BUILDING TYPES STUDY 381: CAMPUS PLANNING FOR ARCHITECTURAL UNITY
M. PAUL FRIEDBERG—DESIGN FOR THE SPACES IN BETWEEN
GULF LIFE OFFICE TOWER BY WELTON BECKET
FOUR VACATION HOUSES—HIGH ON DESIGN, LOW ON COST
FULL CONTENTS ON PAGES 4 AND 5

ARCHITECTURAL RECORD
MARCH 1968 3 A McGRAW-HILL PUBLICATION  TWO DOLLARS PER COPY
Armstrong offers the widest variety of resilient floors. The best is the one that suits your design.

At this elementary school, the best floor is Imperial Modern Excelon Tile.

Design and color are the outstanding features of the Midway Park Elementary School. The architects designed the building fully "in the round", and interior designers filled the classrooms with color—no two exactly alike, yet all related.

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...engineered for significant buildings
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The National Center for Atmospheric Research (left) in Boulder, Colo. was designed by I. M. Pei to harmonize with the mesa site and the sandstone Flatirons which mark the end of the Great Plains and the beginning of the Rockies. Three over Geared Electric Traction Elevators were chosen for this building which has been called "entirely appropriate to a site and to its purpose." Architects: I. M. Pei & Partners, New York City; General Contractor: Martin K. Eby Construction Company, Inc., Englewood, Colo. Dover Elevators installed by Dover Elevator Co., Denver, Colo.

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"MOBILE HOUSES" AS ARCHITECTURAL COMPONENTS

As architects confront ever more complex economic and social problems in the design of housing, and as the pressures to find new approaches to the provision of low-cost housing increase, there is a renewed interest in experimentation with prefabrication techniques. The two projects by Paul Rudolph to be shown next month resulted from his studies of the potential of "mobile home" units for the architectural problem.

BUILDING TYPES STUDY: ARCHITECTURE FOR SELLING

This year is expected by F. W. Dodge to see a healthy increase in store construction, and the opportunities for architects in this field continue to improve in another way: As the demand for quality in facilities for retailing increases, architecture becomes in fact a merchandising tool. New month's study will present some of the architectural results.


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Here is more terrazzo—an age-old type of flooring that has kept itself as modern as tomorrow! Especially effective harmonies are obtained here by recombining in the floor, the colors, patterns and materials used elsewhere in the building. Only with terrazzo can you employ this basic decorative principle. The first cost of terrazzo is moderate and according to the National Terrazzo & Mosaic Association the cost-per-year is lowest in the flooring field.
The client deserves good design and good budgeting

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And so went, in some such words, the main line of presentation by nine of the 13 architects interviewed not long ago by a public building committee I serve on. They talked reassuringly—and almost exclusively—about costs without making clear, I thought, that such figures are dependent on so many variables that they mean very little without some elaborate qualification.

It's easy to see why they talked costs. Reassurance about "price" is probably the strongest and certainly the easiest appeal to most building committees. Inexperienced but earnest, with conflicting anxieties as town officials ("Let's give the kids a pleasant place to learn in") and as taxpayers ("Enough is enough!") building committees grab on to "real things" like square foot costs and percentages of effective teaching space and dual-use cafeterias as things they can understand better than "subjective" discussions about environment and how design should grow functionally and efficiently out of the educational program, and about some of the options that are available in the finish of any building. They talked about the uncertainties in cost that can affect any building—starting with the uncertainties about site conditions. They talked as though they believed quality in architecture was important, and they did not talk about costs except to say that they couldn't talk about costs until they knew a lot more about what the town wanted and needed. And one of them got the job.

Sound like I'm prejudiced? So far I am. But we're a long way from a happy ending. The architect translated into a handsome preliminary design the educational program set up by the Board of Education. Made detailed cost estimates. Made a presentation to the building committee. Got approval. Built a beautiful model. Made a presentation at a town meeting. Talked about architecture. Got an overwhelming vote of approval (and a $2.8-million appropriation) from the assembled taxpayers. Finished the drawings. Put the building out for bids. Which came in $511,000 high.

I'll spare you the details. Cries of outrage, uninformed newspaper editorials, lots of l-told-you-so's from the 'no frills' contingent, cutbacks in the design, elimination of tennis courts, student parking lots, and landscaping, new town meeting for supplemental appropriation—and another setback in the relationship between architects and the public.

Every time a building comes in above the budget, a few more people take up the old cry that "good design costs too much." It does not, of course, and the "value added" by a good architect over the unimaginative and unpleasant minimum design is, we have to think, a very good value indeed. It is easy to argue on a number of bases—and the easiest of these arguments is that it costs very little over the life of, say, a school, and it costs very little indeed per taxpayer. For example, it's pretty easy to prove that saving one part-time janitor at $3,000 per year will let you add at least $100,000 in first costs for higher-quality, lower-maintenance construction; and pretty hard for a taxpayer to argue that he ought to vote for a minimum building instead of a quality building if the annual cost to him can be equated to one dinner with cocktails. When an architect, who wants to build a good building instead of a minimum building, makes his case—and gets the job—he owes it to the client and the profession to be at least close about costs. And that means being as professional about estimating and managing a job as you are professional about the developing of the design itself. It's unfair to the client to come up with an estimate based casually on past performances, or the estimates supplied casually by friendly suppliers. In these days of erratic and rising costs, it is indeed a complex job to make estimates on the basis of what the contractor is going to have to pay for everything a year or two or three from now—but the contractor has to do it, and put his business on the line each time he does. It's also unfair to the client to indulge in the normal human tendency to minimize "the bad news." Reality is an opened bid. —Walter F. Wagner, Jr.
PERSPECTIVES

A new kind of involvement: a report on Rochester

As I mentioned on this page last month, I was invited to be part of a jury for a competition, sponsored by the Rochester Times Union and The Democrat and Chronicle, "to stimulate and encourage new design, construction, and improvement of commercial properties." And I promised to report "whether this competition really seems an effective way to give the general public a little more awareness of architecture—even if all they do is stumble over it on the way to the crossword puzzle."

Well, I went to Rochester; met fellow jurors Charles Hughes, a New York architect, William H. Scarbrough, a Syracuse architect, and William C. Pahl, who runs his own contracting firm in Syracuse. And we had a great day.

There was no great architecture to judge, and most of the entries were made up of very bad snapshots. There was one remodeling job that I thought was a fine job until one of the newspaper reporters observing the judging pointed out that what I thought was the "after" was the "before." But at any rate, we made a preliminary screening and then drove around town looking at the finalists. And I was reminded of a few things that architects and architectural editors need to be reminded of from time to time. Item: Pictures can be very misleading—in fact, they can lie something awful. In one case, a very badly photographed remodeling job that survived the initial screening only because someone pointed out it would be easy to look at since it was on the way to lunch turned out to be my favorite of the day—a neat, trim, restrained remodeling job. In another case, a building that looked particularly disciplined and handsome in its exterior photographs turned out to be finished inside with all the restraint of a Miami Beach resort hotel and to be monstrously sited between two particularly nice old houses on one of Rochester's oldest residential streets.

Another thing of which I was reminded was that buildings that leave us cognoscenti cold can be beloved by their owners. For example, we visited a library that lent itself to a fair amount of criticism, but the library ladies were so proud of it that our tour schedule was set back by 30 minutes. So maybe it was more successful architecture than we thought.

At any rate, I'd have to say that I think the effort of the two newspapers is a very worthwhile one. It wasn't very sophisticated, and we all wished they'd call the program a "competition" instead of a "contest," but the combined pages devoted to the program over two weeks had to make an impact on the newspapers' readers. And any kind of educational effort like that has to help the cause of better design.

"Architects must become civic activists..."

I keep liking what A.I.A. President Robert L. Durham says in his speeches, and the above was the theme of a recent speech he made to the Architectural Institute of British Columbia. In his speech, he argued that many urban problems result from "our lack of a public ethic concerning land use" and that architects should help communities "evolve logical, informed policies affecting our environment," including more flexible zoning and building codes.

He also discussed the architect's role as a member of the multi-disciplinary design team; "We are no longer willing to say that architects should design the buildings, engineers the freeways, landscape architects our parks, and then leave the issues of schools, water, sewage, and fresh air to the city fathers."

His final point: "We must add to the architect's design training and knowledge of building, a better understanding of land values and mortgages and tax benefits of alternate financing methods."

Fashions, fishing, and architecture

Alfred Browning Parker, who has done some very good architecture and has written a very good book (addressed to the general public and entitled "You and Architecture") has entered a whole new field of endeavor—radio. He—as part of "a group of outstanding personalities of the Greater Miami area"—has been taping a series of spot announcements "broadcast by WIOD at various times during the day as programming allows." It seems to me that there's another big step forward being taken here: The idea that architecture is a subject of sufficient interest to the general public to be interspersed with spots on real estate, animals, music and musicians, bowling, insurance, religion, fashion and fishing is a refreshing one.

Money-saver of the month: British Columbia division

According to a news release just received here, the government of British Columbia now has under consideration "a new method of preparing senior citizen's housing projects.... The proposal is for the various government departments to draw basic plans themselves so the sponsoring organizations can escape the architects' fees. The money saved," the release concludes, "could be used for furnishings...."

—W.W.
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lent in space of whole floors. There’s more freedom of design in all-electric buildings. Less room is required for the main space-conditioning plant. The result is a low first cost, low maintenance building with very competitive per square foot operating costs. Add up all the advantages and savings. The all-electric building invariably has the lowest total annual cost.

Del Amo Financial Center, Victor Gruen Associates, Architects & Engineers, is just one of the hundreds of case histories of all-electric buildings in Central and Southern California. The Southern California Edison Marketing Engineering Department will be glad to show you how to apply the all-electric concept to your commercial or industrial building project for remarkable savings. Write: Marketing Engineering Department, Post Office Box 62, Terminal Annex, Los Angeles, California 90051.
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The architects of the new Saigon Embassy (December 1967, page 43) were instructed to design the building with security as a prime consideration. The way the building withstood its recent siege seems testimony to its effective design.

When the embassy came under heavy attack by the Viet Cong on January 30, they were able to get into the compound by blasting a hole in the fence, but—in spite of early news reports to the contrary—they were never able to gain entry into the chancery building itself. Here are a few of the reasons.

The building is set 60 feet inside the compound, protected by an 8-foot-high wall of 6-inch-thick concrete. The facade of the six-story building is protected above the first floor by a sunscreen composed of hundreds of 22-by-22-inch foot-deep polished white terrazzo blocks. Each of these blocks is split by two 4-by 5-inch inward-slanting apertures to let in light and air.
The RECORD REPORTS

The large sunscreen sits about five feet out from the massive concrete walls of the building itself. The ground floor is faced with 4-meter square, 2-inch thick polished black granite slabs. The windows are made of shatterproof acrylic plastic with doors of solid teak.

According to news reports, the Viet Cong did not manage to inflict too much damage on the new structure. In addition to the hole which was blasted in the compound fence, about 25 sunscreen elements were damaged, the front entrance platform was damaged by an explosion, and unspecified damage was done to the ground-floor facade.

The original architects for a three-story structure were Curtis and Davis. When the program was expanded to a six-story building, the architectural firm of Adrian Wilson and Associates enlarged the building, retaining as much as possible of the original design.

Davis-Brody team will design U.S. pavilion at Expo '70

The exhibition design team of Lewis Davis and Samuel Brody, architects, and Ivan Chermayeff, Thomas Geismar and Rudolph de Harak, designers, have been chosen to design the United States Pavilion and related exhibits at the forthcoming Japan World Exposition scheduled to open in Osaka in March 1970. The United States Information Agency will organize the official U.S. participation and will shortly be submitting preliminary plans and budget requests to Congress.

Expo '70 at Osaka has the endorsement of the Bureau of International Exhibitions in Paris and will be the world's fourth General Exhibition of the First Category. Previous "first category" exhibits include Montreal's Expo '67, the Brussels Fair of 1958, and the Paris Exhibition of 1937.

The Davis, Brody, Chermayeff, Geismar and de Harak team was selected from 11 design teams considered and was recommended by an 11-member advisory panel which included architects Peter Blake, editor of Architectural Forum, William N. Breger, chairman of the Architectural Design Department of Pratt Institute, and Donlyn Lyndon, head of the Department of Architecture at the Massachusetts Institute of Technology.

Rockrise leaves HUD to return to private practice

Architect George T. Rockrise, the first special consultant on design to the secretary of the Department of Housing and Urban Development, has left HUD to devote full time to his architectural firm, Rockrise & Watson, in San Francisco. While a successor is being chosen, the design and consultant activities of Mr. Rockrise's department are continuing under the staff direction of Ralph Warburton, Special Assistant to the Secretary for Urban Design.

Breuer chosen to design Grand Central office building

Architect Marcel Breuer has been selected as the architect of an office building to be constructed on air rights above the Grand Central Terminal Building in New York City. The project is being sponsored by U.G.P. Properties, Inc., a wholly-owned subsidiary of Union General Properties Limited of London.

An announcement from Mr. Breuer's office noted that "it is the intention of the developers that the present Terminal Building, with its famous concourse and beacon-arts facade, is to remain." The office tower will have its columns and elevators within the present Grand Central waiting room, and will have a minimum area of 1.8 million square feet.

The Breuer announcement noted that "in addition to the important visual problem, the architects recognize the problem of traffic and circulation, both within the Grand Central complex itself and the immediate urban neighborhood. Consideration is being given to the public entrance from 42nd Street and circulation to and from subways and trains."

Architectural League/Regional Plan exhibit explores growth of midtown Manhattan

An exhibit now on display through March 15 at The Architectural League of New York shows the findings of a study by the Regional Plan Association on future planning principles for the central business district of Manhattan. The exhibit of drawings, photographs, models, slides and sound has been sponsored by the League at the initiative of its president, architect Ulrich Franzen.

The Regional Plan study and exhibit assumes that by the year 2000 there will be an increase of 500,000 office jobs in Manhattan. To effectively cope with this projected influx, the Regional Plan Association has outlined a number of planning principles—principles the Association feels could be applicable to any number of large metropolitan areas.

The main principle is that places of employment should be located in direct relation to sub-surface transportation, since 77 per cent of New York City workers end their ride to work by subway or train. A graphic representation of this principle—the "access tree"—is shown below. The roots of the tree are

Other principles of the study include: the clustering of office buildings so that they could be more easily served by transportation and so that they could share supporting facilities and create large plaza areas—thus allowing other areas to have less density; the improvement of present transportation facilities and the addition of new ones; the provision of more amenities to make Manhattan more enjoyable; and the utilization of multi-level movement systems separating the pedestrian from traffic.

The exhibit and study were done by architect Rai Y. Okamoto and Frank E. Williams, urban design consultants to the Regional Plan Association, with Klaus Huboi, and assisted by Dietrich Kuncke and F. Carlisle Towery. The Regional Plan Association is a research and planning agency supported by voluntary membership to promote the coordinated development of the New York—New Jersey—Connecticut metropolitan region.
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A combined police precinct station house and firehouse, New York City, has been designed for the Department of Public Works by architect Milton Frederick Kirchman. The two-story-plus-basement building will separate police and fire functions, and will include facilities for 600 policemen as well as firemen’s dormitories and apparatus room. The building will have an exterior of dark brick and stone trim, and its structure consists of fire-resistant steel frame composite construction using welded shear connectors to develop tee beam action in concrete slabs.

A $100-million International Market Center at the foot of Telegraph Hill in San Francisco will provide 11.5 acres of rooftop garden parks and over 4 million square feet of floor space for a complete home furnishings and trade mart complex. Master planners and architects are Wurster, Bernardi & Emmons and landscape architect is Lawrence Halprin & Associates. The complex will be organized around two huge exhibition halls, each containing about 30,000 square feet and covered by translucent canopies. Within each hall will be seven gallery rooms, each linked to a broad plaza at the core of the project. Two terraced wings will house showrooms, shops and restaurants, and there will be a 160-foot high, 550-room hotel.

