions, because the vaults defy division. Even when partitioned, the room remains a room. You might say that the nature of a room is that it always has the character of completeness."









**INSTITUTE OF MANAGEMENT, AHMEDABAD, INDIA.** Early sketch (above opposite) indicates, man-made lake which will soon separate the Institute from nearby playing fields as well as provide coolness during dry conditions. The rampart-like character of the buildings (left) comes from the need to fend off the sunlight and from the desire for a close-knit, communicative relationship between the school and the dormitories.

"The school and the dormitories are a unit, like a monastery. Corridors are avoided by having deep porches, off all the dormitory rooms, where tea is served and things are discussed. The school is around a court which has in it an amphitheater. Everything here is planned around the idea of meeting."





AHMEDABAD. Typical structural detail of married student housing (opposite) shows chords of concrete receiving the thrust of the arches. The rounded center element contains stairs which emerge onto a porch facing a lake.

`'I asked the brick what it liked, and the brick said, 'I like an arch.' ''



AHMEDABAD. The structural grammar of brick arches and concrete chords is held throughout, as in the dormitories (opposite), where more subdued openings at floor level provide ventilation.

"Shade. Closeness. Buildings hugging buildings. It's all a recognition of the seeking after shade. So the system is fundamentally that of porches. The exterior is given to the sun, and the interior is where you live and work and study. The avoidance of devices like brises-soleil brought about the deep porch which has in it the cool shadow."







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HURVA SYNAGOGUE, JERUSALEM. Large hollowed-out pylons subdue the sun and surround the chamber, enhancing an ancient city.

"I sensed the light of a candle plays an important part in Judaism. The pylons belong to the candle service and have niches facing the chamber. I felt this was an extension of the source of religion as well as an extension of the practice of Judaism."

FORUM-JULY/AUGUST-1972




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**PALAZZO DEI CONGRESSI, VENICE.** Due to difficult soil conditions, Kahn's proposed Congress Hall would be suspended on cables between massive pylons. Bridging an inlet in the old Arsenal area (left), it is conceived as a focus for reviving a once lively, but now derelict shipbuilding district. This scheme is Kahn's second; the first version was to have been adjacent to the nearby Biennale Gardens (March '69 Issue).

"There prevails a Silence in which is felt man's desire to express. This existed before the first stones were laid."



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PLAN OF CONGRESS HALL





**PALAZZO DEI CONGRESSI.** Measuring 480 ft. long and 112 ft. wide, the building would rise 80 ft. over the Arsenal basin. A 2,500-seat hall (below opposite), with three smaller ones above, is carried by cables (above left). The pairs of stabilizing struts, perpendicular to the span, form intimate seating areas off the main space. The roof parapet surrounding the ballrooms is a rhythm of square marble columns with views to the Lagoon and the surrounding city. The glass and metal enclosure for the halls is enriched by a millfinish, pewter-like stainless steel. Along the curve of the span, the metal becomes a filigree of oval openings. The main structure from which the cables spring is exposed concrete.

FORUM-JULY/AUGUST-1972





KANSAS CITY OFFICE BUILDING. Due to start construction soon, this is Kahn's first skyscraper. The sketch (opposite) shows it being built. The eight columns, two at each corner, support trusses from which the outer walls and lower floors are subsequently "hung." The trusses enclose a two-level clubhouse at the top of the building. At its base are a plaza with theaters and a shopping concourse.

"I felt the building should not be simply a place of work, but that it should inspire loyalty to the city. So the thought of a club and the thought of places to shop became part of it. The truss came forth at the top to express this club—like a building on top of a building. And below the tower there is another building which relates the tower to the street, to shopping and to people. The street is sympathetic to shopping, you see. Any building which interrupts shopping would make it precious only to its site. There was a difference of 20 feet from one side of the site to the other, and that gave me a shopping entrance to the building on the low side where there is a concourse leading to a plaza on the upper side. This inspires the sense of meeting, which is central to the sense of the city."

FORUM-JULY/AUGUST-1972

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**EXETER LIBRARY, EXETER, NEW HAMPSHIRE.** A synthesis of brick and concrete. The entrance hall (opposite) is at the center of the building. A great light well encased in concrete, immense circular openings give an immediate view of the books and intimate the building's function as a library. The curved stair (lower left) leads from the entrance hall up to the reading areas encased in brick. The plan and section explain how this two-fold construction expresses two-fold function. The outer fold of brick looks out to its surroundings (upper left), the wall broken with windows which become more expansive with each floor. The inner fold of concrete, looking into the glass-covered entrance hall, carries the heavy tiers of books.

"Exeter began with the periphery, where light is. I felt the reading room would be where a person is alone near a window, and I felt that would be a private carrel, a kind of discovered place in the folds of construction. I made the outer depth of the building like a brick doughnut, independent of the books. I made the inner depth of the building like a concrete doughnut, where the books are stored away from the light. The center area is a result of these two contiguous doughnuts; it's just the entrance where books are visible all around you through the big circular openings. So you feel the building has the invitation of books."

FORUM-JULY/AUGUST-1972







INNER HARBOR PROJECT 1, BALTIMORE. Bringing together the commercial and cultural resources of the city, this concept connects the city with the water (below right). A number of activities are brought together on the site. These are identified by several buildings which rise from an expansive, planted plaza (opposite) which covers several levels of parking. Transfer structures free the plaza of columns, creating flexible retail space.

"The main idea was to develop a richness of place, full of availabilities. The transfer structure is much more joyous because it reveals the way the buildings were made. They are rich with retail on the level of the parterre, and we wanted to give freer spaces for the stores to have their displays. It was also made because we wanted an interlocking relationship between buildings so view would not be obstructed. In turn, that caused the buildings to be multi-faced instead of foursided; the hotel, the apartment and office buildings respect each other."

FORUM-JULY/AUGUST-1972







"It is all a walkway in the wake of shops. The ballroom became a bridge which makes identification of the entire site and brings memory of location to it. Under the ballroom are more shops on either side of a passage which leads to a building that cas-cades to the harborside plaza and leads back to the hotel where there is a shopping spine connecting the plaza-like entrances of the various buildings."

PLAN







PAUL MELLON CENTER FOR BRITISH ART AND BRITISH STUDIES, YALE UNIVERSITY. A low corner entrance (top right) breaks into a high inner court (opposite above). Shops line the building along the street sides and are repeated off a sunken plaza (opposite below). Exhibition and academic space begins on the second level, while the Center and the city share an auditorium which is nestled behind the shops, off the firstlevel court, with additional access off the plaza.

"The idea of intimacy between book, painting, drawing—this is in the roomlike quality of the collections. The construction is that of 20-ft. bays. The rooms are made with concrete columns and slabs. The slabs contain the air return, so the galleries are clear of gadgetry. The air risers, however, are exposed. They become a sort of Franklin Stove, sitting in a space. The interior is wood; the windows have shutters you can close and hang paintings on. The exterior avoids heavy construction between the columns and is made of matte-finish stainless steel—like pewter."

FORUM-JULY/AUGUST-1972





PHILADELPHIA BICENTENNIAL. Kahn's scheme for the 1976 observance (above) is based on, but moves beyond, the city's concept of a single boulevard, flanked by National and Theme Buildings, and connected by overhead and surface transportation. Selected for final presentation by the design team of which he is a member, Kahn's proposal manifests his vision of society.

"What is the city but the seat of Availabilities? They are connected in the city, and that connection is the city's value. Today, dissension is out in the open. It stems from the desire for what is not yet made, not yet expressed. Bare needs come from the known, and supplying only what is lacking can bring no lasting joy. Did the world need the Fifth Symphony? Did Beethoven need it? He desired it; now the world needs it. Such desires bring about the new need. My feeling for the Threshold is part of this realization, where the will to be, the will to express, meets the possible. Those points are the points of Availability."



