PROGRESSIVE ARCHITECTURE *February 1967*

# Meet the floor that's tough on the top, soft on the bottom, great on the feet.

## New Armstrong Cambrian Vinyl Corlon

**Comfortable.** Here's a dramatically different type of resilient floor for commercial and institutional buildings. Underneath its handsome heavy-duty vinyl surface is a thick layer of foamed vinyl called Cushioncord that makes Cambrian Corlon delightfully comfortable to walk on. It gives beneath your feet—cushions every step.

**Durable.** For all its light-footed comfort, Cambrian Vinyl Corlon is so tough, even spike heels won't permanently dent it. It's engineered to provide years of hard-wearing service. For example, floors of Cambrian Corlon were installed in heavy-traffic areas of a model home constructed by the Springs Mills Inc. in Wagram, North Carolina. Springs Mills officials report that after more than 100,000 people toured the home over a four-week period, Cambrian showed no evidence of wear whatsoever.

**Quiets foot traffic.** Cambrian's foamed vinyl cushion absorbs impact noise, too, so a Cambrian Corlon floor is as quiet as it is comfortable. It also substantially reduces the amount of impact noise transmitted between floors of multistory buildings.

**New installation technique seals seams.** To ensure complete satisfaction, Armstrong has schooled over 5,000 flooring contractors and mechanics in a new seam-sealing process developed exclusively for Cushioned Vinyl Corlon. To begin with, this material is installed in 6-foot-wide rolls, so seams are minimized. And where there is a seam, it's sealed by this special installation technique. (Spilled water can't seep in.)

**Easy maintenance.** Cambrian's sealed seams and nonporous vinyl composition keep dust and dirt at the surface where they can be easily removed with routine resilient floor maintenance.

**Distinctive design.** Cambrian has thousands of stone-like vinyl chips set in a bed of translucent vinyl. It has a richly textured surface and comes in eight different decorator colorings.


**For samples and technical data on Cambrian Vinyl Corlon,** write Armstrong Cork Company, 302 Watson St., Lancaster, Pa. We'll also send you copies of new studies of comparative use costs of resilient flooring versus carpet. One presents data compiled through independent research by the Wharton School of Finance and Commerce, University of Pennsylvania. Another, "A Fresh Look at Flooring Costs," is based on 113,000,000 square feet of floors installed in commercial and institutional buildings. For personal assistance on any flooring need, contact the Armstrong Architect-Builder-Contractor Representative at your Armstrong District Office.

**Specification data on Cambrian Corlon:** *composition:* vinyl chips embedded in translucent vinyl surface, on foamed vinyl, Cushioncord backing. *Gauge:* nominal .175". *Surface properties:* excellent impact and indentation resistance (200 psi); good resistance to grease, chemicals, alkalis. *Available in:* 8 colorings, in 6'-wide rolls up to 75' long. *Installation:* above, on, and below grade. *Cost:* $1.35 to $1.50 sq. ft. installed.

Armstrong

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On Readers' Service Card, Circle No. 318

# THIS MONTH IN P/A

*Progressive Architecture* ® *February 1967*


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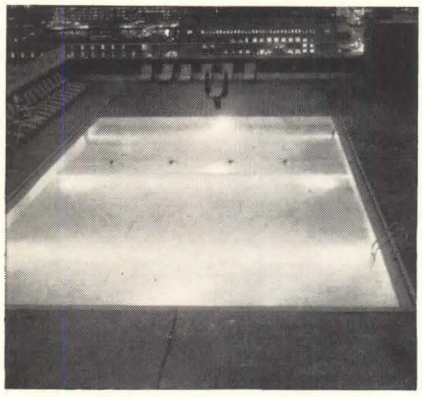
 INDEXED IN ART INDEX, ARCHITECTURAL INDEX, SECOND-CLASS POSTAGE PAID AT NEW YORK, N.Y., AND AT ADDITIONAL OFFICE. VOLUME XLVIII, NO. 2.

A four-pipe system isn't always the answer.

# Want extra space for a pool and a garage?



Then consider a General Electric Zoneline heating/cooling system. The way architects Nowicki & Pollilo did with the William Penn House, Philadelphia, Pennsylvania, shown here.