A $6.5-million museum for the Kimball Art Foundation Complex in Fort Worth, Texas, designed by architect Louis I. Kahn, consists of a series of concrete vaults covering two rectangular elements joined by a connector. The larger rectangle, covered by several vaults, will house the permanent collection with a service and administrative area below. The smaller rectangle, consisting of two vaults and an entrance porch vault, will house auditorium and temporary exhibit area. The connector will house a bookstore and reception desk. A corridor spine through the connector will run the length of the building. Natural light will be provided by two-foot acrylic plastic slits running the length of each vault. The vaults in the permanent collection area are broken to provide open courts.
A State Office Building in Harlem, New York City, is intended to give impetus to renewal of the primarily Negro area. Architects are Iffii, Johnson & Hanchard. The building will be a free-standing 24-story tower abutted to a three-story wing. A broad plaza sweeps under the building for street-level circulation. The facing masonry will be a warm-tone granite with black anodized aluminum trim. The building will contain approximately 360,000 square feet and is planned on a five-foot module.

The College of Architecture and Urban Planning Building at the University of Washington, Seattle, will be a $3-million project containing 86,000 square feet in its first phase. The building will house studios, library, offices, shop and laboratory facilities and classrooms. The structure will have a cast-in-place reinforced concrete frame and will be organized around a large interior court rising four stories. Architects are Daniel Streissguth and Gene Zema with Dale Benedict, Grant Hildebrand and Claus Seligmann.

The Westinghouse Building, which will complete the Gateway Center in Pittsburgh, will be a 23-story office structure faced with a dark-finish aluminum and glass. Architects are Harrison & Abramovitz. The building will have a 4.5-foot module for interior flexibility and will contain 500,000 square feet. The all-electric building will have a central heat pump for year-round climate control. Water-cooled lighting fixtures will remove heat to reduce the air conditioning load and provide heat in the winter. Underground parking will be provided for 400 cars.

A Civic Center for Fairfield, California, designed by competition-winning architect Robert Wayne Hawley, places four buildings within a landscaped setting. Included in the $2.4-million center are: a four-story city hall containing 40,000 square feet; a one-story police building containing 10,000 square feet; a one-story community hall containing 15,000 square feet, and a pyramid-shaped community assembly hall containing 9,000 square feet. The buildings are organized around a landscaped park dominated by a man-made lake. Parking is placed in a depressed narrow band around the perimeter of the site, to retain sight lines.
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Design Concepts, John H. Glenn Junior High School, San Angelo, Texas: Plan view, above, shows how modern concepts of team teaching, flexible scheduling and individualized instruction find architectural accommodation. Roof mounted air conditioning equipment, with multizone distribution, permitted designers to eliminate "walls" of space and time. Thus, the building anticipates innovative teaching concepts of the future, as well as housing those of today. ARCHITECTS: Donald R. Goss Associates. ENGINEERS: Cowan, Love & Jackson, Inc.

Four Lennox GC33 single zone units serve large open areas in the center of the school. Capacity of each unit: 13 tons electric cooling; 200,000 Btu gas heating.
This new, $4-million clubhouse at Brandywine Raceway, near Wilmington, Delaware, posed an unusual problem. The owners wanted to heat and air-condition the enclosure to accommodate some 2,500 spectators. However, they also wanted to move the windows out of the way so that spectators could have a completely unobstructed view of the track whenever weather conditions were suitable.

Architect Lionel Levy devised an ingenious moveable window system which can be raised entirely out of view by telescoping it into housings above the roof. Engineer Robert Rosenwasser chose a cable-supported roof scheme as the most feasible and economical way to do the job. It permits what normally would have been roof-supporting front columns to serve as mullions and tracks for the window area measuring 196 ft long and 28 ft high.

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A classic cantilever, the cable system takes over the load-bearing job from the window supports, while providing column-free viewing within the large overhang area required. Eight wide-flange girders were spaced at 28 ft intervals. Each is braced by a pair of 145-ft-long, 2%-in.-diam steel cables which pass over a 24-ft-high steel mast. Tied down with fixed bearing sockets on the track side, cables are anchored to a back row of columns by adjustable connectors.


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LETTERS

A real challenge
I think it was a very fine idea to publish the article by Donald H. Elliott, Chairman of the New York City Planning Commission, "The Role of Design in the Governmental Process."

Mr. Elliott displayed a deep understanding of the need for design in the broader processes of government and an extraordinary sensitivity to its refined aspects. None of his ambitions will be realized unless the architects and designers themselves become sensitized to this dimension of their work. I think this is a real challenge to the profession which should consider it with concern.

Edmund N. Bacon
Executive Director
Philadelphia City Planning Commission

Not even barracks or prisons
"I only know what I read in the paper." In this case "the paper" is ARCHITECTURAL RECORD for December, and this comment is based on what I can infer from two illustrations and a plan accompanying one of them, the contrast between which rather alarms me. On page 44 there is a perspective of a model of a five-building graduate center for Brown University which looks very nice indeed, and, extrapolating from this model to the un-shown plan, I would presume that the students' living quarters in these low buildings have individuality and style. By ugly contrast, I note the illustration on page 153, and the typical floor plan on the following page, of a pair of dormitories for Ohio State University, in which the cell-like accommodations for students in identical multiple units repeated 48 times on a hexagonal basis implies a mass-production of student accommodations that is horrible to contemplate as the living quarters of students in a free university in this country.

It would seem to me that this type of mass-produced, sterile uniformity has long been abandoned, even for military barracks and prisons. The more I look at the plan and photograph of this pair of dormitories, the more I shudder to think what type of student life could accommodate it, or what sort of people would be turned out by an institution of learning that provides such living quarters for its students.

Thank goodness the buildings for Brown University seem to respect the human being as well as the human scale. As I said, these comments are prompted only by these two illustrations, and if I knew more about either or both dormitories, I might revise my opinion.

Robert C. Weinberg
Architect and City Planners
New York City

Place Bonaventure
I finally got around to reading the December RECORD. Your story on Place Bonaventure is really good—much better than most routine stories about a large building.

I missed getting to Montreal and have not felt too bad about it—until I read this piece—and am very anxious to see this complex.

Arthur Rosenblatt
Administrator for Architecture and Planning
The Metropolitan Museum of Art
New York City

In your coverage of Place Bonaventure in the December 1967 issue, we particularly appreciated the detailed list of
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Progress in Concrete

Kansas City’s newest attraction... The Great Ape House at Swope Park Zoo. The circular ape house features six concrete pylons that extend 56’ above ground level. Callegari-Kahn Construction Company, the contractor, working with Symons engineers in Kansas City, worked out plans where gang forming could be used on the pylons, and moat walls. Pylons were poured in three lifts, and for the first 20′, gangs 20′ x 30′ were erected. The top gang sections were also formed on the ground with the reinforcing steel tied in. Formwork, re-bars and scaffolding were then lifted into position as one unit.

On one of the pylons, a steel rung ladder was specified to be set in the concrete. The steel rungs were fastened to the gang sections by placing them right through the panel faces. In stripping, the rivets which hold the plywood face to the form’s steel frame were taken off, allowing the gangs to be broken back. This type of “gang” forming cut costs considerably.

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letters

continued from page 56

credits given for the project. We note, however, that you neglected to mention Mr. Neil Holloway, P. Eng. who served as Project Administrator throughout the work, and made an important contribution to it.

R. T. Affleck

Affleck Desbarats Dimakopoulos Lefebvred Sise

Montreal

Boston University’s library

It’s unfortunate that your article on Boston University’s Mugar Library was not long enough to put forth criticisms or to show photos of the stack areas. As a recent alumnus of MIT, I watched with interest as BU’s new “campus” rose on the bank of the Charles, and a recent visit to Boston allowed me to closely inspect the last unit, the library. I found it to be a disappointing building.

Of course, you’re correct in your observations that the creation of planted courtyards and varying scales of space have given a great deal of relief to the BU campus. But of course the first goal in the design and building of the library is to create a functional unit fulfilling the aims of service and comfort. It is there that I feel the BU library has failed.

Part of this may be due to the specifications put forth by the client. In a day when most new university libraries are designed to serve all students fully, BU chose to keep the concept of closed stacks for under-graduates. Thus, the good old system of “turn-in-your-slip and-wait-for-your-number-to-light-up” lives on there.

Yet much more of the fault can be laid to the architect. While most schools are attempting to make the idea of dark, dingy bookstack areas a thing of the past, Mugar’s stacks have reverted to this outdated status. In addition, you were incorrect in stating that the above-grade stack floors were expandable to 1.5 million capacity. In fact, they can hold only 750,000 while the remainder of the building’s 1.5 million capacity will be placed in the two-story sub-basement/basement space—certainly not designed to relieve the lack of light and air in the stack spaces.

The “carrels” for graduate students in the stacks are in fact desk areas locked off by wire cages, reminiscent of an industrial plant. The reference desk, poorly placed, is hidden away from both the entrances to that floor and the books that it serves. The “lounge” chairs on the lower floors are like theater seats, manufactured in rows so that two people must fight to share a single arm rest. The “custom-designed” furniture may

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Luckman firm is purchased by Ogden Corporation

Charles Luckman Associates, a nationwide, four-office firm whose architectural services in 1967 were applied to more than $100 million in construction, has been acquired by Ogden Corporation, a holding company of diversified interests in steel fabrication, foods, shipbuilding, aerospace and other fields with total 1967 sales of about $850 million.

The Luckman firm will continue to operate with its organization and corporate entity intact. In addition, Mr. Luckman will become president of a new division, Ogden Development Corporation, which will implement a long-studied decision of the Ogden board to enter the field of real estate development on a large scale.

Ralph Ablon, president and chairman of Ogden Corporation, points out that their researches in this field definitely showed that a qualified architect would be the ideal leader of the development team where, as at Ogden, the handling of large "high quality" projects (a Luckman stipulation) involves coordinating a broad spectrum of capabilities including economic and sociological research as well as planning, architecture, engineering, and construction management—not, it is emphasized, construction contracting.

What's in it for architects and architecture?

Charles Luckman views the move as a logical implementation of a professional goal he has described for many years—the preservation of excellence in architecture through control of design—despite the more complex factors implicit in the emergence of the corporate and institutional client. Such clients, he points out, have vastly increased capacities to program and commission new construction, but are increasingly prescribed in their ability to respond or communicate in the traditional client-architect relationship.

The capabilities required by architects in dealing with corporate and government clients on large projects include many that architects have found difficult or impossible to capitalize. For example, the computerization of systems analysis falls well within the concept of expanded services, but few firms have been able to afford to fully develop in-house capability in this area. This and several other capacities will become available to the Luckman firm as a result of their new affiliation.

Mr. Luckman describes four divisions of the Ogden Corporation as making more or less substantial contributions to the ability of the Luckman firm to serve architectural clients. A steel fabricating division offers technical knowledge. The food services division—including the ABC Vending Division which serves hospitals, stadiums, universities, and commercial firms—will be an augmented area of design expertise. The Ogden transportation division, involved as it is in the redevelopment of transport systems for entire cities, will be another such amplifying capability for the Luckman firm.

The most important of the Ogden divisions so far as CLA is concerned will be the newly established real estate division for which Mr. Luckman will serve as president with sole responsibility for recommendation of projects into which Ogden resources may be directed. This stipulation, says Mr. Luckman, was of the greatest importance, offering an opportunity to demonstrate even more broadly than in the past that quality developments can make as much or more money than cheap developments.

Mr. Luckman sees the "joint venture" as one of the modes of operation through which the various divisions of Ogden Corporation can be enlisted in various projects of the development division. "Here again," he says, "I feel I have an opportunity to prove something. This diversified corporation needs an effective unifying tool—and the capability of the architectural firm in putting together the best talent for developing a project will provide that tool."

The Luckman architectural firm remains intact in all respects including management and personnel. It will operate as an architectural firm separate and distinct from the real estate development division. It may or may not be commissioned by the development division for architectural work in connection with its projects. The division in turn will approach its own projects with full freedom to allocate architectural or consultation commissions to any qualifying firm, Luckman or other.

The professional relationship of the Luckman architectural firm remains unchanged, and a long-term contract provides for continuation of Mr. Luckman's responsibilities in this area. No construction capability is envisioned as part of the Ogden development, and Mr. Luck-
man's third responsibility as a director of the Ogden Corporation will assure his voice in directions the parent body may take.

Mr. Luckman admits to a certain apprehension during the transaction in its effect on current client relationships. The announcement to clients was immediate and emphasized not only the extended capabilities resulting from the new association, but frankly outlined the advantages to the firm itself in terms of estate taxes as they might affect continuation of the Luckman firm in the future. Another internal advantage has been the opening up of such fringe benefits as retirement plans to present employees of the architectural firm. Few architectural firms in practice today are able to fund retirement plans of a scope comparable to those in large corporate industries.

What's in it for Ogden?

In the real world of corporate finance, Ogden will get three things: 1) a going architectural concern in which they can expect normal earnings to give them adequate return on their investment; 2) a new division with competent management in an active field—soon hopefully to be spurred by the model cities program; 3) a tax shelter provided in some degree through ownership of real estate.

Basic to the agreement has been acceptance by Ogden of the Luckman opinion that the corporation—and specifically its real estate division—does not need in-house capability in construction, or in the wide range of ancillary professions for which consultants are available. It does need a capable staff for managing and coordinating all aspects of development projects for the client. The division then operates as a central source of responsibility in the professional and legal sense for all aspects of each project, and the architect will be in real control.

Architects and engineers hold joint legislative conference

More than 300 architects and engineers met in Washington, D.C., January 30-31, at a joint AIA-C.E.C. Legislative Affairs Conference. Typical of the major issues covered at the first day's briefing was the status of the General Accounting Office recommendations to Congress on the matter of repealing the government's 6 per cent limit on A/E fees, and requiring price competition in the selection of professional services. GAO general counsel Robert F. Keller reviewed the investigation which had led to his agency's recommendations, and indicated that the General Accounting Office continues to interpret the 6 per cent maximum as applying to all services rendered by architects or engineers. He further suggested that during 1968, GAO intends to "undertake considerably more investigations involving Federal procurement practices in the construction industry."

Congressman Brooks fights competitive fee bidding

Keller's position was challenged by congressman Jack Brooks (D-Tex.), who received a standing ovation for his support of A/E negotiation procedures which separate discussion of fee from discussion of relative ability to render the desired services. Admitting that he disagrees with comptroller general Staats over the matter of competitive negotiation of A/E fees, Brooks said, "fee reductions resulting from competitive negotiation [as proposed by the comptroller general] could as easily come out of the quality of a successful bidder's subsequent performance as out of his margin of profit." Brooks warned, however, that continued reliance upon the traditional method for procuring A/E services is dependent upon A/E providing the government the highest quality services at reasonable prices.

Brooks reported that he is working closely with the GAO in seeking resolution of any differences and predicted that his Government Activities Subcommittee would shortly "achieve a satisfactory conclusion of the problem."

Morse calls for study of systems engineering

Representative F. Bradford Morse (R-Mass.) started a number of AIA and C.E.C. members with a report on the Federal government's growing interest and involvement in systems engineering. Morse has introduced legislation calling for a national study of the application of systems techniques, similar to those used in industry, as a means of solving a wide range of urban and social problems. The congressman urged the architectural and engineering professions to "wake up to" the future and cited projects which merited the systems approach.

HUD executive sees broad role for architects

This same theme was repeated by HUD assistant secretary H. Ralph Taylor who said "The job of architects and engineers extends beyond designing good buildings. It includes designing whole neighborhoods, including landscaping, open space and community facilities." Taylor told the AIA-C.E.C. assembly, "We expect architects and engineers to intensify efforts to find new materials and new ways to use old materials. They must take the lead in identifying artificial constraints to the use of new technology and moving to overcome them." Taylor particularly urged AEs to find ways of reducing construction cost in both new and rehabilitated structures.