FORUM-JULY/AUGUST-1972







When was it that the particles became The whole man, that tempers and beliefs became Temper and belief and that differences lost Difference and were one? It had to be In the presence of a solitude of the self, An expanse and the abstraction of an expanse, A zone of time without the ticking of clocks, A color that moved us with forgetfulness. When was it that we heard the voice of union? "Things of August" by Wallace Stevens

## **PROJECT CREDITS**

**CAPITOL, DACCA,** Bangladesh. Owner: Government of Bangladesh. Architect: Louis I. Kahn (Henry Wilcots, project manager). Engineers: Harry Palmbaum (structural); A. Ernest D'Ambly, Inc. (mechanical and electrical). PHOTOGRAPHS: Kurt Wyss, except page 52, page 53 bottom, pages 54 and 55, Anwar Hosain.

KIMBELL ART MUSEUM, Fort Worth, Texas. Owner: Kimbell Art Foundation (Dr. Richard F. Brown, Director). Architect: Louis I. Kahn (Marshall D. Meyers, project manager). Associate Architect: Preston M. Geren and Associates (Frank H. Sherwood, project architect). Engineers: Dr. August Komendant and Preston M. Geren (structural); Cowan, Love and Jackson (mechanical and electrical). Graphics and Exhibition Design: Laurence Channing. Lighting consultant: Richard Kelly.

PHOTOGRAPHS: Marshall D. Meyers.

INDIAN INSTITUTE of Management, Ahmedabad, India. Owner: Government of India. Architect: Louis I. Kahn. Indian office: National Design Institute (B.V. Doshi and Anant Raje, resident architects). Engineer: Raj (structural). PHOTOGRAPHS: Anant Raie

HURVA SYNAGOGUE, Jerusalem, Israel. Owner: Government of Israel. Architect: Louis I. Kahn. PHOTOGRAPHS: George Pohl

CONGRESS HALL, Venice, Italy. Owner: City of Venice. Architect: Louis I. Kahn. Engineer: Dr. August Komendant (structural).

KANSAS CITY OFFICE BUILDING, Kansas City, Missouri. Owner: Altgar Enterprises. Architect: Louis I. Kahn. Engineers: Dr. August Komendant (structural); Dubin - Mindell - Bloome Assoc. (mechanical and electrical).

THE LIBRARY of Phillips Exeter Academy, Exeter, New Hampshire. Owner: Phillips Exeter Academy (Rodney Armstrong, librarian; Eli Fish, aesthetic advisor). Architect: Louis I. Kahn (Winton F. Scott, project manager; Earle W. Bolton, site manager). Engineers: Keast and Hood Co. (structural); Dubin-Mindell-Bloome Assoc. (mechanical and electrical). Lighting Consultant: Richard Kelly. PHOTOGRAPHS: ©John Ebstel

BALTIMORE INNER HARBOR PROJ-ECT I, Baltimore, Md. Owner: Gateway Developers, management by The Hammerman Organization Inc. Architect: Louis I. Kahn (Marshall D. Meyers, project manager). Engineers: Keast and Hood Co. (structural); Dubin-Mindell-Bloome Assoc. (mechanical and electrical). PHOTOGRAPHS: George Pohl; aerial view by Maps, Inc.

THE PAUL MELLON CENTER for British Art and British Studies (Jules Brown, Director; Henry Berg, Assistant Director), Yale University, New Haven, Connecticut. Architect: Louis I. Kahn (David P. Wisdom, project manager). Engineers: Pfisterer, Tor and Assocs. (structural); Van Zelm, Heywood and Shadford (mechanical). Lighting consultant: Richard Kelly. PHOTOGRAPHS: George Pohl

Portrait opposite page: Hans Namuth

FORUM-JULY/AUGUST-1972

PHILADELPHIA BICENTENNIAL. The first presentation by John Gallery was based on the concept of a single boulevard flanked by National Buildings and Theme Buildings connected by overhead and surface movement. The following architects were chosen to collaborate on further development: John Andrew Gallery (chief consultant); Bower and Fradley; Eshbach, Glass, Kale and Assocs; Louis I. Kahn; Mitchell/Giurgola Assoc.; Murphy Levy Wurman; Robert Venturi; Urban Engineers, Inc.

The architects submitted, at sessions, suggestions and schemes. Kahn's scheme was selected for final presentation.

THE SALK INSTITUTE for Biological Studies, La Jolla, California. Owner: The Salk Institute (Jonas Salk, Director). Architect: Louis I. Kahn (John E. MacAllister, project manager). Formwork details: Fred Langford. Engineers: Dr. August Komendant, consultant, Ferver-Dorland and Assoc. (structural); Fred S. Dubin (mechanical and electrical). PHOTOGRAPH: Hans Namuth



## (continued from page 41)

architects, supported by their special areas of competency in shaping and moving environmental elements, must interface with these scientists for the public health and welfare.

This is a far cry from the old emphasis on plant materials and esthetics which many, within and outside the profession (including most architects, city planners and engineers), have previously felt was the exclusive and only province of landscape architects.

While those attending the meeting are not about to drop the word "architect" from their title, there is no question that ASLA is serving notice on its design colleagues—and on the world—that landscape architects are determined to address themselves to the public health and welfare without retreating from their historic concern with plant material and esthetics.

## EARTH WATCH

Louis Slesin, an environmental scientist who will begin doctoral work at MIT this fall, attended The United Nations Conference on Environment, in Stockholm, and sent us this report:

The state of the earth's environment brought delegates of 114 countries to Stockholm in June to consider over 100 draft recommendations prepared over the past two years. Aiding them were specialized United Nations agencies and other intergovernmental groups, plus thousands of representatives from nongovernmental agencies and the press.

Despite such attendance, any action by the conference was immediately circumscribed by the differences between the rich and the poor countries. Each side proved unsympathetic to the other's problems. And the USSR and other East European countries failed to attend at all in protest of East Germany's exclusion.

The primary issues of the conference were land, air and water pollution as the result of misaplied technology and an economic system unwilling to pay the costs of cleaning up. The underdeveloped countries, however, were more concerned with their problems of poverty, disease and illiteracy and of how much aid they could win from the developed countries.

Some common interests did result in conference action. Innumerable studies were ordered and there will be an exchange of information. The UN will sponsor an Earth-watch program to monitor the global environment. Other agreements include a recommendation against commercial whaling for 10 years, the establishment of genetic pools to conserve a variety of animal, plant and microorganism species, and initial steps to control ocean dumping. A UN environmental secretariat was set up and a voluntary environmental fund was established with a target of \$100 million.

Many proposals hinged on the definition of environment as including all important human issues. Here the conference could have little more than moral impact. The Declaration on the Human Environment, which the conference created, is an example. It condemns apartheid, racism and nuclear weapons, and supports the rational management and development of natural resources. But it is unenforceable. On other issues the conference didn't even go that far. Although discussed, population control and chemical and biological warfare were officially excluded due to political pressures. No action was taken on America's "ecocidal" war in Indochina.

What will come of the conference is difficult to assess and how much some of its recommendations will survive is doubtful. All must be approved by the General Assembly in the fall or by other international bodies. Already the International Whaling Commission has overridden the whaling moratorium in favor of smaller catches, and France continues to test nuclear weapons in the atmosphere.

Some progress may have been made by the rich and poor countries in understanding the urgency of each other's problems, however. And maybe the Kenyan delegate will never have to repeat his admonishment: "It is getting to be a waste of time to stand in a forum like this and tell the developed world what we need."