G-E Zoneline gives you all the benefits of a four-pipe system. But, because it does away with pipes, ducts, boilers and cooling towers, it frees space—for a garage in the basement or a pool on the roof or both.

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**FIRST COST** can be cut drastically. The General Electric system used for William Penn House was much less than estimates for a four-pipe system.

**ROOM-BY-ROOM CONTROLS** enable a tenant who is chilly to turn on the heat, even though everyone else has the air conditioning on.

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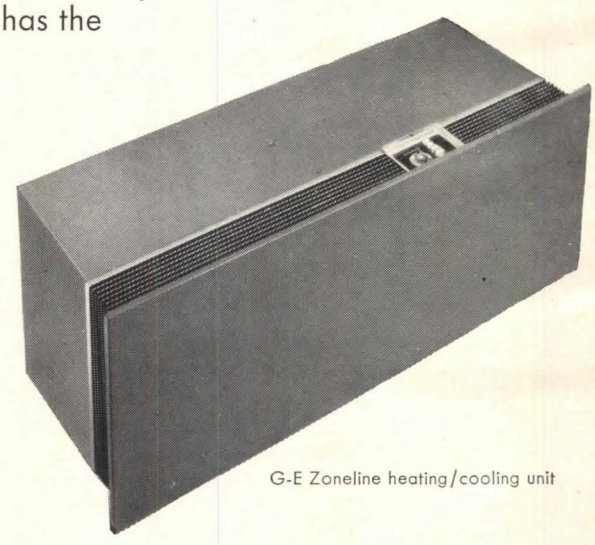

G-E Zoneline heating/cooling unit

Air Conditioning Department, Appliance Park, Louisville, Kentucky

**GENERAL ELECTRIC**

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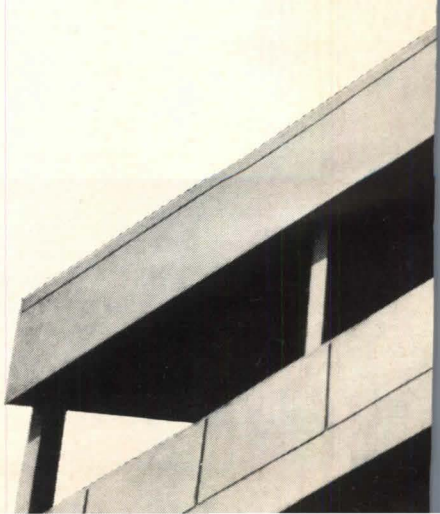

Owner: William Penn House, Inc.
Architect: Nowicki & Pollilo
General Contractor:
E. J. Frankel Enterprises

# VIEWS

### *Toward the Third Millennium: Our Readers Comment*

Dear Editor: I have just read the DECEMBER 1966 P/A. I hold it to be perhaps the most significant piece of publishing work on the part of an architectural magazine for a long time.

DAVID M. SCOTT
Chairman, Department of Architecture
Washington State University
Pullman, Wash.

Dear Editor: Future scientists as well as architects should know where they are *now* and try to visualize where they are going. As a teacher of chemistry, I find your most unusual, comprehensive, and up-to-date issue worthy of being placed on the "outside reading" list any day. Congratulations on an issue very well done.

WENDELL G. MARKHAM
Downey, Calif.

Dear Editor: The December issue was a rare example of editorial courage — at least for an architectural journal. You fearlessly cast aside two cherished assumptions by those who write for or to architects: that architects don't read; and that they don't care much for "think pieces" — particularly those that attempt to assess the implications of science and technology.

If the architect has really learned to read and think, as you seem to believe, perhaps once more he will be able to say with truth *humani nihil a me alienum puto.*

SILAS SNIDER
New York, N.Y.

Dear Editor: I don't believe I have anywhere seen a more succinct, more carefully researched and assembled, more exhaustive account of what is happening in the world of the late 20th Century than in your issue "Toward the Third Millennium." Surely, if the potential of today is to be realized in such a way as to allow the simultaneous realization of the full potential of mankind, then what is needed first and foremost is an educated and aware public. It is in this latter role of bringing to the attention of a wide and influential audience the possibilities and problems that face us in the years ahead that you have performed a vital service.