One of the hottest discussions of the day came during the afternoon of the 30th when congressman Charles E. Goodell (R-N.Y.) reviewed legislation which he is sponsoring on the subject of common situs picketing. Goodell's bill, HR 9669, proposed to permit construction unions to strike entire projects for the purpose of resolving economic issues. His bill, however, includes a number of protective features intended to prevent use of such privilege as a "club" to force unionization upon third parties. One provision would prohibit picketing for the purpose of protesting use of prefabricated materials. He admitted that he has had little success in promoting his bill, and noted that action on his legislation in 1968 will likely occur first in the Senate. A vigorous question and answer period was sparked by applause when the congressman observed, "As I read your reaction, I can only assume that architects and engineers oppose common situs picketing in any form."

Senator Edmund Muskie (D-Me.) said that he expects Congress to complete action this session on the Interstate Governmental Cooperation Act (S 698), which would provide for Federal technical and planning assistance to state and local governments. In response to A/E alarm over possible loss of work as a result of governmental assistance, the senator noted that services would be available only upon reimbursement of "salaries and all computable overhead and indirect costs." Further, Federal agencies would be required to limit assistance to that which is not "reasonably and expeditiously available through ordinary business channels." Muskie urged U.S. architects and engineers to come into the governmental arena of economic and social development.

An unexpected benefit of the joint sponsored AIA-C.E.C. conference was the formation in three states of architect engineer coordinating committees. Said one consultant, "If we can get together on legislative matters, I think we might just as easily agree on fees and contracting procedures. At least this gives a point of mutual interest from which we can start."
A new look at 1968 construction markets

Last October, the new issue of Dodge Construction Outlook for 1968 carried some pretty boomy estimates of the course of the final months of 1967 and for all of 1968. Now, with 1968 underway, it's clear that the final quarter of 1967 turned out even better than anticipated. But while current performance is very strong, recent developments indicate that the path for the balance of the year ahead may be bumpier than originally anticipated. The problem areas: credit; the tax surcharge; the new Federal budget.

Credit conditions have tightened moderately over the past few months. Though funds are still generally available, interest rates have moved up again.

In reaction to 1966's historic "credit crunch", last year's Federal Reserve actions were geared to providing funds for the residential market. A vigorous expansion of the money supply had the desired effect—funds flowed back to the long-term savings institutions; mortgage rates came down; housing recovered.

More recently, though, signs of changes are appearing. With the housing market back on its feet, the Fed is now being less aggressive in its monetary policy. Savings flows to the mortgage-oriented institutions (S&L's, mostly) have eased back. Mortgage rates have climbed steadily in recent months, and new mortgage commitments are off somewhat. These trends could spell trouble later on in the year. How much trouble will be partly governed by what's happening in the area of fiscal policy.

The Federal Budget for fiscal year 1969 (the 12 months beginning July 1, 1968) calls for an expenditure of $186 billion with a deficit of about $8 billion. But getting the excess of expenditures over revenues down to $8 billion hinges on passage of the controversial surtax on individual and business incomes. Without the surtax, the deficit would be some $12 billion higher—close to $20 billion, or about where it's been for the past fiscal year.

More and more, it's getting to look as though the surtax is a dead issue. And that being the case, it puts the ball back in the court of the money managers. The Fed's board chairman has been saying right along that without the surtax (i.e. with a big deficit) we'll be running a strong risk of inflation and to head it off he'll tighten up on credit.

The other road to fiscal balance is to reduce Federal spending, and this, too, has special implications for construction. To quote budget director Zwick in his recent message to the Joint Economic Committee, "A major area of reductions is in construction programs—both Federal construction and construction grant programs—which we feel can appropriately be deferred."

Where does the axe fall? On General Services Administration. That's the agency that builds Federal office buildings. On the Department of Health, Education and Welfare—especially grants for higher educational facilities. On the Department of Transportation. Another "freeze" has been placed on the highway trust fund. This time $600 million will be held out. And this may not be all. Chances are that the cuts may go deeper as Congress reviews the budget.

Nobody's looking for a repetition of the 1966 construction recession in the months ahead. Yet, in the light of recent developments the outlook for sustained high-level activity throughout 1968 is no longer as firm as it once was.
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The silencer that seals cast iron soil pipe is made of Du Pont Neoprene

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For over 35 years, Du Pont Neoprene has proved its defenses against such destroyers as acids, alkalies, oils, greases, cold, heat, flame and abrasion.

So you can count on resilient Neoprene gaskets to withstand the corrosive elements found in drain, waste, vent and sewage systems. And to keep quiet about the whole business.

For more information on the use of Neoprene in cast iron soil pipe systems, write Du Pont Company, Room 6225A, Wilmington, Del. 19898.
... and the first patient hasn't even arrived.

Sure, it's designed to take the best possible care of patients. The construction is totally sound. And facilities include everything modern medicine could ask for.

But if communications aren't the most modern available, a hospital is obsolete before it's even begun.

Modern hospitals need all the communications consideration you can give them.

So they can take full advantage of the telephone. Bring in Tele-Lecture or closed-circuit TV. Even tie into a computer with Data-Phone* service or teletypewriter.

And that's where a Bell System Architect and Builder Service Representative comes in. He can help make your next hospital—and every building—as modern as modern communications can make it. And insure that communication needs of the future will fit in without expensive alterations.

Just call 212-393-4537 collect. We will send you a complete list of our Architect and Builder Service Representatives.

*Service mark
How to improve accuracy of pre-bid quotations

New and sophisticated building materials coming on the market each day act as a spark for new concepts in design—and vice versa. But this influx complicates the already formidable task of keeping informed as to both performance and cost, particularly of specialty items.

To insure accurate pre-bid quotations, the architect must (1) communicate his conceptual requirements to the manufacturer or supplier in clear and detailed terms, and (2) evaluate the soundness of each quote and its bearing on the budget to the best of his ability.

Manufacturers' pre-bid quotations may be too high or too low
Occasionally the architect may, for one reason or another, receive misleading cost information. This is a serious error and is not easily detected. Recently an architect worked with a manufacturer's representative for several months in an effort to design a system of laboratory equipment which met very special client needs and yet was versatile enough to continue in use as these needs changed.

The manufacturer's representative, as is customary, furnished the architect with a "budget" figure for the probably cost of the installation. This figure was incorporated into the architect's project cost estimate. To his dismay, the bids came in well over the manufacturer's "budget" figure; moreover, the "favored" supplier was not among the bidders. Subsequent inquiries failed to reveal whether the manufacturer was embarrassed at not being able to meet the budget figure quoted by his representative, or if other factors caused him to decline to bid. In any event, the architect was left in an unhappy position with his client; yet at first glance it would seem that he had done everything he could to insure a satisfactory result.

Not only is it often difficult to spot a really misleading quotation, but there is even little agreement over the direction in which a quotation should be adjusted for better accuracy. Some architects believe that a manufacturer's quote is always on the conservative side and that actual bids will be cheaper. They, therefore, frequently discount the quotation in their estimates. On the other hand, some feel that a budget quotation is likely to be low in order to encourage the architect, for reasons of cost, to favor that particular manufacturer's product in his specification. Depending on the circumstances, either approach can result in the more accurate estimate.

Clearly then, there are no simple rules for evaluating a supplier's quote. Each must be examined on its own merits and judged on the basis of past experience. And, whenever possible, a confirming quotation should be obtained from another manufacturer.

When the cost of an item proves to be substantially different than anticipated, it isn't necessarily because the manufacturer has erred. This may also occur when the architect has failed to communicate properly his requirements to a supplier or to mention salient design features that can affect cost. In this case it is difficult to fault the supplier. Though the architect might miss an error on the manufacturer's part, he has little excuse for initiating one himself.

Checklist offers pointers for improving pre-bid accuracy
The following checklist points out items and areas (some are very common ones) where the supplier might misinterpret the architect's explanation of his design concept or where the architect might neglect to mention a certain feature. Either failure will affect the quotation and the eventual cost.

Precast concrete: In obtaining a price for precast concrete a misunderstanding can occur when defining the number of square feet required. It can be expressed in terms of either the square foot projection of the wall or the square feet of surface area. With an involved shape, the latter can be many times greater, and a price quoted in these terms will be significantly different from a price based on the projection of the wall.

The architect should give the supplier a good idea of his design. If there is a repetitive pattern, fewer molds are required and the price will be lower. Conversely, with an intricate design, the number of molds and the price increase. The usual considerations regarding the type of cement and aggregate should not be overlooked either, since both will also affect the total price.

Curtain walls: As in the case of precast concrete, the architect cannot merely ask how much a certain type of curtain wall will cost. He should indicate to the supplier any special anchorage required, the degree of thermal efficiency required from the wall, whether special laboratory tests for wind and water resistance will be necessary, the type and amount of glass involved, and, finally, the type of glazing system he desires.

Ceiling tiles: Here the architect must be sure that the price being quoted is for the total system installed. This will include the price of hangers, runners, furring, trim, etc.—not just the price of tile itself. The latter is only a small part of the system in terms of cost.

Ceramic tile: When requesting a quote for the installed cost of ceramic tile (and many similar items, e.g., terrazzo), the architect should give the supplier an idea of the size and number of spaces involved rather than just the overall square foot figure. Installation costs vary quite a bit according to the size of the areas involved.

Tile-like finishes: The number of new products in this category is increasing rapidly and prices range from 20¢ to as much as $1.00 per square foot. Cost is determined by the type of coating and the number of coat applications. There are two basic types of coating: cementious and thermo-setting. Under these there are numerous sub-types, e.g., epoxies, urethanes, acrylics, etc., and each is formulated differently. With the variety of choice and range of price that these combinations represent the architect must be extra cautious in detailing precisely what he wants by brand and formulation and

For more data, circle 61 on inquiry card

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making sure that he receives the price in exactly the same terms.

Finish hardware: For these items there are wide ranges in quality. The architect, therefore, should indicate the item he wants by a specific series number and not just by a general description.

Laboratory equipment: The prime consideration in terms of price is whether the architect intends to use stock items or special sizes and construction. For the latter, the cost can be substantially greater and may be quite difficult to estimate. He should indicate what kind of services will be brought in, e.g., electricity, oxygen, gas, etc., and how elaborate these will be. Additional consideration should be given to selecting the materials that can be used in the construction of bench, table and counter tops. The various types (natural stone, synthetics, woods) cover a wide range of prices.

Pavement: If the architect asks for the square foot cost of paving without indicating where it is to be used, the contractor might quote him the cost of light residential cold mix or the square foot price of heavy duty engineered pavement. If both types are to be used, as sometimes happens in shopping centers and industrial parking lots, it should be mentioned.

Bathroom fixtures: The architect should indicate whether he is thinking in terms of a special color (prices are usually quoted in terms of white) or a special finish, e.g., chrome instead of anodized aluminum.

Electrical fixtures: When an architect requests a price on fixtures which he says

are “similar to” a standard fixture, he should closely define what he means by that phrase. The fixture he has in mind may be similar in appearance but not necessarily in price. He should indicate whether he means to have, for example, a stainless steel instead of baked enamel surround, or a different kind of reflector, or if insulation procedures will vary. It is also necessary to distinguish fixtures to be used for explosion, weather or dust and dirt proof areas, since these types are considerably more expensive than non-special types of equipment.

The last two items are usually priced by the engineer. But the necessity for outlining requirements in clear and detailed terms is equally as valid whether the architect is providing information for the engineer or the supplier.

**Economist analyzes the role of public construction**

The changing role of public construction in a growing industrialized economy has been examined in a thought-provoking comprehensive study by Dr. E. J. Howenstine of the International Labor Office for the Organization for Economic Co-operation and Development. The study is entitled **Compensatory Employment Programmes: An International Comparison of Their Role in Economic Stabilization and Growth**. While it deals with the attitudes of government officials, employers, and labor representatives in several countries, it is valuable to anyone interested in the future of the construction industry in this country and in the part that public policy will play. It provides insight into the theoretical framework of these new directions.

The role of public construction policy has been changing over the years and will continue to change. It began with the concept of having a reserve of projects on hand which would be released during periods of recession to alleviate unemployment and then could be as quickly withdrawn when inflation threatens. But as pointed out by the author: “Stop-and-go” policies have had the effect of putting a disproportionate burden on the construction industry, precisely when construction output at full capacity is required to help the economy realize its growth objective.

This is the key to the major re-thinking regarding the role of public construction in stabilizing the economy. This new approach is that “public policy should not aim to stabilize the whole economy through the construction industry; rather the role of public works should be confined to its contribution in stabilizing the new construction sector at its equilibrium rate.”

In other words the goal of public construction policy should no longer be only a tool to reduce unemployment and stimulate other industrial sectors or conversely to slow down inflation, but it should have the positive objectives of achieving economic growth for the industry and the economy as a whole.

This “sector stabilization approach” has much to recommend it, and although no government has adopted it as official policy, many are leaning strongly in that direction. An important aspect of this approach is that it incorporates the concept of anticipatory timing of projects to sustain growth rather than the belated infusion of a large number of projects that has characterized past policy.

Dr. Howenstine concludes one section of the study on a promising note: “For the first time in the history of the industry, there is real promise that a tripartite attack can be launched by governments and representatives of the employers’ and workers’ organizations in the construction industry against the cost-push factors and the tendencies toward cost rigidities which have particularly plagued the construction industry. There is abroad today in the industry a productivity consciousness which may make it possible to break completely with the restrictionist philosophy of production which has its roots deep in the past instability of the industry, and to make a much greater contribution to the achievement of economic growth goals.”

**Briefs**

**U.S. corporations** now expect their 1968 profits before taxes to reach $83 billion, according to the McGraw-Hill survey of corporate profit trends. This would be an improvement of 8 per cent over their 1967 profits, which dropped 4 per cent last year. And this upward trend is anticipated by nearly four-fifths of the firms cooperating in the survey. Only 14 per cent of the answering firms now expect their pretax profits to decline this year, while 8 per cent expect profits to remain at last year’s level.

The 1967 Census of Business will include data on a sampling of architectural and engineering firms for the first time. Results will be published in a separate report containing summary information for the United States as a whole, for states, and for standard metropolitan statistical areas. Detailed information on types of legal organization, major sources of fees and receipts, classes of clients, types of projects, etc. will be included.

ITT and Levitt and Sons, Inc. announce merger of the Levitt organization into a wholly-owned subsidiary of the International Telephone and Telegraph Corporation. Levitt’s community development operation will continue under present management as a part of the ITT system.
The information presented here indicates trends of building construction costs in 21 leading cities and their suburban areas (within a 25-mile radius). Information is included on past and present costs, and future costs can be projected by analysis of cost trends.

### HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL BUILDING TYPES, 21 CITIES

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Costs in a given city for a certain period may be compared with costs in another period by dividing one index into the other; if the index for a city for one period (200.0) divided by the index for a second period (150.0) equals 133%, the costs in the one period are 33% higher than the costs in the other. Also, second period costs are 75% of those in the first period (150.0/200.0=75%) or they are 25% lower in the second period.

### ECONOMIC INDICATORS

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<th>Year</th>
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<th>Blue Water Rates $/HR</th>
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<table>
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<th>Year</th>
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<td>1966</td>
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<td>1967 (Quarterly)</td>
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The information provided here indicates trends of building construction costs in 21 leading cities and their suburban areas (within a 25-mile radius). Information is included on past and present costs, and future costs can be projected by analysis of cost trends.

### MARCH 1968 BUILDING COST INDEXES

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<th>Metropolitan area</th>
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<tr>
<td>Seattle</td>
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**Percent change year ago or from one period to another**: 80%, 75%, 50%, 25%, 10%, 5%, 2.5%, 1.25%, 1.0%.
Award-winning Whitesboro High School:

framed in steel to assure flexibility, easy expansion

In Whitesboro, New York, about five miles west of Utica, they now have an impressive new high school for some 1,400 students. The school recently won one of the 1967 Architectural Awards of Excellence, sponsored by the American Institute of Steel Construction.

The architects developed three steel-framed, two-story buildings around a central open-air court to create a pleasant and stimulating study environment. Commented the awards jury: "This school building represents a good compendium of the best standard thinking of today. The massing of the forms is impressive, and the handling of the materials is pleasingly restrained."