## NIXON CARES

The federal government is again saying that it cares about the quality of architecture, design and graphics in public places. President Nixon sent this message to the annual conference of the Associated Councils of the Arts, recalling the Kennedy Administration's *Guiding Principles* for Federal Architecture (a document published in 1962 and since largely ignored), and initiating these actions.

• The endorsement of an annual Design Assembly for federal administrators and artists.

• The appointment of a special ad hoc task force by the National Endowment for the Arts to review existing guidelines for federal architecture.

• The initiation of several programs to improve the level of federal graphics and publications.

The message was delivered by Nancy Hanks, chairman of the National Endowment for the Arts, who for the last year has been reviewing and compiling executive and agency responses to questions about how they can integrate the arts and artists into their operations.



## RISE, DECLINE, AND FALL

When a relatively underdeveloped nation begins to worry about preserving its landmarks, things must be looking up; and India, for many decades the proverbial socio-economic disaster area of the Third World, is beginning to worry seriously about the future of its past. The current concerns of Indian architects and architectural historians are two cities of vast interest to every civilized person within and without that extraordinary sub-continent: Fatehpur Sikri, 400 years old, and 22 miles west of Agra, south of Delhi; and Chandigarh, only a dozen years old, and about 200 miles north of the capital.

Fatehpur Sikri (Nov. '63 issue) is in trouble because the Indian Government's Department of Archaeology seems to be gussying it up, tourism-wise: fake ruins, tourist-traffic lanes widened at the expense of archaeological splendors, neglect of genuine ruins in serious need of repair. Satish Davar, an Indian architect who practices in London, is the living authority on Fatehpur Sikri, and he is rightly appalled. Our Special Correspondent in New Delhi, Patwant Singh, who edits and publishes Design magazine, has made Fatehpur Sikri one of his fighting causes.

Le Corbusier's Chandigarh is currently administered by three governmental bodies, and no one appears to know who owns the city. All future planning is either ineffective, disjointed, or uncoordinated; slums have sprung up in the center of town (after only a dozen years or so!); large, unbuilt areas in the center of town are turning into jungles. Anyone who has visited Chandigarh knows how important its earth-shaping was to Le Corbusier.

J. R. Bhalla, Pres., Indian Association of Architects, has said Fatehpur Sikri is the realization of Akbar, a poem to the art of building, an epic of the feudal



Only Indira Gandhi can save them now

period, and an essay in construction . . . Chandigarh (according to Bhalla) represents the most powerful ideas in architecture today . . . It has become the best laboratory for experiments in town planning, and a continuous symposium on the principles and practice of architecture in our time. We agree. The man-built world, so splendidly led by India in the past and in the present, can hardly afford the loss of Fatehpur Sikri and of Chandigarh to



## DIED

Aline Saarinen died in New York City July 13 at age 58.

hucksters and politicians.

Mrs. Saarinen was associate art editor of *The New* York *Times* from 1947 to 1954, when she married Architect Eero Saarinen. That marriage put her at the center of a cause she would articulate ever more frequently.



A year after Mr. Saarinen's death in 1961, and with a solid reputation as an art critic, she turned to television and, quite literally, opened up a new dimension of broadcast journalism. For the last year and a half, Mrs. Saarinen was NBC's bureau chief in Paris, the first woman ever to hold such a position in television. However, her regular commentary on art, architecture and cities was the most memorable. And in an industry where criticism has been limited to theater, movies, books or dining, she aroused keener public awareness of architecture and its impact on society.

Aline Saarinen was a woman of presence who made the "culture beat" count like no one else.



TANZANIA COMPETITION Kisho N. Kurokawa has won the first prize in the international competition for a new national headquarters in Tanu, Tanzania. Forty-nine nations were represented in the 430 entries. The jury's preference for Kurokawa's entry was unanimous.

The external form, which represented to the Tanzanian jurists "an upsurge of the power of the people", seemed also to reflect the shape of Mount Kilimanjaro.

Two of the four prizes went to Americans: Richard C. Meyer, and Andrew and Maria Zdzienicki.

**TWO ARCHITECTS WIN HONORS** The 1972 Bard Awards "for outstanding achievement in privately sponsored construction in New York City" went to I.M. Pei & Partners for the National Airlines Terminal at JFK Airport (Oct. '71 issue), and to Abraham Geller for The Residential Building at the Henry Ittleson Center for Child Research in Riverdale.

Honorable mention went to three projects "for the foresight and intent of their owners and initiators." These were: the 139th Street Playground, designed by Coffey, Levine, Blumberg and Henri Le Gendre Associates; Greenacre Park, designed by Sasaki, Dawson, De May Associates, Inc. and Goldstone, Dearborn and Hinz; and Westbeth Artists Housing, designed by Richard Meier and Associates, (Oct. '71 issue).



Geller (top) and Pei (bottom)





## LEAD INNOVATIONS

Architect Louis Kahn used lead in a new and different way on the roof of the Kimbell Art Museum in Ft. Worth, Texas (p. 56). The building, which encloses 100,000 sq. ft. of usable floor space, is designed as a series of cycloid vaults that eliminate the need for interior pillars. The vaults are supported by 91-ft., post-tensioned beams. The museum is made of warmtoned concrete, travertine marble, lead and wood, with the lead chosen for its pewter-like appearance and its performance as a waterproofing membrane.

Only the cycloids of the museum roof are lead-covered; the



flat areas between them are of built-up roof construction; the vaults themselves are of reinforced concrete. A  $1\frac{1}{2}$ -in. layer of insulation, held in place by a wood frame, separates the concrete from two thicknesses of  $\frac{3}{8}$ -in. plywood, over which sheets of 30-lb. roofing felt are



secured. Sheets of calcium lead (weighing 3 lb. per sq. ft.) were cleated to this surface. (The calcium was alloyed with the lead to give it greater tensile strength.)

To keep the roof unobtrusive and in character with the building's architectural form, flatlocked seams were used throughout. Lead sheets, about 2 ft. wide, were carried in horizontal runs for the first two courses above fascia level. From this point, the sheet lead was laid vertically in two lengths connected by a staggered joint.

To do the job, contractor Jack McClung set up a small sheet metal shop on the museum roof, consisting of two hand brakes and a work bench. The sheet lead was cut to size by hand and the first folds formed on the brakes prior to positioning on the cycloid form. The sheets are held in place by copper cleats nailed to the plywood. Each joint was waterproofed with nonhardening calking compound before it was hammered flat.

KIMBELL ART MUSEUM. Architect: Louis I. Kahn. (Materials & Manufacturers as submitted by the architect.) TRAVERTINE: Walker & Zanger; Cold Spring Granite. ROOF COVERING: Calcium lead by Murdock Lead Co. ACOUSTICAL MATERIALS: National Gypsum. WINDOWS & DOORS: Louis Hoffman Co. ELEVATORS: Dover-Hunter. HARDWARE: Sargent Company. LIGHTING FIXTURES: Edison Price. CARPETING: Magee Carpet Co. AUDITORIUM SEATING: J.G. Furniture. LIBRARY STACKS: Library Bureau-Remington Rand.

## SECURITY SYSTEMS

Cardkey Systems has announced some new developments in their card-operated security systems. A new mechanical card-operated lock and door knob, which operates without electricity and requires no modifications to door jamb or strike, is one of the new products. The one-piece assembly contains a door knob set and a Cardkey "programmable" lock, which is linked to a release bar, preventing the outside door knob from being turned. Insertion of a properly coded card into the card lock triggers the release mechanism; removal of the card causes the door knob to lock when it returns to its original position. A second new product is a central controller unit for card reader security access systems that is now available in a housing suitable for installation in rack - mounting arrangements. The new unit will fit and lock



into the standard 19-in. rack, which many industries use to house banks of electrical equipment, including computer components and closed-circuit TV. Thus, this new controller can be incorporated into existing equipment. And, besides controlling access to many locations, the controller can be programmed to void specific cards. It records the time, date, station number and valid/void status almost immediately as a card is inserted into any card reader. On Reader Service Card, circle 102.