PETER LEBENSOLD
Editor, *Take One*
Montreal, Canada

Dear Editor: Congratulations on your extremely interesting and provocative December issue.

LEONARD F. LANE
Berkeley, Calif.

Dear Editor: Your December issue was excellent. But the architect must still retain his nonscientific direction.

JOE ESPASZA
San Francisco, Calif.

Dear Editor: The issue, from cover to cover, is precious. I am sure it will shape the thinking of a lot of people constructively.

LEV ZETLIN
New York, N.Y.

Dear Editor: To Lev Zetlin's declaration, "The arch is dead," I should like to add: "The arch is alive" — very much so, and will stay so. The most widely known archbuilder is nature itself. One hardly needs or wants always a "downward" curvature for a roof or ceiling; nor is material good in compression only to be discarded.

GUSTAV FLORIN
Boalsbur, Pa.

Dear Editor: I found "Toward the Third Millennium" the most stimulating series of articles I have read in an architectural magazine. My congratulations.

MALCOLM S. WEISKOPF
Chicago, Ill.

Dear Editor: "Toward the Third Millennium" is truly a brilliant piece of journalism. It is complete in its scope, beautifully conceived and designed, and written with a refreshing absence of esoteric gobbledygook. In fact, you and your staff have just created one of the best required-reading items for architectural students. Come to think of it, the articles may also help educators and even administrators of architectural education understand what some of the brighter students are talking about.

S.C.A. PARASKEVOPOULOS
Professor of Architecture
The University of Michigan
Ann Arbor, Mich.

Dear Editor: Congratulations! The December issue is an extremely interesting and thought-provoking synthesis of our world and the knowledge that relates to it.

You and your staff have done a magnificent job.

DONALD E. NEPTUNE
Pasadena, Calif.

Dear Editor: Congratulations on your scholarly discussion in the December issue. It represents a monumental job well done.

RALPH SWEINBERGER
East Lansing, Mich.

Dear Editor: Your December issue was a marvelous Christmas present for the entire profession. Let me hasten to assure you that we have read it from cover to cover.

RONALD BECKMAN
Providence, R.I.

Dear Editor: I am an architectural student and have just finished your excellent issue, "Toward the Third Millennium." Hurrah for this type of literature! It is one of the most interesting I have ever read. I certainly hope that, in the future, more articles of this orientation will abound.

I appreciate very much your efforts in putting together this issue. Please give us more.

DARRYL WALLY
Raleigh, N.C.

### *The New York Times Views the News*

Dear Editor: While this may be a belated moment to comment on the interesting and constructive review of *The New York Times Book of Interior Design* and *The New York Times Guide to Home Furnishing* (SEPTEMBER 1966 P/A), the issue has just come to my attention. In it is one statement which, for the record, must be corrected. The review says, "New Yorkers, furthermore, will be irritated by the parochial view of department stores, which is regulated by the *Times*' advertising (Macy's advertises in the *Times* but not Gimbels, which has therefore been excluded from this book preemptorily)."

Nothing could be further from the truth. Advertising linage has nothing to do with either the editorial content of the *Times* or material in books produced and sponsored by the *Times*. As an indication of how far wrong the sentence in the review was, Gimbels has used 1,694,304 lines of advertising in the *Times* in 11 months of this year, second only to Macy's among all New York stores, in the amount of space used in the *Times* columns.

IVAN VEIT
Vice-President, *The New York Times*
New York, N.Y.

### *Effects of Human Crowding*

Dear Editor: I have read with some interest your article on the effects of human crowding (p. 47, DECEMBER 1966 P/A).

Fifteen years ago, I started studying people's handling of space and discovered that the participants of different cultures used their own characteristic distances during interpersonal encounters. These distances often do not match, and can be demonstrated to result in rather serious miscuing (a fact that had not been generally recognized at the time). It soon became apparent that such built-in spatial paradigms also relate directly to the size and arrangement of furniture and, ultimately, to the shell enclosing the transaction. Continued research has revealed

*Continued on page 10*

# KNOB APPEAL

gives a door a whole new personality. A well-rounded one. (Even the keyway's ounded.) It's also the toughest lock on the block. Because deep-down (right o the core) it's very security minded. It's the kind of appeal that wins friends... nd dissuades enemies.

openhagen key-in-knob design in Yale Mono-Lock.