Structural steel was chosen for the framework because it permitted broad flexibility in design, and because of its matchless adaptability to future expansion. As a matter of fact, the designers have already envisioned an addition to accommodate 400 more pupils, when needed.

Steel framing offers so many advantages for school construction: economy, fire-safety, speed of erection, durability, fewer columns required, design flexibility. Before you start designing, ask a Bethlehem Sales Engineer what today's new steels and new design techniques have to offer.

Bethlehem Steel Corporation, Bethlehem, Pa.
Over its sturdy steel framework, the Whitesboro High School is enclosed in dark brown brick, with windows of gray tinted glass.

Corridors, both open and enclosed, feature vertical accents of exposed steel framing members.


Steelwork fabricated and erected by Gouverneur Iron Works, Gouverneur, N. Y.
THE ARCHITECTS IN THE OFFICE OF ALFRED EASTON POOR WANTED A WINDOW COVERING THAT WOULD PRESERVE THE NEAT UNIFORMITY OF THE FACADE, AS WELL AS CONTROL LIGHT AND HEAT. THEY SPECIFIED THE 1-INCH-WIDE SLATS OF LEVOLOR RIVIERA VENETIAN BLINDS.
THE INTERIOR DESIGNERS WANTED A WINDOW COVERING THAT WOULD BLEND UNOBTRUSIVELY WITH BOTH CONTEMPORARY AND TRADITIONAL OFFICE DECOR. THEY INSISTED ON THE "INVISIBLE" LADDERS AND MAGIC WAND TILTERS OF LEVOLOR RIVIERA VENETIAN BLINDS.

EVEN THE BUILDING MANAGER GOT INTO THE DISCUSSION. HE WANTED TO SAVE TIME, MONEY AND EFFORT ON THE INSTALLATION. HE HAD LIGHTWEIGHT RIVIERAS GLUED INTO PLACE INSTEAD OF SING CONVENTIONAL HARDWARE. NOT ONE HAS FALLEN.

COMPLETE DETAILS ABOUT THE BLIND ARCHITECTS AND DESIGNERS AGREE ON. WRITE LEVOLOR LORENTZEN, INC., 720 MONTGOMERY STREET, HOBOKEN, N.J. 07030
Feel free to design freely...

W. J. MEGIN BUILDING, NAUGATUCK, CONN.
Owner designed and built.
Consulting engineer:
Henry A. Pfisterer & Associates,
New Haven, Conn.

Details
Objectives: Maximum use of interior space, individual temperature control in each office area, moderate costs.
Energy source: Electricity—for all functions requiring power, including heating, cooling and water heating.
Climate system: Through-the-floor unit ventilators with supplementary baseboard heaters.

For more data, circle 63 on inquiry card
with All-Electric design

Example: W. J. MEGIN OFFICE BUILDING


How so? Because All-Electric design—with electric heat—doesn't depend on the elaborate distribution networks required by ordinary heating methods. Doesn't require stacks or large furnace rooms.

Instead, it offers the most versatile variety of heating systems available. Systems to accommodate any configuration. Systems you can intermix in one building. Systems with room-by-room temperature control. (Some totally invisible.) Systems using heat-by-light. All of them compatible with electric cooling.

How versatile is All-Electric design?

The proof is in the building. The W. J. Megin Building, Naugatuck, Conn., for example. Why is it All-Electric? One reason, it would have been impractical otherwise. (See details.)

Proof of the versatility of electric heat? 175,000 commercial/industrial buildings throughout the country.

Keep it in mind. All-Electric design with electric heat means design freedom. At practical costs.

For information, contact your electric light and power company.

Live Better Electrically

Edison Electric Institute, 750 Third Avenue, New York, N.Y. 10017

For more data, circle 64 on inquiry card
If you are a self-employed architect—you owe it to yourself to learn about Continental’s new Target Program

Reduces current income taxes, increases usable income, while building your retirement dollars!

The amended Keogh Bill, or HR-10, allows you to start a tax-deductible retirement program. Continental's new TARGET PROGRAM permits you to take advantage of this legislation through one of up to eight different methods of funding. A TARGET PLAN can currently reduce your taxable income 10%, up to $2,500 each year. And this can often increase your usable income—even after a sizable contribution to your retirement fund. To find out how much you can reduce your income taxes this year, write Robert M. Powell, Asst. V.P., Continental Assurance Co., 310 So. Michigan Ave., Chicago 60604, Dept. 112.

For more data, circle 65 on inquiry card
Looking for that "impossible" lighted lens, the one that floats in the surrounding void creating the illusion of an absolutely frameless lens? Sechrist has it. The new Air Lite Series 300. This handsome fixture offers new dimensions of aesthetic beauty for clean, crisp modern architectural design. The secret? Sechrist's special "hidden door" in a regressed air slot troffer which is compatible with most all air diffusers. Before your next job, check with Sechrist, where new things are happening in the most advanced concepts of air handling and lighting.
Durability—Shall be permanent with no protective coating necessary. Shall not discolor, tarnish or fade in virtually all atmospheres.

Appearance—Shall not stain or discolor adjacent surfaces; shall blend with other materials.

Strength—Shall protect against fire by maintaining strength at elevated temperatures. Must offer superior resistance to metal fatigue, wind damage, denting and abuse.

Workability—Shall be readily formed, joined and installed in roof and flashing systems at any desired gage. Joints shall be easily soldered, watertight.

Maintenance—Shall require no maintenance; normal rainfall to keep surface clean.

Cost—To be compatible with other permanent roof and flashing metal systems.

Availability—Shall be in stock for prompt local delivery to meet construction schedules.
Wouldn't it be great to write specs like this for a roofing material?

You can, you know...

what you'll get is a Republic stainless roofing system

And you'll get further benefits, too. The high strength-to-weight ratio of stainless allows lighter, more economical gages to replace heavier, more expensive (and less available) gages of copper in most roofing and flashing specifications.

Now Republic offers this surprisingly economical material in two tempers: a roofing grade type 304, and a new strong, yet easy-to-work, stainless flashing grade, Republic DUROFLASH®, a soft stainless.

Soft stainless means just that. A workable stainless that can be soldered, welded, brazed, nailed, riveted... even cut with scissors and formed by hand, on the job.

And it has the same durability and corrosion resistance you expect from stainless. Plus a yield strength of 35,000 psi (maximum).

Leading architects have already accepted Republic soft stainless. On the 41-story Federal Office Building at Foley Square in New York City, more than 55 tons of stainless steel were used for spandrel and through-the-wall flashing. Republic stainless was also used exclusively in the complete new roof installed on the Birmingham, Alabama, Municipal Auditorium.

Designing and Specifying Stainless Steel in Built-up Roof and Moisture Protection Systems.

The newest information on stainless steel in roofing systems is now in a new booklet which is yours for the asking. It contains complete specifications and details plus tables comparing the properties of roofing and flashing metals.

Write to Republic Steel Corporation, Dept. AR-6751, 1441 Republic Building, Cleveland, Ohio 44101. And we'll include a sample of Republic DUROFLASH which will tell you more than we can about the workability of this new soft stainless.

This table illustrates the recommended applications of regular Republic 304 grade stainless, and new Republic DUROFLASH, the soft stainless.

### Stainless Steel Types, Gages, Finishes, and Tempers FOR ROOF AND FLASHING SYSTEMS

<table>
<thead>
<tr>
<th>Use</th>
<th>Product Description and Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposed Flashing</td>
<td>Where a semibright reflective treatment is desired ...</td>
</tr>
<tr>
<td>Roof Trim</td>
<td>Specify temper rolled AISI type 304 No. 2 (strip) or No. 2B (sheet) conventional annealed finish.</td>
</tr>
<tr>
<td>Roofing</td>
<td>OR</td>
</tr>
<tr>
<td>Roof Drainage Accessories</td>
<td>Where a softer, less reflective treatment is desired ...</td>
</tr>
<tr>
<td>Expansion Joint Covers</td>
<td>Specify temper rolled AISI type 304 No. 2 rough rolled (Republic No. 2 RSK) conventional annealed finish.</td>
</tr>
<tr>
<td>Roof Drainage</td>
<td>Specifying cold rolled (65 to 80,000 psi yield strength) AISI type 304 No. 2 (strip) or No. 2B (sheet) conventional annealed finish... appearance—semibright.</td>
</tr>
<tr>
<td>Concealed Flashing</td>
<td>Specify soft temper (dead-soft or fully annealed) AISI type 304 No. 1 (strip) or No. 2D (sheet) conventional annealed finish... (Republic DUROFLASH) appearance—matte.</td>
</tr>
<tr>
<td>Roof Penetration Flashing</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous Items</td>
<td></td>
</tr>
</tbody>
</table>

IN STAINLESS, TOO, You Can Take the Pulse of Progress at

REPUBLIC STEEL

CLEVELAND, OHIO 44101

For more data, circle 67 on inquiry card
Typical manner of installing LCN "Smoothee" Door Closer of the 4010 Series.
It's easy come, easy go, with LCN Closers

Architects point to six ways Closers help buildings function better: 1. Closers provide privacy. 2. Closers reduce noise. 3. Closers inhibit the spread of fire. 4. Closers control traffic flow. 5. Closers prevent accidents. 6. Closers contribute to orderly appearance.

After forty years of making nothing but door closers, LCN has perfected the art. The clean lines of the Smoothee®, shown in the photo, have been imitated but not matched. In power, in smooth performance, LCN "Smoothees" are the standard of the industry. They're guaranteed for five years. For interior or exterior doors, LCN Closers offer you more—at lowest long-run cost. Write for catalog.

LCN CLOSERS, PRINCETON, ILL. 61356
A Division of Schlage Lock Company
In Canada: LCN Closers of Canada, Ltd.

PHOTO: King County Medical Service Corporation, Seattle, Washington; Grant, Copeland & Chervenak, AIA and Associates, Architects.

For more data, circle 68 on inquiry card

continued from page 72

indeed be that, but captain's chairs are hardly an innovation in furniture design.

Indeed, the bright walls and carpeting and varied spaces inside, and the new and long-needed plant life outside, may make it a pleasant building to visit or peer from, but it seems not to be up to the standards of modern library design. Perhaps someone who uses it daily will disagree.

Leonard Levin
Department of Atmospheric Sciences
University of Washington

Satanic irony?
I am certain that it was mere satanic irony that I happened to pick up a copy of December's ARCHITECTURAL RECORD to read how "The American Embassy in Saigon, Vietnam, was designed with security as a prime consideration," only to return home, turn on the television to see films of American servicemen trying to regain the Embassy from a handful of Vietcong.

Paul F. Weber
London

New society
We are pleased to announce the formation of the American Society of Professional Draftsmen and Artists, Inc. Formed as a non-profit society, the A.S.P.D.A. serves to disseminate information on the graphic arts and promote standards of professional competence and personal behavior.

While at the present a strong emphasis is being placed on planning drafting and related graphic presentation, other fields are also within the full scope of A.S.P.D.A. Among the many fields already represented in our membership are: cartography, photogrammetry, technical illustration, civil engineering, architectural drawing and drafting, technical animation and cartooning.

Presently, the A.S.P.D.A. is preparing a rough draft of a textbook entitled, Planning Drafting and Graphic Presentation. This textbook is intended to be used in the classroom and the planning office as a means to introduce the special graphic needs of planners.

Early in 1968, we will be publishing the A.S.P.D.A. Newsletter which will outline our full scope of activities. Among the many activities the A.S.P.D.A. is, or soon will be, engaged in: job placement, school accreditation, professional certification, and publication of technical bulletins.

Robert D. Williams, A.S.P.D.A.
President
Baltimore, Maryland
A whale is no walrus. A fish is never fowl. The building you want can't be built on facsimiles. All toilet seats are similar. They have bottoms. They have tops. But that's where the similarity stops. Beneke (and only Beneke) sculpts every toilet seat as though it were an original. An original work of art for apartment or airplane, hotel or motel, hospital or home. When you want to get exactly what you want, never say similar. Specify Beneke. There's no comparison.
"Fact Finding Sessions" Investigate Behavior of Open Web Steel Joists

This is the engineering-research laboratory at the University of Kansas. In process is a study on the behavior of the compression chords in variously designed open web steel joists under concentrated and uniform loading.

The Steel Joist Institute sponsors "fact finding sessions" like this in a number of university laboratories throughout the country. New ideas in joist materials and design, such as high-strength steels and the various methods of bridging, are checked out thoroughly before governing design criteria are established for steel joist standards. Manufacturers can also have investigations conducted on their J- and H-Series joist designs to determine conformance with SJI standards and specifications.

For complete information on open web steel joists and their practical application, write today for the SJI's Specifications and Load Tables. This complete working handbook is yours without charge.

STEEL JOIST INSTITUTE
DuPont Circle Bldg., Washington, D. C. 20036

For more data, circle 70 on inquiry card
Modular tongue and groove panels lock together in a snap—in the shape you want! Panels of 4-inch foamed-in-place urethane, sheathed in tough stainless steel for maximum rigidity and insulation. No wooden frames or braces. Reach-in doors in rear of cooler permit easy access to shelf items. Install the Vollrath self-contained refrigeration unit, plug it in and presto: It’s a cooler or freezer. Or if you’d like to start with a cooler and convert later—it’s a snap! The 4-inch-thick insulation equal to 8 inches of fiber glass, is entirely adequate for either cooling or freezing temperatures. To convert cooler to freezer, simply substitute Vollrath refrigeration units. Both are self-contained, com-
Faster TO CONVERT

it's a Freezer...

plete with compressor, fan, coil and condenser; both ready to plug in.
And if you want to keep the cooler but need freezer space, use the insulated modular panels to partition your cooler and add the freezer unit to the new room! Or if space permits, keep what you've got and add on another room. Any way you cut it, we've got the exact solution to your cooling/freezing needs. So write for our new catalog.

Vollrath SINCE 1874

the convenience people

For more data, circle 71 on inquiry card
THE BUSBOY SET UP THIS WALL IN 7 MINUTES

Kwik-Wall brings the "permanent look" to movable walls. Big rooms become small ones, small become big, and it's fast, easy and beautiful. These photos, from the luxurious Sheraton — Rock Island Motor Inn, show the simplicity of setup and elegance of decor possible.

What can't be shown is the "feeling" of permanence, the rigidity of the one-step installation that "locks" the panels to ceiling and floor. Kwik-Walls do not look, feel, rattle, resonate or "seem" like movable walls. But they are! With a choice of 1,526 high-fashion facings... laminates, vinyls, pre-finished hardwoods, print grains and ready-to-paint hardwoods, your design possibilities are virtually unlimited. Panels available track-mounted or trackless, with decor-matching, walk-thru doors.

One-hand, spring-loaded, cam-operated locking feature. Core construction, non-resonant panels, unique floating suspension (rubber seals at top, bottom, and sides of each panel) add to superior sound-insulating qualities.

For more information, write KWIK-WALL CO., Box 319, Dept. AR, Springfield, Illinois 62705.

YOUR GUESTS WILL NEVER KNOW!

For more data, circle 72 on inquiry card.
WHAT MAKES AN OFF-THE-FLOOR INSTALLATION COST LESS?

• common vent (1)
  Saves chase space...substantially reduces the number of connections required in a battery of toilets

• invertible carrier body (3)
  Fits all types of toilets, blow-out or syphon jet...saves handling time...eliminates stocking and ordering of different carriers.

• buttress foot (2)
  Short Bulldog feet do not interfere with any type of finished floor...saves installation time

• positioning frame (4)
  Simplifies alignment...saves one or more hours of labor per bowl!...saves fixture breakage...saves callbacks...acts as template for wall finish, saving tile-setting time.

fitting and carrier are separate
provide more adaptability to meet changing conditions of installation...save revision time and labor

...put them all together...they spell

Now...with all the other advantages of off-the-floor fixtures...there is no reason to allow installation costs to change your mind...if you use Josam Unitron Carriers and Fittings on the job. Every feature is designed not only to save time and prevent error, but to provide the adaptability that solves on-the-job problems.