## OPEN PLAN SCHOOL SYSTEM

A completely integrated and coordinated interior for open-plan schools has been introduced by the Peabody and Mutschler divisions of Modernfold Industries. Called the Spectra Series, the system includes space dividers (Spectra I), furniture (Spectra II) and interchangeable component cabinetry (Spectra III). The cabinetry is the foundation of the series and consists of lightweight modules that can be stacked, fixed to walls, put on casters or bases, or used singly. Components are available in a variety of sizes, are molded, and

have rounded corners. The furniture includes strong plastic shell chairs that are stackable and have several base options. Chair desks and tablet arm chairs, plus tables and desks are also included. There is a line of fixed furniture to complement the movable designs. The space dividers are sight and sound barriers, which can be used singly or grouped as study carrels or teacher stations. Available with either glides or casters. they include a wide range of surfaces, colors and accessories. On Reader Service Card, circle 103.

(continued on page 95)

Cane Intaglio Herringbone Fossil Leather Fresco Shantung Slate Stucco Prism

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On Readers Service Card, Circle 351



(continued from page 92)

## LIBRARY FURNISHINGS

A new line of subsystems for outfitting school library/media centers has been introduced by American Seating Co. Called Educational Systems II Media Center, the line is modular with a uniform support system so that parts are interchangeable. It is flexible, movable, expandable and easily stored. The system's support is a movable wall-mounted partition with specialized vertical and horizontal storage and display components for all types of media, including books, maps, records and prints. This means that all kinds of material relating to a single subject may be assembled in one place. Various kinds of shelving and end



panels, plus a circulation structure, are also included in the system, as are electrical pieces of equipment such as projectors, cassette recorders, teaching machines and microfilm readers. The system further includes card catalog storage units, lecterns, book stands, study carrels, a power adapter system, study tables, chairs and informal lounge furniture.

On Reader Service Card, circle 104.



LIBRARY FURNISHINGS A new collection of library furnishings, designed by Dick Tremulis and Robert Balonick,

has been introduced by Marden Manufacturing Inc. The system includes both freestanding and component units and is designed in oak or walnut as a standard unit. Elements include study carrels, filing units, tables, seating, audio-visual and data facilities. Additional pieces can be developed for special job requirements.

On Reader Service Card, circle 105.



## SELF SPACES

They look like fun, but actually these so-called Self Spaces are individual learning spaces for children in the second to sixth grades. The units are essentially truncated octahedrons that may be stacked, linked and tumbled. Several surfaces are open for light, air and exit; ladders may be attached for upper level access. Each unit is carpeted, lighted and includes a seat, foldaway desk and bookshelves; they are especially suited to open plan schools and libraries. St. Charles Mfg. Co. makes them. On Reader Service Card, circle 106. (continued on page 97)

On Readers Service Card, Circle 329→



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Bronze Tableau, 797

# **Dimensionals**! Formica does them with feeling.

This is Formica '72 - a vintage year. And these are two of the exciting new dimensionals that help make it so. Run your fingers over Bronze Tableau. Feel the ripples and peaks of the rough-troweled texture. Observe how the highlights and shadows of the raised surface enhance the rich, varigated colorings. And Cimmerian Leather. Its dimensional "grain" gives off a soft, warm feeling that appeals to your sense of touch. Gives it a natural texture that enlivens the colors.

And the real beauty of it all is — when you specify one of our 13 exciting dimensionals — you're specifying a FORMICA® brand laminate that never needs refinishing — stays bright and new looking for years. Select from more than 130 Standard and Designer Collection

colors, patterns and woodgrains. Let it be a vintage year for you, too. Consult your Sweets Architectural File 6.14/Fo, or write us today for more information, Dept. AF-7.



© 1972 Formica Corporation, Cincinnati, Ohio 45202, subsidiary of laminated plastic

Leadership by design

On Readers Service Card, Circle 330



(continued from page 95)

## OFFICE CHAIR

A wood version of its award winning GF 4/40 chair has been introduced by the General Fireproofing Co. The new model features a lacquered plywood back and seat beautifully finished in teak or walnut. And, like its counterpart, the chair is eas-





ily stacked, up to 40 ft. high. On Reader Service Card, circle 107.

## SIDE CHAIR

A new, fluidly designed side chair has been introduced by Thonet Industries, Inc. Designed by Arthur Yumanoff, the chrome-plated, tubular steel chair has a black maple wood frame and natural cane seat and back. It is part of a "cantilever" collection that includes a matching armchair and two matching bar stools (with and without a back). All of the designs are also available with upholstered seats and backs. On Reader Service Card, circle 108.

## THEATER SEATS

The JG Furniture Co., Inc. is offering four lines of auditorium seating by prominent designers. The Westminster line, designed by Dickinson/Smith, is a rounded pedestal design upholstered on all surfaces. The 62-63 series, by Peter Dickinson, has an upholstered back and seat and exposed hard-surface arms, and stands on a pedestal base. The Urbino line, by Giancarlo De-Carlo, is square in design and when folded exposes a white laminate surface. The seat and back of the armless model are upholstered. The T-100 series (illustrated), by Dave Woods, is



a square, fully upholstered design that can be either floor or riser mounted. *On Reader Service Card, circle* 109.

## TRACING TABLE



A variable intensity light box, tracing table, film viewing table and drafting table have been combined into one unit by the Stacor Corp. Labeled TR II, the table is available in a variety of sizes and configurations and all are equipped with full-length pencil troughs, clamp blocks and accessories. The light box has solid state controls.

On Reader Service Card, circle 110. (continued on page 98)

# A Familiar Shape? A Classic Design? Yes...and No.

The familiar Mies Barcelona Logo in a solid Stainless Steel base, mirrored and stretched to 48", 54", and 60" in length to support a massive <sup>3</sup>/<sub>4</sub>" clear crystal glass is hardly a classic since it happened only yesterday at Brueton but it is another valid reason why we are the best in the world at what we do.





(Style #MV/2448-15)

On Readers Service Card, Circle 331

## SUPERLATIVE METHODS OF SPOTTING CARPETS ARE AVAILABLE TO YOUR CLIENTS

Any salesman or maintenance expert who tells you a floor machine cleans deeply . . . then tells you you have to pre-spot and that you can remove most spots with the same solution by using clean white cloths, hasn't much respect for your intelligence. But that is about all you hear.

Spots are what your clients are most concerned about and methods of spotting that require selection of spotters and working on the floor with eye droppers and spatulas went out for our customers 18 years ago. The first airline that bought Argosheen then, still maintains they've never found a spot it will not take up.

Spotting, as a separate operation, has never been successful. Among the other problems involved, besides time and failure, is trying to bring the surrounding carpet up to the super-clean condition of the spot with methods that leave the dirty solution in the carpet.

That's why our customers have been cleaning their whole carpets with mops. We've recently learned how to mop with a floor machine, which solves problems of soilrelease found in some of the new carpets, and enables us to dry synthetic carpets as quickly as wool.

You just spray the spots with an ARGOSHEEN solution and remove them with absorbent cotton pads attached to the brush of a rotary machine. More pads wet with plain water do the rising and dry pads do the drying . . . for **immediate** use.

If the whole carpet is soiled just keep going. It takes no longer to get dirt up than to try to hide it.

Like to see what it's all about? \$12 and your letterhead will bring you enough to clean several rooms . . . and to see why so many Interior Designers and carpet stores are carrying ARGOSHEEN for their clients (even giving it) . . . because it cuts down on complaints so drastically.



ARGOSHEEN Argo & Company, Inc., Dept. AF-7 P.O. Dr. 2747 182 Ezell St., Spartanburg, S. C. 29302





(continued from page 97)

## EMERGENCY LIGHTING

A new 12-volt emergency lighting unit, called Exide Miniguard, is available from the Exide Power Systems Division of ESB Inc. Designed for low-cost protection, the Miniguard MG-2 will provide light automatically when normal electric power is interrupted. The unit has UL approval and is equipped with completely solid state electronic circuitry, including a solid state pulse type charger that constantly evaluates the battery's state of charge and keeps the battery fresh between AC out-



ages. The unit will provide up to  $2\frac{1}{2}$  hours of emergency light with DC power drawn from a 6-cell, 12-volt lead-acid battery. The case is steel with an enamel finish and leatherette front panel.

On Reader Service Card, circle 111.



MOVABLE PANEL SYSTEM

Air-light SHO-WALLS, produced by the Brewster Corp., provide spontaneously rearrangeable space division with built-in exhibit-ability. They require no fastenings to walls, floors or ceilings and they self-connect without tools. Available in a variety of shapes and sizes, the panels also come in a variety of finishes and colors. The finishes include burlap, white vinyl, nylon pile fabric, burlap-covered pegboard and chalkboard. A full line of accessories, fittings and subcomponents are also available. *On Reader Service Card, circle* 112.

## AIRPORT BENCH

Modular seating that is ideal for airport and other commercial installations has been introduced by Kreuger. The bench is the latest extension of the Anonimo Castelli AXIS 3000 line and was designed by Gian Carlo Piretti. The base is cast aluminum with a mirror-bright finish; the seat is available in vinyl or fabric. On Reader Service Card, circle 113.

> (continued on page 100) On Readers Service Card, Circle 333→

On Readers Service Card, Circle 332





## (continued from page 98)

## FROST-FREE THRESHOLD

A newly designed aluminum threshold virtually eliminates the problem of condensation or frost buildup inside a door threshold. Introduced by Stanley-Berry, a division of the Stanley Works, the new threshold features a thermal break which is partic-



ularly useful in northern climates where there is a wide temperature extreme between the inside and outside of a building. Clear anodized, the new unit appears conventional. *On Reader Service Card, circle* 114.



## SEATING GROUP

Steelcase Inc. has introduced a new contemporary seating group named Soft Seating, which includes a sofa, club chair, and two complementary tables. The design is almost fragile in appearance, but is in fact of tough fiberglass, acrylics, durable leathers and urethane coated fabrics. The shells are formed by a spray process similar to boat hull construction, and stress areas are reinforced with rigid urethane and steel. Mounted on clear acrylic bases, the shells seem to float above the floor. The dimensions for the units are generous and they come in two shell colors (tan and white), and in brown and black leathers or black and carmel urethane coated coverings.

On Reader Service Card, circle 115.

made of PVC-covered aluminum and may be installed with hori-



PIVOT WINDOW FRAME

A thermal break pivoting window frame has been introduced by Compro Corp. The frame is zontal or vertical pivot. All frame locks and pivots are made of white bronze hardware; strikes are stainless steel. The pivot has a complete 360-deg. rotation, with an automatic locking device at 180 deg. This aids in cleaning because exterior surfaces can be rotated to the inside for maintenance. The frames may be custom designed for any installation, with sizes up to 5

ft. wide and 8 ft. high.

On Reader Service Card, circle 116. (continued on page 104) Moraine Valley Community College Palos Hills, Illinois Caudill Rowlett Scott, Architects Chicago, Illinois



FOR HINGE FACE OF DOOR, LCN 4010 SERIES. "SMOOTHEE" AS SHOWN IN PHOTOGRAPH.



FOR OVER DOOR USE THE "SMOOTHEE" 4020 SERIES MOUNTS ON TOP JAMB.



FOR STOP-FACE PLACEMENT, THE "SMOOTHEE" 410 SERIES

## doorway notes ...

ALL LON MODELS AFFORD PRECISE DOOR CONTROL, EXAMPLES: THE SMOOTHEE® SERIES SHOWN, EACH PROVIDES ADJUSTABLE HYDRAULIC BACK-CHECK... ADJUSTABLE MAIN SWING AND LATCH SPEEDS...FULL RACK AND PINION ACTION...HIGH STRENGTH CAST TRON CYLINDER. OPTIONAL HOLD-OPEN, OR FUSIBLE LINK...

ALL EXEMPLIEY THE HIGH QUALITY WHICH REDUCES MAINTENANCE. ALL ARE SIMPLY STYLED TO ENHANCE GOOD DOORWAY DESIGN. CATALOG ON REQUEST. SWEETS, SEC. 8.

LCN CLOSERS, Princeton, Illinois 61356

On Readers Service Card, Circle 334





## DRAWINGS OF ARCHITECTURAL INTERIORS

Edited by John Pile

Good design is hard to come by-and often even harder to explain to the client who invests in it.

Only the realism of a sketch, perspective or "rendering" can bridge the communications gap between the designer and his client. Philip Johnson has been quoted as suggesting that clients like renderings even better than they like buildings.

That is why this handsome book, Drawings of Architectural Interiors, may be immensely valuable to you. When you face the formidable problems of visualizing your own design ideas, this book can give you an inspiring view of the visualizations that the great champions of modern design have created to present their most challenging proposals.

How did Le Corbusier's proposal for a country home interior virtually set the style for modern architectural sketching? How did Florence Knoll Bassett propose her plan for a new office suite to the President of CBS? How did Frank Lloyd Wright sketch imagined interiors with such foresight that they correspond almost exactly to the photographs that were finally taken? What were the sketching techniques that Walter Gropius, Mies van der Rohe, Richard Neutra and I. M. Pei employed to make their inventive ideas clear and dramatic?

## ASCOTA RCHARD ) NEUTRA ARCH

You'll find in this book a rare selection of sketches with rich commentary by John Pile, a man remarkably well-qualified for this undertaking. Architect, designer, teacher and writer, he has made architectural drawing his personal field of expertise. Pile began his book in an effort to assemble, coherently, a range of examples of the best interior renderings. In his final selection, he not only excluded mediocre renderings, but good renderings of mediocre architecture (which he found surprisingly common). He chose 146 drawings (29 of them in full color) representing the work of 83 outstanding designers and renderers

Illustrations are accompanied by a fascinating text in which Pile traces the evolution of rendering techniques from historical origins through the 1950's and 60's. He traces the relationship between design trends and rendering techniques, and also explores the interaction between creative personalities and drawing styles.

Here you will not only see creative design through the eyes of the creator-but discover new ways to make your own visions visual, and present your ideas with clarity and graphic drama.

Since this edition is limited, we urge you to reserve your copy now via the attached coupon.

Please send me.....copies of DRAWINGS OF ARCHITECTURAL INTERIORS edited by John Pile at \$23.50 per copy. (SEE QUANTITY DISCOUNTS) For Canada and foreign countries add  $50\phi$  per copy additional postage. If not fully satisfied, I may return the book(s) within 10 days for full refund:

Check enclosed (We pay postage anywhere in USA, same return privilege) Bill my account (Postage additional)

Name

Address ..... City ...... State ...... Zip Code ..... 2 books—deduct 5% 3 books—deduct 10% .copies @ \$23.50 (less quantity discount) \*Postage & tax (NYC) or more books-deduct 15% Total Cost \$..... Enclosed

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176 pages  $(9\frac{1}{2}" \times 13")$ 146 drawings (29 in full color) by 83 architects and illustrators \$23.50 per copy.