The combined savings in space, materials and installation are substantial enough to make off-the-floor fixtures the logical choice on every job...if you use Josam Unitron Carriers! For further information, write for Manual F-4.

*Verification on request

JOSAM MANUFACTURING CO.
Michigan City, Indiana

JOSAM PRODUCTS ARE SOLD THROUGH PLUMBING WHOLESALERS

For more data, circle 73 on inquiry card

ARCHITECTURAL RECORD March 1968 107
ON THE CALENDAR

MARCH

15 Deadline for all 8 x 10 submissions for honor and merit awards for excellence in religious architecture, National Guild for Religious Architecture.


APRIL

4-6 Middle Atlantic A.I.A. Regional Conference—Greenbriar Hotel, White Sulphur Springs, West Virginia.


MAY

3-4 Annual National Colloquium on Information Retrieval—University of Pennsylvania, Philadelphia.

5-10 Annual Technical Conference, Society of Plastic Engineers—Americana Hotel, New York City.

6-9 Annual Convention Consulting Engineers Council, Statler Hilton, New York City.

13 Prestressed Concrete Institute Awards Program deadline for submission of entries. For information write: Prestressed Concrete Institute, 205 West Wacker Drive, Chicago 60606.

OFFICE NOTES

NEW ADDRESSES


Gueron, Lepp & Associates, Architects, 6 East 53 St., New York City.


ADDENDA

Architectural Record deeply regrets errors in the following notice and credits, and herewith publishes the correct information:

The partnership firm of Charles C. Hartmann, Architects, A.R.A. has been reorganized with the formation of the firm of Charles C. Hartmann, Sr. and Associates—Architects. Charles C. Hartmann, Sr., F.A.R.A. is the principal with Ralph J. Austin, Jr., A.I.A. as associate. The firm’s address remains unchanged: 405 West Fisher Avenue, Greensboro, N.C. (Notice appeared on page 78, December 1967.)

In the January 1968 article, “Design for Learning” (pages 113-124), Bolt Beranek & Newman should have been credited as acoustical consultants for Colby College and not the Mt. Anthony school. In the same issue, James Spalmer was the engineer for the Bolton Square townhouses, Baltimore. (Credit appeared on page 154.)

The following additional credits for the Mugar Library for Boston University (January 1968, pages 125-128) are noted: Interior Designers: Hans Krieks, Associates, Inc.; landscape architects: Sasaki, Dawson, Demay Associates, Inc.; contractor: Vappi & Company, Inc. (Omitted from the list of credits on page 126.)
WHATEVER HAPPENED TO THAT "MACHINE FOR LIVING"?

However rhetorical the question, it at least reflects our personal gratification that the work of so many outstanding residential architects is increasingly oriented toward elegance, imagination and environmental harmony. And we are even more gratified—albeit not unselfishly—by the high percentage of these architects who have recently specified Follansbee Terne on major projects. For Terne, its functional integrity validated by two centuries of use, is unique among roofing materials in that it provides both form and color at relatively modest cost.

"STORNAWAY", Ligonier, Penna.—featured in 1965 RECORD HOUSES.
Architect: Winston Elting, AIA, Chicago, Illinois
the schizophrenic floor.

Sometimes WALK-EASE Flooring acts like carpeting,
Sometimes WALK-EASE Flooring acts like vinyl.

WALK-EASE by Flintkote is a new type of flooring . . . with a dual personality! It has the best traits of each. WALK-EASE Flooring offers the beauty and strength, the color and versatility of magnificently designed vinyl. Then, as you step on this cushioned floor, it seemingly is transformed into carpeting. Soft, warm, quiet, plush.

When it's time to clean the floor, WALK-EASE suddenly becomes practical, economical vinyl again. Usually the swish of the mop will do. Spike heels, furniture and most stains leave no lasting mark. Be sure to see WALK-EASE cushioned sheet vinyl flooring made with fiber glass. It is available in striking decorator colors.

From the FLINTKOTE Floor Fashion Collection including PEEL and STICK TILE and vinyl asbestos styles.

For literature and full details write: The Flintkote Company, 480 Central Ave., Rutherford, N.J. 07073, or P.O. Box 2218, T. A., Los Angeles, Calif. 90054

For more data, circle 76 on inquiry card
Rising over New York's Pennsylvania Station is the new Madison Square Garden Sports and Entertainment Center with a 404 foot diameter roof suspended on galvanized steel cables to allow over 20,000 spectators an unobstructed view of the action. It will be the first permanent suspension roof in New York City and one of the largest in the U.S. This giant steel web is made up of 48 separate cable assemblies produced by Bethlehem Steel Corporation. The cables are 3\(\frac{3}{4}\)" bridge strands approximately 195 feet long. Each strand contains 271 cold drawn, galvanized steel wires and has an ultimate strength of 1,644,000 lbs.

A portion of each of these giant cables around the perimeter of the roof will be exposed to the weather and the extremely corrosive industrial atmosphere of New York. To meet this corrosive challenge, specifiers called for zinc-coated steel. And zinc protects steel's strength in other key places throughout the structure: galvanized steel clip angles that hold the pre-cast stone panels to the outside of the building, galvanized steel decking, galvanized steel beams that support the brine tank used in ice-making and many more. No other material provides the proven combination of strength, corrosion resistance, and economy found in galvanized steel.

**ST. JOSEPH LEAD COMPANY**
250 Park Avenue, New York, New York 10017
St. Joe is a Major Supplier of Zinc to the Galvanizing Industry
It Took 1,625 Completely New Ideas To Get Architects To Prefer MOLDCAST Lighting Fixtures

(HERE ARE SEVEN OF THEM)

1. The Controlux Cone*, a remarkable development in black specular reflectors, makes magic in Moldcast Cylinder Fixtures. This is the first hidden source fixture which permits the widest flood distribution (up to 108°) or the narrowest spot (33°) with no "hot spot" in the center, no sharp drop-off at the edges.

2. Lamp adjustability gives Moldcast Cylinders a truly unique flexibility. Raise or lower — go from a spot to a flood. Adjust the beam angle up to 20°. The source remains hidden (thanks to Controlux magic). You can alter your illumination effects with absolute precision in the field to meet specific requirements.

3. We've got the thinnest Exit Sign* made by anyone to date (a mere 1/16" sliver of a thing).

4. Our Exit Sign is also the most evenly illuminated (bet a thin dime you can't tell where the lamps are).

5. Our Exit Sign operates on a 50,000 hour lamp life without extraneous electronic components that increase failure probability.

6. Our Impacta 900 Wall Bracket was designed for people who combine the most refined taste with murderous aggression. Punch it ... the lovely thing bounces right back. Our secret — We're the first to incorporate almost indestructible Lexan® into a rugged pre-stressed fixture design.

7. Moldcast Site Modules are the first architecturally conceived site lighting line. They aesthetically unify site and structure by extending the rectilineal geometry of modern building design throughout the site.

We concede that Johnny-Come-Lately has to run faster to catch up with the oldsters up ahead. We do it with new ideas by the gross. By completely disguising exceptional ruggedness and durability with unobtrusive classic design. With optical and mechanical innovations worthy of imitation by others ... later on. With such total product flexibility that we standardize most normally customized product variations (and pass on the savings).

* Patented

Discover a few more of the remaining 1,618 new Moldcast ideas. Send for the complete Moldcast Product Catalog by writing:

MOLDCAST MANUFACTURING COMPANY

164 DELANCY STREET, NEWARK, NEW JERSEY 07105 • In Canada: Verd-A-Ray Electric Products, Ltd., Montreal 9, Quebec, Canada

Serving Architecture Through Lighting

For more data, circle 77 on inquiry card
These Smith Walls are a stainless steel showcase

They make a beautiful building! But, better than that, they are an outstanding product display of Crucible Steel Company's own stainless steel. The Shadowall fluting of the panels demonstrates the formability of the material. And, years from now, the gleaming finish of the metal will reflect its maintenance-free durability. What you can't see when you look at this typical Smith installation is the single responsibility that made it possible . . . and typical. The walls were designed, custom-fabricated, delivered and erected by Smith personnel . . . to the architect's specifications . . . to the customer's satisfaction. With the complete responsibility on our shoulders, we make sure the job is right . . . and completed on schedule.

Would additional views of this interesting installation be helpful to you? We've made a limited number of color photos available for the asking. Specify Smith Walls . . . the single responsibility . . . for your next project. You'll find details in Sweets' Catalog File 3h/Sm and 8b/Sm. Or write.

ELWIN G. SMITH & COMPANY, INC. Pittsburgh, Pa. 15202/Atlanta • Boston Chicago • Cleveland • Cincinnati • Detroit • Philadelphia • Toledo • New York

For more data, circle 78 on inquiry card
To seal, protect and beautify terrazzo, specify Hillyard Super Onex-Seal®

DESCRIPTION: An ester-type penetrating sealer that may be buffed to provide a hard, wear-resistant lustrous finish. For terrazzo, thinsted terrazzo, seamless and other masonry surfaces.

SPECIFICATION AND HOW TO APPLY: Floor must be thoroughly cleaned and free of stains. Agitate material until uniform. Apply in thin even coat with lamb's wool applicator. Let dry, not to exceed 20-30 minutes until pressure of the fingers pulled across the surface produces a squeaking sound. Buff each coat after application to provide greater lustre. Apply second thin coat and buff.

COVERAGE: 600 square feet per gallon first coat, 900 square feet per gallon second coat.

TECHNICAL DATA: NVM—10.5% minimum. Film properties: Drying time—45 min. maximum; Appearance—semi-transparent; Tackiness—none; Water resistance—no loosening of film, no removal of gloss. General Appearance: Color—light, shall contain no pigments or dyes; Odor—non objectionable at any time; Viscosity—heavy-bodied liquid mixture.

GUARANTEE: When applied in accordance with manufacturer's directions, it is guaranteed to meet all claims made for it in the proper sealing and finishing of terrazzo floors.

EXCEPTION: For white terrazzo or other white masonry floors, specify White Onex-Seal.

MAINTENANCE: Sweep daily with a Super Hil-Tone treated dust mop (do not use an oily mop dressing). Buff periodically. When floor is soiled, clean with Super Shine-All, a neutral chemical cleaner. Traffic lanes may be patched in and buffed to blend in with the rest of the floor. Reseal as needed depending upon traffic and kind of use.

APPROVALS: This is the type of a penetrating seal recommended for use by the National Terrazzo and Mosaic Association. U/L listed relating to fire hazard and slip resistance.

REFERENCES: Hillyard A.I.A. File 9 Terrazzo 1968 Sweets Architectural File Spec Data Sheet Available

Free follow-up “job captain” service protects your specifications. A trained Hillyard Architectural consultant will gladly consult with your specification writers on proper, approved procedures and materials for the original treatment of any type floor you specify. Write, wire or call collect.

For more data, circle 79 on inquiry card
DESIGNING THE SPACES IN BETWEEN

Landscape architect M. Paul Friedberg—widely known as the designer of the remarkably imaginative open spaces which tie together the cruciform shapes of the New York City Housing Authority's Jacob Riis Houses—believes that handsome and effective urban open space can be created far more quickly and cheaply than most people realize. If the uses to which it is to be put are realistically and soundly conceived, he asserts, this open space can be maintained at little cost and great political benefit to the city, or even at financial profit to the local government and to private investors. U.S. city dwellers—deprived of such urban pleasures commonplace to Europeans as eating on terraces which overlook lakes—respond in overwhelming numbers and with almost pathetic gratitude when any such civilized amenity is granted to them by government, private investment, or philanthropy. New York City now has one such place—only one—and every summer night crowds stand in line for more than an hour to have dinner in Central Park's new Bethesda Fountain Cafe.

Since examples of this kind can be cited in cities all over the country it is surprising that urban open space in the U.S.A. still tends to be leftover or forgotten space. Sites of great potential civic amenity remain undeveloped for decades. Once-handsome and unified plazas and parks which date from past eras are allowed to decay instead of being adapted to changing needs. Badly located new vest-pocket parks in slum neighborhoods—constructed at some distance from, and without the sponsorship of, the local schools, churches or community centers which could be responsible for maintenance—become completely deteriorated from vandalism and neglect within six months after the politicians and donors have been photographed and televised on opening day. (Only the children remain faithful to the vanishing gift, climbing and swinging about on posts left jutting upward in a sea of cracked asphalt, broken bottles and trash.)

Friedberg contends that this indifference on the part of our public leadership to the civic potential of urban open space can be reversed, once these potentials are explored and better understood. The five projects shown on the following pages have been shaped by the political and social realities from which Friedberg derives his own highly creative and engaging esthetic.

—Mildred F. Schmertz
Dag Hammarskjold Park: fresh ideas for financing

Paul Friedberg’s ideas for the financing of his designs for open space are as interesting as the designs themselves. For example, in discussing his and architect Richard Kaplan’s redesign of the present Dag Hammarskjold Park (see right) he points out that the city is not getting sufficient value for the money expended on the original development costs and the continuing maintenance costs of the present park. His development plan, therefore, re-evaluates this existing under-utilized resource and provides a greater variety of public facilities which will appeal to and attract a broad cross-section of the people. Recreational facilities are proposed for use during all hours of the day and through all seasons of the year. Essentially a park for adults, it will have the character of a small-scale urban park for intimate and passive rather than extensive athletic uses. If Friedberg’s ideas are followed, the Dag Hammarskjold Memorial Plaza could become a living memorial where the people of New York can experience the habits and cultures of other nations through their music, food and exhibits.

Friedberg believes that New York City can develop and maintain this and other under-used urban spaces without incurring any expense, since they are a potential resource for creating a financial return which will cover the capital expenditure for redevelopment and the ongoing maintenance costs. Certain areas may make sufficient profit to support the development and maintenance of other less intensively programmed recreation areas in the non-commercial sectors of the city. In the case of the Dag Hammarskjold Park, the J. M. Kaplan Fund (which financed the redesign) or another foundation could act as private developer by providing the development funds on a non-profit basis in the form of a secured bank mortgage or a direct loan by the Fund, and would secure proper management for the various facilities at no profit to the Fund. The franchise for the restaurants, the rink and the garage could be so arranged that a reasonable profit was made by each business with the remaining profit returned to the city. The role of a foundation would be a catalytic one which would bring about new approaches to recreational programing and park development. Because a foundation can act more swiftly and more economically than city agencies to develop an area such as Dag Hammarskjold Park, it is hoped that the city in return would allow a foundation some latitude in developing this experiment in the area of standards, attitudes and traditional design concepts.

A MULTI-LEVEL URBAN SPACE

The Dag Hammarskjold Plaza, shown in the photograph below, is a typically drab example of the kind of park design which is normally offered the public. Under the jurisdiction of the New York City Department of Parks, it is adjacent to the United Nations buildings and public gardens. The fact that this plaza exists reflects the proximity of the U.N., but its design in no way suggests the immense civic importance of this site. The J. M. Kaplan Fund commissioned architect Richard D. Kaplan and landscape architects M. Paul Friedberg and Associates to make a study of the great urban potential of this space and to develop a scheme for its best use. The designers propose that the site be partially excavated to provide a two-level parking garage, badly needed in the area, which would support a broad terrace. Located at the eastern end of the terrace, adjacent to the U.N. and overlooking the East River, a dining pavilion would function as a high-quality restaurant for U.N. personnel and visitors. At the western end, easily accessible from Second Avenue, a popular-priced outdoor cafe would attract the general public, including ice skaters and those coming to admire outdoor exhibitions of painting and sculpture. The architects propose that private commercial interests develop the garage, terrace and restaurants to be given to the city and leased back to the developer. A portion of the profit could be returned to the city.
SPACE DESIGNED TO INTEGRATE AND UNIFY

M. Paul Friedberg and Associates were called in to prepare a master plan for this social services center for Nassau County at Mineola, Long Island, when it became apparent to the several architectural firms at work on the individual buildings that the need for an extensive underground parking facility would complicate the siting of these structures, the location of their entrances, and their relationship to each other. The ingenious two-level solution provides pedestrian underpasses, clearly separated vehicular circulation, sunken courts, and a central amphitheater. Architects of the Welfare Administration Building, top of the drawing far left, now under construction, are La Pierre Litchfield and Partners. The multi-story building shown at the right-hand side of the same drawing is the Health Administration Building by Morris Ketchum Jr. and Associates and The Office of Max O. Urbahn, associated architects.