# Louis Kahn, Architect Films: Two Architects Essays/I. M. Pei

## LOUIS I. KAHN, ARCHITECT

Paul Falkenberg and Hans Namuth's new film on Louis Kahn, narrated by Vincent Scully, presents a visual record of Kahn's most imposing achievements. The film, produced by Museum at Large includes a discussion between the architect and Peter Blake on Kahn's aims and architectural theories.

16 mm. color sound film. 28 minutes. Purchase price, \$400. Rental or preview price, \$45





PHOTOS: HANS NAMUTH

## ESSAYS/I.M. PEI

In five short film essays, I.M. Pei sets forth his views on modern architecture as he guides the viewer through a visual tour of Rockefeller Plaza, The National Center for Atmospheric Research in Boulder, Kips Bay and the Everson Museum, Syracuse. The series was produced by WGBH Education Foundation.

Five 16 mm. color sound films. 51 minutes total. Purchase price, \$600. Rental or preview price. \$75. (Films in this series may be purchased individually. Prices on request.)

ORDER FORM		purchase	rental/preview*
Louis I. Kahn, Ar	chitect	□ \$400.	□ \$45.
Essays/I.M. Pei		□ \$600.	□ \$75.
NAME		R	
ADDRESS			
CITY	STATE	ZIP	
*PLEASE SPECIFY DATE			
MUSEUM AT LAI		ork,N.Y.10019	)

continued from page 100

## FOLDING TABLES

A new line of folding tables has been announced by Howe Folding Furniture, Inc. Series 500 is a clean-lined, contemporary styled table for conference rooms, training areas and executive dining rooms. With the legs folded flat, the table is less than 5 in. thick and can be stored on its end, side, or flat. The table has a 3-in. metal skirt, finished in black enamel, and the tops are  $\frac{3}{4}$ -in. flakeboard. A wide variety of plastic patterns is also available. The tables can be supplied in oblong shapes with lengths of 48, 60, 72 and 96 in. and widths of 18, 24, 30 and 36 in. The



folding legs are made of stainless steel square tubes. On Readers Service Card, circle 121.



An automation unit that will communicate information about a building's mechanical system to the building's engineering staff, has been introduced by Barber-Colman Co. Called Minimation, and available for about \$5000 fully installed (about onethird the cost of most basic units), the system relays information about temperatures, humidity, fan motor status, and alarms from off-normal points with the mechanical system. It allows the staff engineers to provide quickly and efficiently comfortable environmental conditions for occupants. The company calls the unit an add-on system because other control



## ROOF FASCIA

A new roof edging and fascia system, called Tremline, is available from the Tremco Manufac-



manufacturers are able to add points or entire buildings to the system. The system is also a complement to the company's larger and more sophisticated System 7000 automation components.

On Readers Service Card, circle 122.

turing Co. The system, says the company, prevents water leakage, accommodates movement, provides roof insulation venting, is easy to install and has "outstanding esthetic qualities." For n o n - residential applications, Tremline consists of modular extruded aluminum components and an elastomeric membrane. These snap together to provide free-floating edging. Adjustments as small as 1/16 in. can easily be made to compensate for irregularities in building height. The system comes in a wide range of colors.

On Readers Service Card, circle 123.



# MASSIVE PROFILE FOR MASSIVE BUILDINGS SPANS LONGER DISTANCES SAVES STRUCTURAL GIRT COSTS SAVES ON ERECTION COSTS

DYNA SPAN is super strong ... bold in profile. Its deep profile casts strong shadows giving a more aesthetic appearance to tall structures, while at the same time affording more structural rigidity. DYNA SPAN can be erected as an insulated panel system, or an uninsulated exterior sheet. Doublecell profile is standard, but a DYNA SPAN singlecell sheet is available for roofing applications or to serve as an accent rib with other metal wall profiles. For full details, span data and specifications, write for Bulletin 72W1.

## HOW IT COMPARES...

SMITH systems approach sales engineering engineering color coating Manufacturing Field erection R. & D.

Compare DYNA SPAN with a comparable type product such as the industry standard, V-BEAM. Based on 22 gauge galvanized steel at 20 psf wind loading, DYNA SPAN will span 20'-9" in a single span. V-BEAM, with the same gauge and wind-loading, will only span 12'-0". The savings on large buildings is *dramatic* both in structural steel and field labor costs. Illustration at right is in scale and shows the *dramatic* difference possible with DYNA SPAN.



ELWIN G. SMITH DIVISION

On Readers Service Card, Circle 340

12'0"

20'9"

EGS-104



## (continued from page 104)

## STACKING CHAIR

The newest addition to the Stendig Inc. contract line is Bruno, a sculptured and carefully engineered chair that stacks, sits well and is comfortable and strong, says the company. Suitable for restaurants, cafeterias, clubs and auditoriums, Bruno is available in natural oak, beech with red, white or black lacquer



ACOUSTICAL SCREEN A new, curved oak capped



frame, with plywood seat to match, or upholstered seat. Designed by Bruno Rey, the chair is imported from Switzerland. On Reader Service Card, circle 117.

acoustical screen has been introduced as part of a total modular office system by Hardwood House. Manufactured under the name of Hardwood House Office Invironments, the system incorporates freestanding working walls, acoustical screens, desks and a wide range of components that can be adapted to any open or closed office floor plan. It is available in white oak or walnut. On Reader Service Card, circle 118

## OFFICE LINE

Pentaplan, a new line of office furnishings from Harvey Probber Inc., includes bases, tops and storage units, and is suitable for conventional rectagular work groupings and a variety of cluster arrangements. The bases are

heavy gauge welded steel tube, with electrical and communication wiring concealed. The tops have slightly rounded oak edges that discourage marring and denting; the surfaces are oak veneer or plastic laminate. On Reader Service Card, circle 119.



PLASTIC SHEET

General Electric is now offering a three-year guarantee with its Lexan sheet, an almost unbreakable glazing material for windows, cabinets and any area where transparency and security must be combined.



On Reader Service Card,



Architect: Raymond Viner Hall Associates, Port Allegany, Pa.

## Auditorium Divides Into Six Lecture Halls

Imagination brings maximum use of space and economy to the new \$6 million St. Marys (Pa.) Area High School through unique application of Richards-Wilcox operable walls. A building with the additional space provided by the R-W walls would have cost substantially more.

With Richards-Wilcox Operable Walls ....

The 1345-seat auditorium is divided into six separate



Contact your R-W sales engineer for the innovative solution to your space problems

Free 20-page Guide to Operable Walls and Portable Partitions

lecture halls without loss of capacity; it also doubles as a community center for plays, concerts and meetings.

R-W walls divide the gymnasium for simultaneous boys' and girls' classes and also are used in a language lab and large study hall. All these R-W walls have an NSSEA Class E sound transmission rating assuring maximum multi-purpose use.



On Readers Service Card, Circle 341 106

Right On! Close-in fast and close-in on profits earlier.

Construction time-and heat loss can be reduced radically by new pre-finished panels with cores of Styro-por<sup>®</sup> expandable polystyrene from BASF Wyandotte Corporation. Close-in time for this snug Vermont vacation home "The Double Carousel"-16 hours; for the 57-story Minneapolis tower-33 weeks. Winter-time for either one calls for extra insulation against some of the coldest weather in the U.S.

International Structures Inc., St. Albans, Vt., claims its pre-finished walls, floors and roofs with 31/2 inch Styropor cores stand off Northern Vermont's sub-zero cold better than 36 inches of masonry.

the tallest structure in the West be-tween Chicago and L.A., uses 1½ inches of Styropor to face crackling

cold winds out of Canada. In summer Styropor pulls a cool switch and keeps the heat outside. Blow hot or cold it's a cost saver.

Exterior and interior skins can be adhered solidly to Styropor insulation without nails or fasteners. Rigid and



light, it's easy to cut and assemble into durable prefab panels.

You'll warm up to Styropor-the faster you close in on its saving ways. Write for more information.

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# **READERS SERVICE FILE**

## **PRODUCT LITERATURE**

To order material described, circle indicated number on self-addressed Reader Service Card, facing page 104.

## AIR COMPRESSORS

Joy Manufacturing Company offers new 24-page catalog covering its complete line of air compressors, including condensed specifications, photographs, dimension drawings and illustrations. On Reader Service Card, circle 200.

## ARCHITECTURAL INDEX THE ARCHITECTURAL INDEX for 1971

is now available at \$7.00 per copy. The Index provides a reference guide to articles in AIA JOURNAL, ARCHI-TECTURAL FORUM, ARCHITECTURAL RECORD, HOUSE AND HOME, IN-TERIORS, LANDSCAPE, and PROGRES-SIVE ARCHITECTURE. New to the Index this year is the JOURNAL OF ARCHITECTURAL EDUCATION. On Reader Service Card, circle 201.

## BUILDING COMPONENTS

Alside, Inc., a subsidiary of United States Steel Corp., makes available information packet containing a complete set of A.I.A. Specification Sheets on all building products manufactured by them. On Reader Service Card, circle 202.

## CEMENTS

Atlas Minerals & Chemicals Division, ESB Incorporated, has released a brochure on its full line of corrosionproof cements, containing information on temperature ranges, physical properties and chemical resistance char-acteristics. On Reader Service Card, circle 203.

## CHAIRS

Seating Company offers four-page pamphlet describing and illustrating its newly-developed "system approach to audience seating" the ES/III AudiLec chair. On Reader Service Card, circle 204.

The Singer Company, Business Furniture Division, announces release of new four-color catalog giving informa-tion on the free-form styling and function-crafted features of the Corry Jamestown 2500 Series office chair. On Reader Service Card, circle 205,

COMPACTORS The Heil Co. has published new specification sheets on four models of Huge-Pac stationary packer systems. The line covers all requirements for industrial, commercial and institusolid waste management. On Reader Service Card, circle 206.

## CURTAIN WALL

Corning Glass Works makes available technical bulletin describing use of Pyram architectural facing in a curain wall system. On Reader Service Card, circle 207.

DOCK DESIGN Kelley Company, Inc. offers re-edited edition of Modern Dock Design, an

authoritative book presenting facts and figures needed for design of an efficient loading dock facility. On Reader Service Card, circle 208.

## DOOR HEATERS

The Wing Company, a division of Aero-Flow Dynamics, Inc., has available 16-page catalog detailing complete line of Wing door heaters. Both steam/hot water and gas-fired models are included. On Reader Service Card, circle 209.

ELEVATORS Montgomery Elevator Company an-nounces availability of informative and complete planning guide for the new Montgomery SPM (Standard Pre-Manufactured) Oil Hydraulic senger Elevators, available in three models and offering the advantage of quick delivery and low cost. On Reader Service Card, circle 210.

## EMERGENCY POWER

NIFE Incorporated has issued a new brochure describing the company's line of self-contained Battery/Charger Consoles, giving complete specifica-tions covering 12, 24, 32, 48, and 125-volt systems. On Reader Service Card, circle 211,

## FIRE VENTS

The Bilco Company makes available four-page folder on the subject of automatic venting in case of fire. The booklet carries specifications and illustrations dealing with single and double leaf vents. On Reader Service Card, circle 212.

## FOLDING PARTITIONS

Panelfold offers color brochure illus-trating, describing and giving specifications for folding partitions in their new design group of economical vinyl laminate patterns. On Reader Service Card, circle 213.

## HEATING BOILERS

Precision Parts Corporation now has available new catalog on their com-plete product line: electric hot water and steam boilers for heating, do-mestic supply and processing. On Reader Service Card, circle 214.

INSULATION The Building Products Division of Grefco, Inc. describes three types of rigid roof insulation board in new 12-page bulletin. On Reader Service Card, circle 215.

## LIGHTING

General Electric's Lamp Business Division has issued two new illustrated publications. "Sign Lighting" is in-tended to give electric sign fabricators and users a working background in lamps and lighting techniques. "Lamps for the Office" is a guide for selecting right lamp for the right office lighting

application. On Reader Service Card, circle 216.

Lithonia Lighting offers eight-page booklet that attempts to answer ques-tions about the Occupational Safety and Health Act, and specifically what it means with regard to lighting. On Reader Service Card, circle 217.

McGraw-Edison Company, Area Lighting Division, announces availability of full-color, 84-page catalog of its complete line of outdoor lighting prod-ucts. On Reader Service Card, circle 218.

## ROOFING

Armco Steel Corporation makes avail-able new product data bulletin on Armco Aluminized Steel Type 2 for roofing. On Reader Service Card, circle 219.

SAFETY GLASS Laminated Glass Corporation offers products data file giving performance data, test results, and specifications for their laminated safety glass. Short form specs and technical design considerations are also provided. On Reader Service Card, circle 220.

SCHOOL FURNITURE American Seating Company has is-sued 24-page, full-color catalog describing its new ES/II-Media Center Furniture system for multi-media, resource-centered schools. On Reader Service Card, circle 221.

Gladding-Paris Division of Gladding Gorp. offers binder illustrating and giving specifications for their "Maine-Line" classroom cabinets. On Reader Service Card, circle 222.

Peabody, a division of Modernfold Industries, offers 28-page catalog featuring the latest designs in school furniture, specifically meeting the needs of open-plan schools. On Reader Service Card, circle 223.

SECURITY EQUIPMENT Security Corporation makes available brochure describing full line of bullet-resistive doors, windows and accessories for use in financial and educational institutions, retail stores and hotels/motels. On Reader Service Card, circle 224.

## SOIL COMPACTORS

Koehring Road Division has released new bulletin detailing Buffalo-Bomag plate compactors, especially suitable for narrow trench operation, sidewalk construction and street maintenance. On Reader Service Card, circle 225.

## STORAGE SYSTEMS

Corporation announces Spacesaver availability of catalog describing their entire line of custom designed mobile storage systems, including both manual and electric models. On Reader Service Card, circle 226.

## SUSPENDED CEILINGS

Conwed Corporation offers new bro-chure presenting two air bar systems for suspended ceilings. Specifications, installation photos and technical data are included in the brochure. On Reader Service Card, circle 227.

## **TELEPHONE BOOTHS**

Acoustics Development Corporation has available condensed brochure which helps in planning efficient and Corporation compact telephone areas, using acoustical telephone booths to ensure listening comfort and privacy. On Reader Service Card, circle 228.

TEXTURED METALS Ardmore Textured Metals, Inc. has recently issued pamphlet describing and illustrating the advantages of textured over plain flat metal for increased rigidity, economy, styling and improved function. On Reader Service Card, circle 229.

VANITY TOPS Bradley Washfountain Co., Faucet and Special Products Division, announces issuance of four-page, full-color catalog on its complete line of Imperial Marble and Acrylic Marble vanity tops. On Reader Service Card, circle 230

## VAPOR BARRIER

VAPOR BARRIER St. Regis Paper Company, Laminated & Coated Products Division, offers new literature explaining the need for a roof deck vapor barrier and describing how to vapor-proof roofs. On Reader Service Card, circle 231.