1 Welfare Administration
2 Department of Health
3 Supreme Court
4 Proposed building
Open-space planning for Pruitt-Igoe:
"safe, sound and sanitary is not enough"
M. Paul Friedberg and Associates were retained by Irvin Dagen, executive director of the St. Louis Housing Authority, to suggest alternatives for the upgrading of the physical space of this vast public housing development which has become a widely publicized social failure with unusually high rates of delinquency, crime and vandalism.

The consultants have so far presented three alternatives to the Housing Authority. One alternative calls for the relocation of all the residents in the project, its total demolition and the possible substitution in its place of other facilities, and Friedberg says: "This might be the most wise and beneficial course in the long run. If the entire project is broken down into smaller segments, either near the present site or spread over the entire city, there is a much higher potential for success with regard to the social problems which are present at Pruitt-Igoe in such abundance. If there is one lesson to be learned from Pruitt-Igoe, it is that the grouping together of large numbers of impoverished families exacerbates the social problems and diminishes every chance of achieving constructive social goals. We now know that to provide a safe, sound and sanitary dwelling unit is not enough."

Another alternative utilizes some of what exists at Pruitt-Igoe, but proposes relocating and demolishing some of the project and substituting in its place other functions and facilities. A significant number of buildings would be given over entirely to housing for the elderly, and the remaining structures on the site could be phased out as quickly as possible and replaced by low-rise units of low-cost housing.

The third alternative proposed by Friedberg drawings shown on page 129 utilizes what presently exists on the site, demolishes or relocates nothing, but only adds facilities and functions. This alternative proposes to broaden the income pyramid of the project by including housing types other than low income, and to simultaneously upgrade the physical environment. It is hoped that by broadening the income spectrum, both the people in the housing project and those who live nearby will feel somewhat relieved of the stigma of poverty which has built up over the past decade. In addition, by broadening the income range in the project it is possible to propose a comprehensive commercial facility, as well as badly needed community facilities. These facilities would be located on the Pruitt-Igoe site as low-rise additions to the high-rise apartment structures. The proposed additional

SAVING A WASTELAND
Because M. Paul Friedberg was able to recapture the lost open spaces of the New York City Housing Authority's Jacob Riis Houses by transforming them into immensely successful recreation areas (see RECORD, July and December 1966), he has been retained by the St. Louis Housing Authority to do the same for Pruitt-Igoe, a housing project notorious for its social problems. Friedberg is the first to assert that the physical changes he is proposing will have little effect unless new and better social strategies are initiated, and indeed architect Richard Hatch received a grant from the Office of Economic Opportunity to help devise such strategies. As the drawings indicate, Friedberg thinks that the addition of town houses should help define the spaces, as will the construction of low-rise elements at the base of the slab-like towers which will contain administration units, community centers and the like.
housing units would be in the form of low-rise attached dwellings located in the spaces between the existing buildings.

These proposed commercial and community facilities as well as the additional housing units would serve to divide the present open space at Pruitt-Igoe and begin to add the human scale and texture that this project is so strikingly without. New construction, in the form of low-rise buildings and extensive site rehabilitation would do a great deal to improve the image of Pruitt-Igoe in the minds of its residents and members of neighboring communities.

The scheme proposes that additional elevator cores be added to the existing high-rise apartments, outside the building frame, to add needed capacity and eliminate the out-of-service-elevator problem.

P.S. 166 playground: fresh ideas for play—and land use
The P.S. 166 public school playground on West 89th Street in New York City was conceived as a typical school playground. The original plan, designed by the Board of Education, included four basketball standards, a 16-foot-high chain link fence enclosing the entire area, and five pieces of contemporary manufactured play equipment enclosed by another chain link fence within the already fenced-in area.

When some of the new playground designs developed while former New York City Park Commissioner Thomas Hoving held that office were first made public, the already quite diverse and vocal West Side community groups began to loudly rebel against the design that had been prepared for them. When they received no satisfaction from the Board of Education they approached Commissioner Samuel Ratensky of the Housing and Redevelopment Board to suggest that a district as experimental as the West Side Urban Renewal Area deserved a better playground. Ratensky asked Paul Friedberg to prepare plans for the project to present to Commissioner Jason Nathan. Nathan approved the scheme and directed Ratensky to get it into the development stage. Hoving stepped in with a $195,000 grant from the Astor Foundation to cover fees and execution. Since the Astor Foundation has traditionally been interested in the development of open space for community use, this playground, once designated as a school playground, has been designed and is now operated as both a school and community playground under the jurisdiction of the Department of Parks.

The playground design provides a “sitting plaza” where the elderly or
URBAN OPEN SPACE

parents can sit watching the children play without actually entering the playground. It also serves as an area where parents can sit and wait for their children to get out of school. The playground includes an amphitheater for school productions which serves as a giant spray pool during the hot days of summer. Water jets are recessed under the steps and spray out into the center open area.

In the lower-right-hand corner of the perspective on this page is shown a giant spider web. The resilience of the cables offers a new experience to the children. The entire playground has been depressed 3 feet from the street level to give it more privacy and to make it more plastic. In the center of the playground is a large granite block mound, which conceals a pump house for the spray unit and a comfort station for boys and girls. By placing the lavatories under the mound, the architects saved precious land and created a mound for slides and other activities.

There is a separate play area for the pre-school and early-school-age children in which all the activities found in the general play area are experienced at a smaller scale.

A SCHOOL AND COMMUNITY PLAYGROUND

This playground, adjacent to P.S. 166 in New York City, is Friedberg’s most recent and best. All of the equipment, with the exception of the geodesic domes, was specially designed for this space and much of it is original and unique. The play pieces are so arranged as to be interconnected and thereby offer a limitless variety of use patterns. A child can climb from one piece and jump on to another, bounce his way to a swing and then continue climbing again.

Drawing by Mark de Naloy Rozadowski
In its unique form the Beth Zion Temple by architects Harrison and Abramovitz appears at once ascetic and Baroque, combining an unadorned facade with a curved and undulating rhythm. Rising from a shallow, dark base on their grassy site, the sloping walls seem almost to create a simple, symbolic upward gesture. Highlight of a four-building complex—including a chapel and a school (see photo below), and an auditorium which is behind the school—the temple is a vigorous religious statement. The handsome interiors have well controlled lighting, graphic art and stained-glass by artist Ben Shahn.

Because it was found to weather well in the Buffalo, New York atmosphere, an exterior facing of Alabama limestone was applied to the concrete walls. Insulation was placed between the concrete and the facing.
Inside the dramatic structure, exterior scalloping is reflected, and this shape creates changing patterns of natural light which enters from three sources (see section at lower right). From directly above, a circular skylight illuminates the altar and the two free-standing tablets silhouetted against the stained-glass window. Two peripheral skylights accent the wall's slant to give the space a feeling of upward expansion, completing the symbol begun outside. Some of this light from above reaches the side aisles because the balcony is bracketed to the wall in only a few places, elsewhere stands clear.

Constructed in two sections (right and left) by horizontal layers, the walls, in their apparent tilted state, remained standing without supports until the roof was applied. Because of the contour, the center of gravity lies not outside nor in the wall, but within the arc (see plan at right). The scalloped shape was developed because it is structurally stronger than a comparable smooth arc. Acoustically, the scalloping works well to diffuse sounds.

A simple steel-truss roof rests on the walls, leaving enough space around the edge for the peripheral skylight. Heating elements were installed on the outer surface of the roof to melt abundant Buffalo snows.

Although the main entrance is from a small paved setback from the street side, the practical entrance was provided adjacent to the parking lot. The eye of those entering from the street is caught up in the building's inherent flow and carried forward to the bema. Those coming from the parking lot enter from behind the bema.
As can be seen in the photo above, the scalloping creates interesting shadows on the Alabama limestone facing. In the interior (photo above right) the walls are exposed concrete with a pattern of unfilled form-bolt holes. Warm-air blowers are located along the base of the wall, and blow heated air up between the wall and the balcony. The light in the top right photo comes from the peripheral skylight.

The drawing (below) of the stained-glass window structure shows how the architects and structural engineer, Lev Zetlin, minimized structural supports which they felt would detract from the window's ethereality. Instead of using conventional steel mullions, cables were strung in tension across the opening. Small steel rods tie the window to the tensed cables, helping to support the weight of the glass and to resist wind pressure.
The small chapel, which is used for weddings and summer services, is rectilinear inside. Only the altar and the circular skylight above it reflect the form of the temple. Natural light enters from behind the altar and from window-walls parallel to the main aisle. The materials are brick, and concrete for the undulating roof. Simplicity is an evident attribute of this structure.

The site plan, at right, shows how the temple can either be entered from the street or from the parking lot, through the school building. By placing the parking lot behind the school building, cars are kept out of the view of passers-by.

BETH ZION TEMPLE, Buffalo, N.Y. Architects: Harrison & Abramovitz; structural engineers: Lev Zetlin & Associates; mechanical and electrical engineers: Jaros, Baum & Bolles; acoustical consultant: Cyril Harris; contractor: Siegfried Construction Co.
In the design of Gulf Life Tower," says architect Welton Becket, "we sought to provide a singular, bold statement combining the wishes of our client for a dynamic, functional landmark, and our own desire to evolve a scale which would directly express the multiple layers of work areas which make up a high-rise office building."
The Gulf Life tower dominates the skyline of the south shore of the Saint Johns River and is the focal point of the 12-acre Gulf Life Center. Other buildings in the center are a five-level garage and a 10-story hotel. Development of surrounding areas is in long-range plans for this part of Jacksonville.
Gulf Life Tower in Jacksonville, Florida, clearly expresses both a strong design concept and bold use of advanced engineering and construction techniques. Its exposed concrete frame combines massive scale with grace of form in tapered columns and sculptured cantilevered beams. Forthright and elegant, it stands 27 stories and is 433 feet above a two-level podium—the nation's tallest precast, segmented, post-tensioned building.

The sculptured shaping of the beams, articulating the architects' expression of layered spaces in the high-rise, was made feasible within the $17-million budget by repetitive use of sets of precast elements. There are 14 such elements to each beam. Sequenced to taper upward and inward to a common interior plane, they are strung like beads on cables and post-tensioned to cantilever 42 feet to corners of the building from two columns which divide each face in thirds. (See November 1966, page 185.)

Prestressed double tees span 41 feet from beams to a cast-in-place structural core 53 feet square which houses elevators, stair wells and utility spaces. Two banks of elevators are in free-standing elements facing the core elevators and forming circulation corridors for the office floors. A central corridor on each floor bisects the core and provides access to service elevators and toilets.

The image grows in unity of concept and discipline

Structural and architectural unity of the precast pre-finished column and beam system has an inherent color, form, and texture that fulfills the architectural concept. As background and completion of that concept, window walls of grey plate glass set in black neoprene and with black anodized aluminum sills are set back 6 inches from the interior plane of columns and beams.

A corporate image housing new home offices for the Gulf Life Insurance Company, the tower stands supremely visible on a two-layer podium which forms a focal point and plaza for Gulf Life Center. The center occupies a 12-acre site on the south side of the St. Johns River, directly across from the municipal center of Jacksonville. It is adjacent to a city park with marina and programmed fountain, and is planned as a generating nucleus for development of surrounding commercial properties now occupied by taxpayers, laundries and miscellaneous low-rise structures.

Two other structures on the center site are the 10-story Sheraton-Jacksonville Hotel, nearing completion on the waterfront, and a five-level parking structure east of the tower. West of the tower
The sense of scale changes appropriately through all approaches to the building. At the podium level itself, the marble-faced tapered bases of the columns, which read as slender supports for the tower viewed from a distance, acquire great strength and massiveness of their own as they are approached more closely (as from the garage bridge, below). This effect is enhanced by the sequenced setback of the banking floor and lobby floor (above right) made possible by suspending the banking floor from the underside of the 3rd floor.
at podium level and fronting the hotel is a 94-by-409-foot plaza, accessible by over-street bridge from the tower podium. This plaza, studded with planters, provides a promenade for office and hotel occupants and is a roof over shops and boutiques at ground level. A second over-street bridge from the podium to mid-level of the garage also provides a ground-level covered walkway to the concourse below the podium. The concourse houses a 600-seat cafeteria overlooking the river, kitchen spaces, employee lounge, loading docks and a drive-in bank.

Programed for growth and internal flexibility

The office tower itself was programed for 500,000 gross square feet, of which 337,000 square feet are usable, column-free office space. The program was based on the growth potential of Gulf Life which expects to expand to full occupancy within a few decades. Initially, it occupies 141,000 square feet on the 4th through 15th floors with internal space for about five years' expansion. The first floor is a recessed, glass-enclosed lobby over which the second and third floors, less deeply recessed, hang by eight column-like members and are occupied by the St. Johns River Bank. Commercial space is rented from the 16th through 26th floors. A private club on the 27th floor is enclosed by glass, again recessed at the 26th floor level to provide a narrow ledge—surely not a walkway, but perhaps lending some sense of security to members inside.

There is a tradition among large corporations that executive offices are located on the highest floors with the best views. The views from virtually every floor of Gulf Life Tower are spectacular in all directions. So the realistic decision to install the Gulf Life executive suite on the 15th floor was based on the fact that this is the transfer floor between low-rise and high-rise banks of elevators. This permits executives to use an allocated high-rise elevator, and leaves high-rent top floors available for income. Company expansion can proceed vertically in both directions with the executive floor moving up and retaining its top position with priority use of high-rise elevators. Ultimate capacity of the building will be about 2,400 employees, both Gulf Life and tenants.


Mechanical equipment for air conditioning is located on the 9th and 20th floors. A special system of ceiling suspension beneath these floors consists of spring loaded vibration isolators which hold the framework for the acoustical ceiling and integrated lighting-cooling fixtures as shown above.

Window mullions of special design hold neoprene gaskets on a 4-foot 8-inch module for internal partition flexibility. Occasional windows on each floor are designed to open for convenience of the window washers.

Foundation strata of weathered limestone are 28 feet below the surface, so large spread footings were used, 25 feet below ground water level. The basement slab is 10 feet below the water line and is designed to resist hydrostatic pressures. Outlying portions of the podium are on steel piles.
The lobby at podium level is a simple glass passageway surrounding the core area, which is faced with green marble. The information and control desk faces the passageway to moving stairs serving the banking floor above. A large employee lounge, right, is on the concourse level adjacent to the cafeteria. Gulf Life offices are carpeted throughout, and corner executive offices, below, offer panoramic views of the waterfront and municipal center across the river. The system of cantilevered beams permits column-free corners with narrow corner mullions so that views are not obstructed except at the option of the occupant. Associate architects Kemp, Bunch and Jackson coordinated interior architecture, and Richard Plumer Business Interiors Inc. was interior design consultant for Gulf Life offices.
FOUR VACATION HOUSES

These vacation houses are good evidence of the continuing use of inventive and playful forms in the design of weekend retreats. They are all low cost and compact, and use maintenance-free, natural materials.

Simple house for the snow country

Located on a rugged mountain site and oriented to take advantage of an impressive view to the west, this simple and compact weekend house was designed for both summer and winter use. All openings are deeply carved to form roof overhangs for protection from heavy snow. Steps to elevated decks provide easy access at any snow depth in winter. During the summer, the doors and windows open to the decks and the breeze.