VINYL SIDING The Society of The Plastics Industry, Inc. makes available 17-page booklet describing and illustrating the appli-cation of rigid vinyl siding. On Reader Service Card, circle 232,

## WALLCOVERING

Rohm and Haas Company has avail-able a new color chart showing the eight standard shades in which Kydex wallcovering is available. On Reader Service Card, circle 233.

WALL SYSTEMS Armco Steel Corporation has issued 12-page brochure describing and il-lustrating both the STEELOX and KOR/MET exterior wall panels. On Reader Service Card, circle 234.

WATER COOLERS Halsey Taylor has issued four-page pamphlet introducing the PATINA Col-lection, a new assortment of water coolers and drinking fountains combining the durability of stainless steel with the rich glow of bronze. On Reader Service Card, circle 235.

> (continued on page 110) FORUM-JULY/AUGUST-1972



## Grass Green, Concrete Gray, Brick Red

Now you can have all-weather tennis courts in these Protects your pavement investment ... beautifully. distinctive colors, or combinations, at practical cost.

Vynatex 23, applied to blacktop or concrete courts provides a vinyl-tough, long-lasting surface. It's colorfast, assures truer bounce, reduces heat radiation, eliminates glare. Won't mark tennis balls. Makes every game more fun.

And, this economical new vinyl coating is highly weather resistant. It actually makes courts last longer. Requires minimum maintenance. Easy to clean.

Write for Specification VA-S1 for Vynatex applications on existent blacktop courts. 
VC-TC for use on concrete courts. 
G-TC Guide Specification for use in construction of new courts (at about half the cost of many composition courts). A-3607

MAINTENANCE® INC. WOOSTER OHIO 44691

See catalog in Sweets . Distributor-Applicators in Principal Cities On Readers Service Card, Circle 344

## **READERS SERVICE FILE**

## Product Literature (continued from page 108)

## CEMENTS

Atlas Minerals & Chemicals Division, ESB Incorporated, has released a brochure on its full line of corrosionproof cements, containing information on temperature ranges, physical properties and chemical resistance char-acteristics. On Reader Service Card, circle 236.

## **CHAIRS**

Seating Company offers American four-page pamphlet describing and

illustrating its newly-developed "system approach to audience seating"-the ES/III AudiLec chair. On Reader Service Card, circle 237.

The Singer Company, Business Furniture Division, announces release of new four-color catalog giving information on the free-form styling and function-crafted features of the Corry Jamestown 2500 Series office chair. On Reader Service Card, circle 238.

# oldings Solved



ARCH

Minimum Radius 6'-0'



Minimum Radius 1'-0''

## for Plaster & Dry Wall Construction

A new dimension of design freedom is now possible with Fry's CURVED Moldings opening the way for creative architects to design unusual arches, reverse arches, curves, etc., in combination with straight units. Applicable for interiors and exteriors. If you're interested in curves (and who isn't) contact Fry for data sheets, prices, drawings on the 12 curved moldings now available.

Fry's new Curved Moldings (FPM and TRM) used in El Paso Civic Center, designed by Garland & Hilles, AIA Architects and Carroll, Daeuble, DuSang & Rand, AIA Architects; Robert E. McKee, Gen. Contractor; A.W. Spillman, Plastering Contractor



801 West Milford Street · Glendale, California 91203 · (213) 245-9471

On Readers Service Card, Circle 345

## DOCK DESIGN

Kelley Company, Inc. makes available re-edited edition of Modern Dock Design, and authoritative book presenting facts and figures needed for design of an efficient loading dock facility. On Reader Service Card, circle 239.

## **ELEVATORS**

Montgomery Elevator Company now has available an informative and complete planning guide for the new Montgomery SPM (Standard Pre-Manufactured) Oil Hydraulic Passenger Elevators, available in three models and offering the advantage of quick delivery and low cost. On Reader Service Card, circle 240.

## FIRE VENTS

The Bilco Company makes available new four-page folder on the subject of automatic venting in case of fire. The booklet carries specifications and illustrations dealing with single and double leaf vents. On Reader Service Card, circle 241.

FOLDING PARTITIONS Panelfold offers color brochure il-lustrating, describing and giving specifications for folding partitions in their new design group of economical vinyl laminate patterns. On Reader Service Card, circle 242.

SAFETY GLASS Laminated Glass Corporation makes available products data file giving performance data, test results, and specifications for their laminated safety glass. Short form specs and technical design considerations are also provided. On Reader Service Card, circle 243.

SCHOOL FURNITURE American Seating Company has is-sued 24-page, full-color catalog de-scribing its new ES/II-Media Center Furniture system for multi-media, resource-centered schools. On Reader Service Card, circle 244.

Gladding-Paris Division of Gladding Corp. offers binder illustrating and giving specifications for their "Maine-Line" classroom cabinets. On Reader Service Card, circle 245.

Peabody, a division of Modernfold Industries, offers 28-page catalog featuring the latest designs in school furniture, specifically meeting the needs of open-plan schools. On Reader Service Card, circle 246.

## SOIL COMPACTORS

Koehring Road Division has released new bulletin detailing Buffalo-Bomag plate compactors, especially suitable for narrow trench operation, sidewalk construction and street maintenance. On Reader Service Card, circle 247,

STORAGE SYSTEMS Spacesaver Corporation announces availability of catalog describing their entire line of custom designed mobile storage systems, including both manual and electric models. On Reader Service Card, circle 248.

## SUSPENDED CEILINGS

Conwed Corporation offers new bro-chure presenting two air bar systems for suspended ceilings. Specifications, installation photos and technical data are included in the brochure. On Reader Service Card, circle 249.

TELEPHONE BOOTHS Acoustics Development Corporation has available condensed brochure which helps in planning efficient and compact telephone areas, using acoustical telephone booths to ensure listening comfort and privacy. On Reader Service Card, circle 250.

WATER COOLERS Halsey Taylor has issued four-page pamphlet introducing the PATINA Collection, a new assortment of water coolers and drinking fountains combining the durability of stainless steel with the rich glow of bronze. On Reader Service Card, circle 251.

On Readers Service Card, Circle 346 On Readers Service Card, Circle 348 semi-auto drafting Designer II incorporates the features of a fullyautomatic table at a fraction of the price. Board can be raised from 30" to 37" and angle adjusted from flat to 60 degrees with the turn of a knob. Truly, a unique graphic arts center for architects, engineers, draftsmen and technicans-styled to complement contemporary interiors. Available in seven decorator colors. wnnn Who said you couldn't use wood folding Write partitions to control sound? You can now. for our With twin panel Sonicwal<sup>®</sup> Look it up today in full-color your 1972 Sweet's Architectural File 10.2 Pa. catalog After all, wouldn't you rather work with wood? today. PANELFOLD  $\bigcirc$ WOOD FOLDING DOORS AND PARTITIONS R Panelfold PLAN HOLD TIMES MIRROR P.O. Box 4907, Carson, Calif. 90745 If a picture is worth a thousand words, BULGARIA WELCOMES I.U.A. FOR ITS ELEVENTH WORLD CONGRESS The International Union of Architects will this year hold their Eleventh World Congress in Sofia and Varna, Bulgaria, to discuss "Architecture and Recreation." The Congress will highlight working sessions, visits to the world-renowned Rila Monastery, the Valley of Roses, then we've got a lot to tell. largest in the world, and the fabulous Black Sea resorts of Bulgaria, which have made this area the new Riviera of Europe.

The I.U.A. Congress has scheduled its calendar plan and working program, including sightseeing tours from September 16th to October 4th.

For additional information on the Congress, please contact The American Institute of Architects, 1785 Massachusetts Avenue, N.W., Washington, D. C. (202) 265-3113, or the Bulgarian Tourist office, 50 East 42nd Street, New York, New York 10017. (212), 661-5733.

On Readers Service Card, Circle 347

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