To create a structure compatible with its rugged site, the architect utilized straightforward form with strong detailing—shed roof, reverse board and batten siding, and cantilevered decks with heavy railing seats. The house has a compact plan basically divided into a sleeping zone and a living zone, separated by the service core. Two other considerations affected the design: a tight budget ($16,000 with unfinished full basement and exclusive of furnishings); and minimum maintenance as reflected in the materials used—interior wood ceilings, exterior redwood siding, and use of stains for trim.

Hexagonal tower for a steep site

This low-budget ($15,000) vacation house at the Sea Ranch, a complex of vacation homes north of San Francisco overlooking the Mendocino coast line, was built as a prototype to show prospective buyers the sort of house that might be built on a steep, heavily wooded hillside lot with a distant view of the water. The house is a festive and simple one-room hexagonal tower with an attached stair tower. The stairs lead to a sleeping-shelf mezzanine with bath, and then on to a roof deck with a magnificent view. The main level, containing living room, kitchen and porch, is entered via a bridge, with the entrance sheltered by a canopy roof. The exterior is horizontally- and vertically-applied redwood treated with bleaching oil; with a built-up roof and duck board decking. Interior walls are fir and plywood, with ceilings of exposed fir beams and decking of plywood. The house is designed for any number of steep, wooded lots (two examples have been completed), and is expandable by adding hexagons.

A sleeping deck overlooks the two-story living room in this vertically-organized octagonal house for a steep, wooded site.
Scissor trusses create distinctive form

The use of wood scissor trusses, 7-feet on center fabricated from standard 2-by-4 studs with nailed joints, gives this $21,500 ski lodge its distinctive form. A two-story, multi-activity living area for the owners and their four young children is located on a large deck riding above native stone walls. Large glazed doors along the southerly wall permit a panoramic view and open onto a porch which becomes an extension of the living room. Also located on deck level are the master bedroom, bathroom and cooking area, above which is an open loft for dormitory-style sleeping quarters for the children. Exterior and interior walls are either of native stone, which was available on the site, or board and batten, with exterior roof of handsplit cedar shakes. "The spatial development, structural system and general material usage," says the architect Gerard Cugini, "are a conscious effort to reflect in scale and construction techniques the simplicity and directness of barn enclosures."

Wood scissor trusses define the two-level living room at one end of the building with sleeping areas, kitchen and bath stacked at the other end.
Sweeping roof for a one-room house

This year-round weekend retreat for two was built on an extremely low budget ($10,000), and is a one-room house measuring 21 by 33 feet. The house has a huge fireplace wall as its central theme. Large triangular expanses of glass are placed high at both gable ends of the building, permitting a view of trees against the sky, since one can see only a few feet through the dense woods and underbrush characteristic of the site. These fixed-glass elements are detailed with no visible trim so that the roof flows smoothly out beyond the glass line and the rafters continue to be expressed under the roof overhangs. Partitions for closets, dressing room and kitchen are kept low and freestanding to emphasize the sweep of the roof. To avoid fuel delivery problems, all appliances and heating were specified as electrical. The bathroom is a closed-off space with hot and cold water tanks located above. There is no cellar due to ledge rock. The main materials are a redwood exterior and stained-fir interior used to unify the house with its site.

Design unity reinforces campus identity and future

As new campuses burgeon across the country, and older ones add vastly to their facilities—the last few years have seen the greatest growth in history—it becomes increasingly obvious that realistic and successful master planning must envisage a continuing—or phase by phase—expansion and change by others in the future. Many campuses are already experiencing some of the urban problems of the city, with a dense hodgepodge of eclectic prima-donna architecture which must somehow be added to or replaced. And many are thoughtfully planning new frameworks for the inevitably diverse styles; schemes which will create a unified complex with its own special image and character, and will provide an appropriate relationship to its own community. As few of these goals are precisely alike, this study presents seven current projects which form a good cross section of typical problems, and which make big strides in solving them.  

Herbert L. Smith, Jr.
Edward L. Barnes stresses bold central ideas in his plans for four campuses

To highlight the fact that each campus is indeed a unique and individual problem in planning for the future, four of the many campus projects that Edward L. Barnes currently has under way throughout the country are shown on the next pages. Whether a project is an addition to an existing college, or a completely new campus, Barnes has sought to develop a major design idea or "theme" compatible with the needs and aims of the particular institution—and always with an eye for its future suitability.

These four projects are quite different in scope: one is a big city campus added to via urban renewal; one is an urban campus which must grow on a limited site; one is totally new, small in scale, on a riverside tract; and one is a major expansion of a somewhat uncohesive campus. But all the schemes, though totally different, have one element in common—each project has a great sense of unity and of inward community, as well as planned compatibility with whatever facilities existed before or may be added in the future.

The projects were designed during the course of several years: the University of Chicago housing and art center was planned in 1967, as was the expansion scheme for Pratt Institute; the Christian Theological Seminary dates from 1959; and the Potsdam master plan was done in 1964. The buildings for the last two are 50 percent complete. One awaits the final results of all with great interest.
A scattered campus is tightly bound together with new buildings (blue on plan) where existing academic buildings (gray on plan) were arranged loosely around an enormous field. Now these buildings are linked together by new classroom structures, a library is placed in the center with entrances from two sides, and gateways are planned at all four corners of the court. To the south, the old dormitories are ringed with new dormitories, and a student union is placed in the center of the residential area. The final plan is classic—a binuclear campus with academic buildings centered on the library and dormitories centered on the union.

STATE UNIVERSITY COLLEGE AT POTSDAM, NEW YORK. Architect: Edward L. Barnes—Stanley Maurer, associate.

A formal "Ledoux" hierarchy of courts and towers is Barnes' idea for five blocks along the north side of the University of Chicago campus which has been cleared through urban renewal, and designed as a housing and art center—one complex grouped around five courtyards. Four of these courts are walled culs-de-sac, with green grass and trees. A central court is urban in character: paved, with benches and a central fountain. Narrow pedestrian "streets" open out of this "town square" in all four directions and the major entrances to the complex are on axis with the streets. The housing consists of six-story towers and low two-story linked buildings. A variety of living accommodations is planned: single rooms, suites, graduate apartments, etc. The buildings are very open toward the quiet side courts, more closed toward the busier central square.


LEFT
A formal "Ledoux" hierarchy of courts and towers is Barnes' idea for five blocks along the north side of the University of Chicago campus which has been cleared through urban renewal, and designed as a housing and art center—one complex grouped around five courtyards. Four of these courts are walled culs-de-sac, with green grass and trees. A central court is urban in character: paved, with benches and a central fountain. Narrow pedestrian "streets" open out of this "town square" in all four directions and the major entrances to the complex are on axis with the streets. The housing consists of six-story towers and low two-story linked buildings. A variety of living accommodations is planned: single rooms, suites, graduate apartments, etc. The buildings are very open toward the quiet side courts, more closed toward the busier central square.

A theological seminary designed as a single building forms an S-shaped plan which embraces an entrance court facing the street and a cloistered grass court facing the river. A theater, cafeteria and student lounge, administration offices, lecture rooms, library and chapel are all linked together along a wide continuous corridor, unifying the daily routine of work and worship, study and play. The plan is really a two- and three-story processional leading to the chapel—a high block standing on the river bank dominating the whole campus.


1 Lecture halls
2 Seminar rooms
3 Faculty offices over
4 Library
5 Chapel
6 Student lounge
7 Cafeteria
8 450-seat theater
9 Administration
Open-end architecture for a growing city college focuses on two long three-story loft buildings which flank and enclose the academic core. The residential requirements of this college were met by the purchase of adjacent apartment buildings (in gray tones at sides in photo). The new loft buildings have a constant section: lab and studio space on the top floor, a layer of offices and seminar rooms on an intermediate floor, and lecture rooms and large classrooms on the ground level. The two structures are built in increments as required (shown in dark and light blue), and the divisions between departments are flexible and changeable over the years. The top floor cantilevers over the sidewalk and bridges the cross streets. Between these two "bar" buildings are a variety of more sculptural forms—two old brownstone blocks, and old brick chemistry lab, a new tower library and student union defining a central square, a theater, an art gallery, and, as the campus grows, other individual buildings by different architects (old structures are shown in gray, new ones blue). But the anonymous bar buildings on each side give form to the whole and make the inner campus a quiet haven in a neighborhood that has deteriorated into slums and bleak apartments.


EXISTING BUILDINGS
1 De Kalb Hall
2 Library (future exec. offices)
3 Thrift
4 Apartments
5 Pratt studios
6 Factory
7 South Hall
8 Main (admin.)
9 East Hall
10 Recreation hall
11 Memorial Hall
12 North Hall
13 Student activities
14 Engineering
15 Chemistry
16 Faculty housing

NEW BUILDINGS
17 Classroom/studio block
18 Dining/student union
19 Classroom/studio
20 Library phase I
21 Architecture/studio
22 Physical education
23 Architecture
24 Library phase II
25 Art school
26 Science hall and computer
Florida's Miami-Dade solves growth problems by building a second, two-stage campus

To assure the creation of a really workable "automobile expressway commuter college", the City of Miami and Dade County, Florida faced anticipated growth of its new junior college with the premise that there was an optimum size for such a campus of about 10,000 students with their cars. And rather than allow enlargement of a campus to a point where it would lose efficiency and coherence, it was decided from the first that completely new facilities would be found or constructed to accommodate growth beyond the planned size.

The college was begun in 1960; by 1966 its original facility (now known as the North Campus—see ARCHITECTURAL RECORD, November 1967) was jammed with 17,000 students and 600 faculty. To alleviate this crowding, the first stage of a separate South Campus for 10,000 (shown here) has now been completed in another section of the city, and the second stage is well under way. As enrollments are expected to continue to rise to some 30,000 students by 1975, a third campus is being planned as a high-rise educational complex for downtown Miami. The entire system will be directed from central administrative offices on the South Campus, and all will be connected by tower-to-tower communication beams. Although each campus is designed for only 10,000 students, as a practical measure each is also planned so high space utilization can allow the pressure of twice that number while new facilities are being built.

Division of the new South Campus into two stages of construction obviously speeded its use as a second facility: the first four buildings are already in operation as the others are starting construction. And its plan, which centers on two major plazas, assures a sense of completeness at each stage. The total site is 185 acres, with the buildings forming a fairly tightly knit urbanistic group at the south end. The northern part of the site (not shown) is devoted to athletic fields and the like. Student cars circulate on a four-lane perimeter road; a small inner loop road is restricted to service and faculty vehicles and the "campus" to pedestrians.
South Campus utilizes lakes to cope with drainage from sudden rains and to dramatize the main entrance. The excavated fill is used to raise central core and parking areas above flood levels. A central utility unit shortens runs to all buildings.

Hub of the entire junior college system, the administration building (above and right) achieves a sort of inverse dominance by its smaller scale and by its more regular and formal shape. The plan is equally direct, with offices and meeting rooms placed on the periphery around a central reception lobby.

The entry plaza (left), which will serve as an atrium to the final complex, is defined by building masses and covered walks connecting all the structures. The larger academic plaza, to be created in the second phase of construction, will be the main focus of student attention. All buildings are less than a five-minute walk from a parking area.
The science building (shown on this page), typifies the clear articulation of function which the architects have achieved in each of the handsome structures. Around the great, enclosed central court (below), specialized labs are grouped in four almost totally windowless blocks; offices link these in a projecting second level; and more general classroom spaces form a forceful cap to the entire complex.

Though all the buildings are vigorously individual, a strong sense of unity is achieved by their geometric masses and by use of the same materials: exposed, sand-blasted concrete and precast paneled walls with coral rock aggregate.
The learning resources center of Miami-Dade combines library functions with large and small teaching spaces. The building is, in effect, two structures connected by a covered concourse and wide-overhanging roof; a bridge links them at second level. The smaller of the units has four teaching auditoria (above) around a projection room on the main level, and an audio-visual center and offices above. The larger block has two similar floors of library and divisible classroom spaces (below). For the inevitable change of interior spaces in the future, this unit (as in most of the buildings) utilizes long span construction to permit partition relocation; in general, removable or folding partitions have been used only where there is a certainty of frequent use.

A prime design consideration for all the buildings, as it is a commuter college, was "strength and monumentality (and sheltering trees) to survive all those cars."
New York State's Geneseo achieves unified variety in a major expansion program

With its four latest buildings, the Geneseo campus of New York State University marks another phase of its long-range master plan for expansion. These new structures—lecture hall, library, fine arts center and administration building—almost complete the academic area of the plan. Although each was under the charge of a different architect, by establishing a common idiom insofar as scale and materials are concerned, all the buildings are extremely compatible while preserving a good degree of design individuality. The master plan (right), which shows existing structures in gray, new ones in dark blue, and future buildings in lighter blue, envisages a varied series of activity centers, buffered by coordinated landscaping.

STATE UNIVERSITY COLLEGE AT GENESEO, NEW YORK. Planning and site work—Architects: Myller, Snibbe, Tafel, Lindholm-Rolf Myller, associate in charge; landscape consultant: Mason and Frey; site utilities: Peter Bruder.
The lecture hall building is a very unified complex of varying-sized lecture, meeting and assembly rooms. While materials are identical with the other new buildings, the metal fascia is used here with greater force and established a strong character for the building. A lower level contains additional lecture and utility rooms.

NEWTON LECTURE HALL BUILDING. Architects: Myller, Snibbe, Tafel, Lindholm—Richard Snibbe, associate in charge, Bruce Fowle, project architect; engineers: Lev Zetlin & Associates (structural); Peter Bruder (mechanical and electrical); acoustical consultant: Harold Burris-Meyer.

The library, linked by upper-level walks to the administration building and the lecture hall, treats its exterior brick walls as thin curtain-wall panels which shield, and shade, the reversed bay windows. Concrete is clearly revealed as the structure, and metal forms a moderately strong fascia. The plan is fairly open and straight-forward, with an off-center service core freeing large spaces for stacks and reading areas. Specialized rooms flank this major space on two sides of the main floors. The structural system has regular bays, which is expressed on the exterior.

MIELE LIBRARY BUILDING. Architects: Waardorp, Northrup & Kaelber; engineers: Robeson & Woese; contractor: Scufari Construction Co., Inc.

photos Luedeke Studio
The fine arts center is in itself a linked but clearly articulated group to house the divisions of the fine arts department: music, art and drama. The three sections, which are joined by exhibition galleries, were planned with a special character for each by varying the dominance of a particular material. In the music unit, pre-cast concrete and stone panels form the major exterior facing; the theater and drama section is more solidly brick; and the art wing is dominated by large, slanting window walls. All have similar, trim, metal fascias.

THE FINE ARTS BUILDING. Architects: Myller, Snibbe, Tafel, Lindholm—Edgar Tafel, associate in charge; Geoffrey Paine, project architect; engineers: Lev Zettin & Associates (structural); Peter Bruder (mechanical and electrical); consultants: Michael J. Kodaras, Inc. (acoustical); George C. Izenour Assoc. Inc. (theater); contractor: William L. Crow Construction Co.
The administration building for Geneseo College uses the sloping site, and the brick, concrete and metal common to all the new buildings, to produce a more monumental and focal structure set high on a terraced podium.

**ERWIN ADMINISTRATION BUILDING.** Architects: Myller, Snibbe, Tael, Lindholm—Roll Myller, associate in charge; Henryk Szwarc, project architect; engineers: William Atlas (structural); Wald and Zigas (mechanical and electrical); contractor: William L. Crow Construction Co.
Hofstra links old and new campus areas by a bridge—and forceful architecture

When Hofstra University planned the expansion of its small, quiet campus, it had the great windfall of obtaining a large tract of land no longer used by an adjoining airfield. However, the new tract was effectively cut off from the campus by a turnpike, which was also in the throes of being widened.

The architects turned the problem into a tour-de-force of planning and design, and not only tied the campus together, but established a totally new and infinitely more dynamic character to the entire establishment. The obvious answer of a bridge to span the turnpike was turned from an acceptable one into a highly successful one by using two major activity centers, the library and the student and dining center as the two entrances to the bridge. The strong architectural character of the two also unify the other buildings—old, new and to come.
The new library, which forms a sort of symbol and focal point for the expanded Hofstra campus, also injects the new, more powerful design idiom into the midst of the more reticent older buildings. Eventual demolition of a house facing the library will create an open quadrangle which will become the academic heart of the campus.

The unusual secondary function of using the library as part of the major circulation artery for pedestrians across the bridged campus, has proven quite successful. The bridge ramp is turned into a level, enclosed vestibule as it passes through the building; the main library facilities open off one side, and reserve book section opposite.

HOFSTRA UNIVERSITY LIBRARY, Hempstead, New York, Architects: Warner Burns Toan Lunde—Danforth W. Toan, partner in charge; Yung Wang, associate/design; Raymond F. Gunther, associate/project manager; engineers: Severud, Perrone, Fischer, Sturm, Conlin & Bandel (structural); Steinard, Piccirillo & Brown (electrical and mechanical); Eberlin & Eberlin (site); landscape architects: M. Paul Friedberg & Associates.
The interior layouts of the Hofstra library, which was programmed and planned by the architects in collaboration with Hofstra's librarian, Ellsworth G. Mason, have produced an ambience of quiet warmth and efficiency. Where appropriate, the concrete structure has been left exposed as ceilings, or as wall panels of texture left by the vertical rough-sawn form boards. These areas are complemented by the textures of soft-toned orange or green carpeting, panels of grained woods, and well designed furniture and fittings. Special study carrels, designed by the architects, can be combined into a variety of groupings.
Light is just as much an architectural material as bricks and mortar. Until recently, however, architects have not employed electric light with the same skill they have exhibited with other design elements. Fortunately this picture has changed for the better as the realization has grown that illumination does not automatically "happen." There is no magic that makes planes and shapes assume certain brightness values, accents and form envisioned by the mind's eye.

One reason lighting has only recently become a more integral part of the architect's design vocabulary is his over-concern with lighting as hardware. Attention has centered on what lighting fixtures looked like rather than how they performed.

The architect can help avoid lighting mistakes if in the very beginning of the design process he decides how he wants the space to appear. If he does, and communicates his ideas with his consultant for lighting, the range of techniques and equipment suitable for the purpose can be identified very simply. If, on the other hand, this decision is postponed, chances are that range of solutions will be considerably restricted—perhaps requiring complicated, expensive techniques.

The purpose of this article is to help the architect think about how he wants spaces to appear, and to present, in a general way, what his options are. The sketches on the first two pages suggest a variety of visual effects. If uplighting alone is used, for example, the space may be bland, monotonous and flat. High lights and shadows created by directional light help the viewer see and sense the volume and shape of a space. Light can direct a viewer's attention to a specific plane or object in a space. It can lead people through spaces by lighting specific areas of the floor, or draw them deeper into spaces by lighting vistas beyond. The chart that follows categorizes the basic lighting systems which can produce these, and other, effects. The numbers in the captions under the black-and-white sketches refer to systems given in the chart.

The intent is to stimulate thinking about lighting solutions but not to offer a catalog of effects keyed to specific space use.

Lighting effects generally suggested in the sketches can be produced by systems given in the fold-out chart. Numbers in captions are system types.

A General diffuse (globes) 15b
B Downlight fluorescent 18
C Wide uplights (saucers) 16c
D Wide downlights (domes) 16b
E Wall washers (3 walls), uplights 1,2,3,6,7,8,16,19,21
F Wall washers (3 walls), downlight 1,2,3,6,7,8,11,12,13,14,16b,18
G
Luminous ceilings, and possibly luminous walls
20,23

H
Wall washers (lt and rt walls), concentrating downlights, controlled uplights
1,2,3,6,7,8,11,12,19,21

I
Wall washers (rt wall), concentrating downlight
1,2,3,6,7,8,11

J
Wall washers (lt and rt walls), concentrating downlight
1,2,3,6,7,8,11

K
Wall washers (3 walls)
1,2,3,6,7,8

L
Wall washers (lt and rt walls)
1,2,3,6,7,8

M
Wall washers (rt wall), concentrating downlights, controlled uplights
1,2,3,6,7,8,11,12

N
Concentrating downlights, controlled uplights
11,19,21

O
Wall washers (rt wall), concentrating downlight
1,2,3,6,7,8,11

P
Controlled uplight (from left and right)
19,21

Q
Concentrating downlight
11

R
Accent light (picture framer)
22

S
Wall washers (rt wall), concentrating downlights
1,2,3,5,6,7,8,10,11

T
Wall washers (lt wall), accent lights 10 with directional shielding
22,11,6

U
Wall washer (valance)
9

V
Downlights (scalloping)
11,12

W
Up-down wall brackets (scallops)
4

X
Accent lights (on objects)
22
A.I.D. award-winners show a thoughtful, sophisticated approach

A six-man jury, including two architects, chose 14 "original designs in the modern manner" as award winners at the 23rd Annual International Design Awards program sponsored by the American Institute of Interior Designers early this year. Here are some of the winners:

Olivier Mourgue's freely shaped chaise longue has a frame of steel tubing that supports rubber webbing and synthetic foam over which spans a two-way stretch fabric that is zippered. The manufacturer is France's Airborne International; importer is George Tanier, Inc.
Circle 300 on inquiry card

A chair designed by Verner Panton and manufactured by Herman Miller is made of a single unit of molded fiberglass with contours that suggest modern sculpture. It may be ivory, red or blue.
Circle 301 on inquiry card

A planter bench designed by Elsie Crawford and manufactured by Architectural Fiberglass presents a fresh approach to street furniture. The bench is made of chopped glass fibers impregnated with resins and is reported to be virtually maintenance-free.
Circle 302 on inquiry card

Joe Colombo's sleek floor lamp has a metal shade that adjusts to any height and tilts to beam sideways. The manufacturer is Ostuni O-Luce and the importer, George Kovacs, Inc.
Circle 303 on inquiry card

Kaleidoscope by Design Studio is being produced in vinyl floor covering by the Amtico Flooring Division of American Biltrite Rubber Co., Inc.
Circle 304 on inquiry card

Window-walls made of glass units that contain sculptured relief surfaces and fired-on black ceramic frit suggest the fluid qualities of a hand-molten glass screen that changes with each shift of light. Peter Muller-Munk Associates are the designers of this Pittsburgh Corning Corporation product.
Circle 305 on inquiry card

more products on page 184d
CONCRETE / “Manual on Architectural Concrete” is a 152-page paperback book prepared by Morris Liebeskind, principal engineer for the Board of Education of the City of New York. This third in a series is intended to assist “in the preparation of plans and specifications and inspection work for School Buildings, which include Architectural Concrete.” This manual includes important items pertaining to architectural concrete and covers such areas as cost, esthetics, construction, manufacturing, atmospheric conditions, and time of year for construction. It highlights possible problems and difficulties and lists guidelines. Checks of $2 should be made payable to the Board of Education. ▪ Morris Liebeskind, Office of School Buildings, 28-11 Bridge Plaza North, Long Island City, N.Y. 11101.

CEILING SYSTEMS / New 40-page version of Ceiling Systems Reference File includes full information on Acoustical Celotex products, UL time-rated assemblies, incombustible systems and Celoflow ventilation, and air distribution systems. Full-color photos show varied installations. ▪ The Celotex Corporation, Tampa, Fla.*

WALLBOARD SYSTEMS / 32-page manual features detailed information on the most popular systems of drywall construction. Data compares partition and floor/ceiling assemblies in the areas of fire resistance, sound control, thickness, weight and cost. ▪ The Celotex Corporation, Tampa, Fla.*

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For more data, circle 87 on inquiry card

CHURCH LIGHTING / “Light in Churches” is a 26-page brochure that describes in text and illustration the technology of modern engineered lighting and gives insight into the esthetic demands of church illumination. “The aim is to provide a broad look at the most recent and modern advances in the lighting of church, temple, shrine, synagogue, chapel or basilica.” Four types of light—utilitarian, festive, accent, and architectural—and the specialized lighting fixtures presently used to generate them effectively are delineated. $1 ▪ The Rambusch Company, 40 West 13th Street, New York City 10011.

SOUND CONTROL / Twenty different sound-insulating partition systems using wood framing are described in an 8-page booklet. The booklet explains that wood-framed wall partitions can readily be made effective sound barriers and can be installed economically in both high-rise and low-rise buildings. The stud-wall systems included were developed by seven different companies and associations, and all were laboratory tested. ▪ Western Wood Products Association, Portland.

NOISE CONTROL SILENCERS / “A Solution to the Noise Control Problem” is a 6-page bulletin that explains the advantages of using dynamically rated prefabricated duct silencers to control air handling system noise. Bulletin gives instructions for selecting such silencers. ▪ Industrial Acoustics Company, Inc., Bronx, N.Y.

*Additional product information in Sweet’s Architectural File

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ARCHITECTURAL RECORD March 1968
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PRODUCT REPORTS

continued from page 177

ELECTRONIC DESK / The V.I.P. is a complete electronic center with a walnut and steel double pedestal desk. The console contains the following: all-transistor AM/FM clock radio, built-in portable cassette tape recorder that operates on AC/DC current or rechargeable batteries, all-transistor UHF and VHF television receiver with closed-circuit adapter, high-intensity lamp that swivels and tilts, AC outlet located in miscellaneous storage compartment, digital calendar, memo compartment, telephone index in a compartment, and pen and pencil set. • Interstate Industries, Inc., Chicago.

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more products on page 189
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DIAL CONTROL / The volume of air delivered by an air conditioner may be selected to an infinitesimal degree with a dial. Controls employ "solid state" components, and ac motors provide smooth transition from one speed to another. The only moving part is a "volume control." — Friedrich Refrigerators Inc., San Antonio, Texas.

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198 ARCHITECTURAL RECORD March 1968
ALUMINUM REDESIGNS / New standard structural I-beams and channels of extruded aluminum have been designed to take advantage of the fact that they are extruded and that they are made of aluminum. The new designs, all for Alloy 6061-T6, include wider flanges for improved section properties, straight flanges for simplified joining and flanges of equal thickness for I-beams and channels of same height to permit easier joining. The 15 new I-beams range in size from 3 in. to 12 in., the 20 channels from 2 in. to 12 in. The photos show the old standard shapes on the left and the new on the right. • The Aluminum Association, New York City.

STEEL COATINGS / Nycon steel coating resists dirt and stain penetration, is unaffected by wear and surface abrasion, and will not chip or craze. It is reported resistant to most acids and alkalies and will not support bacteria and fungus growth. The surface is self-extinguishing and will not support combustion. Nycon is available in a wide range of colors in an orange peel texture that diffuses light and eliminates glare. • Desco International Association, Buffalo, N.Y.

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Smooth-spun aluminium orbs are designed for indoor applications where PAR and R lamps must be concealed in clean, decorative housings. The fully adjustable fixtures accommodate conventional incandescent, cool beam and tungsten halogen lamps in 75 to 100 watt sizes for mood, general-purpose or display lighting in churches, museums, art galleries, banks, restaurants, lounges, hotels and commercial applications where items must be showcased with precise color fidelity. Also included in the complete line are special-purpose low-voltage pencil-beams for pinpoint accent spotting and 100 watt and 175 watt long-life mercury floods. Fixtures are available in epoxy painted or brushed metallic finishes, flush or pendant mounted, with or without integral louvers, color lenses, ballasts or transformers • Stonco Electric Products Company, Kenilworth, N.J.

CIRCLE 316 ON INQUIRY CARD

SLIM TILES / These tiles, 9¾ in. by 2¾ in. with ½-in. thickness, may be used for both interior and exterior applications. The tiles, which are manufactured in West Germany, are reported impervious to the elements and are available in 11 colors. • Latco Products, Los Angeles.

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more products on page 236

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LIGHTING / Contemporary lamps and lighting make up an 86-page catalog for 1968. • Koch & Lowy Inc., New York City.

Circle 410 on inquiry card

BUILDING PRODUCTS / Three brochures give information on roof insulation, expansion joint cover, and aggregate. The 8-page Permalite Sealskin rigid roof insulation board catalog gives full listings of approvals and physical test data. The 4-page brochure on Metalastic, metal-butyl insulated expansion joint cover, contains detailed perspective drawings showing installation and explains the superior performance and extra long life claims for the prefabricated cover. The 8-page Permalite perlite brochure describes the uses and is illustrated with drawings, charts and tables. • Greco, Inc., Chicago.*

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CORRUGATED PANELS / A 12-page booklet on Kayrex (steel reinforced rigid vinyl) corrugated building panels explains various industrial and commercial installations—roofing and siding—where a combination of non-combustibility, high strength and load bearing characteristics, and light transmissions or opacity are required. • Kaykor Products Corporation, Yardville, N.J.

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STEEL / "The Modern World of Hot Dip Galvanized Steel" is a 16-page booklet that describes and illustrates highway, architectural, bridge, structural and other applications of after-fabrication hot-dip galvanizing. Such recent developments as galvanized reinforcing steel for concrete construction are discussed. • American Hot Dip Galvanizers Association, Washington.

Circle 413 on inquiry card

ELECTRICAL WIRING / A 16-page booklet discusses how modern buildings are solving their electrical wiring problems by running power and telephone lines through the hollow cells of precast concrete floors. • The Flexicore Co., Inc., Dayton, Ohio.*

Circle 414 on inquiry card

SCHOOL INTERIORS / Eight-page brochure illustrates Vicrtex V.E.F. wallcoverings in a range of locations such as classrooms, corridors, and cafeterias. • L. E. Carpenter and Company, Inc., New York City.

Circle 415 on inquiry card

* Additional product information in Sweet's Architectural File

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mcPhilben brings you a fixture of great structural strength whose clean rectilinear styling blends naturally with the most contemporary architectural concepts. Heavy wall aluminum construction combined with an unbreakable polycarbonate diffuser creates a virtually indestructible unit. A clear prismatic acrylic diffuser is standard for normal applications. Fully enclosed and gasketed, the 97 Line keeps out water under pressure, vapors, bugs and grease. Your choice of one or two lamp units with ballasts for starting temperatures as low as -20°F. Varied mountings available.

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which include installation of

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Write for "The Modern World of Hot Dip Galvanized Steel"

American Hot Dip Galvanizers Assn.
1000 Vermont Ave., N.W., Washington, D.C. 20005

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METAL BAR GRATING / Manual gives essential current technical data on bar gratings and stair treads of both steel and aluminum. The 24 pages reflect engineering principles and practices recommended by leading manufacturers. • National Association of Architectural Metal Manufacturers, Chicago.

Circle 416 on inquiry card

ARCHITECTURAL MODELS / “Professional Model Building Materials” is a 12-page catalog explaining various units. It includes finished trees, tree structures, and two-dimensional trees; there are vehicles, foam contours, covering materials, furniture and printed and patterned surfaces; and there are people, both cast and silhouetted. • Architectural Models, Inc., San Francisco.

Circle 417 on inquiry card

DRINKING FOUNTAINS / Catalog of stainless steel units presents fully recessed and semi-recessed, floor mounted and wall hung coolers. There are also sections on classroom sinks and faucets and fittings. • Elkay Manufacturing Company, Broadway, Ill.*

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TRANSLUCENT WALL-ROOF SYSTEMS / Two catalogs in four colors describe translucent wall and roof systems. The 8-page wall system and the 4-page roof system catalogs discuss use of the translucent panels in schools, factories, churches, office buildings and other structures. • Kalwall Corporation, Manchester, N.H.*

Circle 419 on inquiry card

PANEL FENCE / A 6-page color booklet introduces aluminum privacy panels, which could not only give privacy to the yard, but actually add to the surroundings. The booklet explains that vertical ribs and end caps prevent flexing or warping of the panel and the baked-on finish is reported never to require painting. Photos show several attractive installations. • Nichols Wire & Aluminum Company, Davenport, Iowa.

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SWIMMING POOL DESIGN / Extensive (over 100 pages) Design and Engineering Manual covers all phases of swimming pool planning and construction. This 1968 edition contains the newest development in equipment, design criteria and code requirements. • Paddock Seabuild, Inc., Dallas.*

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