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***Is carpet of Herculon the most brilliant advance in contract carpet today?*** Yes. And it's available at the best carpet mills in the country.

***What is the name of Mr. Fitzmorris' secretary?***
(Sorry we cannot reveal that classified information)

But for anything else you want to know about commercial carpets of Herculon or for a free copy of the new Architect/ Designer's Guide to Carpet of Herculon, simply call, write or visit Fibers & Film Department, Hercules Incorporated, 380 Madison Avenue, New York, N.Y. 10017. OX 7-0010.

**Is there a carpet that has all the answers? Yes.**

# Since when? Since Herculon.*

**The No. 1 polypropylene fiber for contract carpets.**

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FT 66-19

*Continued from page 6*

new and increasingly relevant dimensions to this subject.

As I pointed out in my book *The Hidden Dimension*, what we are dealing with here is one aspect of a population-control mechanism or feed-back loop in which there is an intimate relationship between the quality of the space surrounding each individual and his capacity to create and even survive. This calls for a radical shift in the architect's approach to programming. Until these nonexplicit, multisense human extensions of man's mind and body become an everyday consideration in programming, architecture will continue as only one facet of aesthetics.

P/A is to be congratulated for featuring this new research on space, and it is hoped that architects and planners will take the lead in helping to create new, exciting, meaningful environments that are designed for people.

EDWARD T. HALL
Chicago, Ill.

### *Product Promotion*

Dear Editor: I read with interest your comments to M.D. Post, Manager of Public Relations, Bethlehem Steel Corporation (p. 6, DECEMBER 1966 P/A). I personally disagree with your viewpoint regarding the establishing of a brief general term for an increasingly used product in order to eliminate confusion.

One of the basic premises of good commercial practice in promoting the product or products of a company is to establish and promote through all types of media a brand name for a specific product. This is the one and only true way a company has at its disposal to differentiate its product from a competitor's. To establish brand preference is mandatory to survival in this competitive world. I know Mr. Post would agree with this.

ROBERT M. MILLS
Pittsburgh, Pa.

### *Frank Lloyd Wright and Anti-Semitism: Two Views*

Dear Editor: I am impelled to comment on Peter Collins' review of "A Study of Frank Lloyd Wright" by Norris Kelly Smith, which appeared in the OCTOBER 1966 P/A.

The very title of the review, "Frankleudreit," is a snide allusion to its theme, which is that Wright was an anti-Semite and Germanophile; and that his philosophy derived from German sources. This is so preposterous and contrary to fact that it must be exposed as the specious, apparently malicious attempt to appear clever and erudite by sullying a great man's reputation.

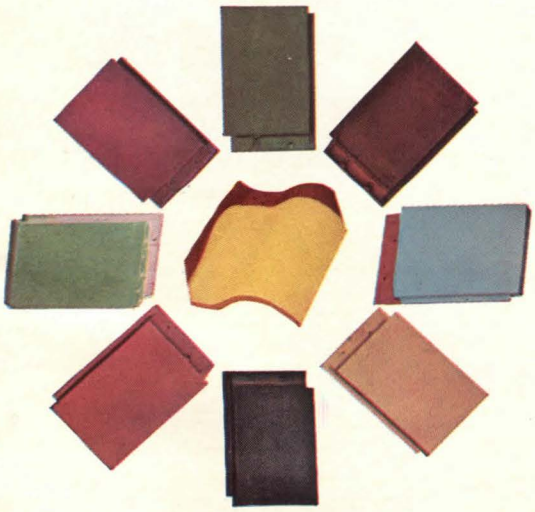
The reason for my undertaking to refute Professor Collins is that I was a charter member of the Taliesin Fellowship in 1932; that my association has continued until the present, with at least part of each year spent at Taliesin; and that, in collaboration with W.W. Peters during those years, I performed engineering calculations for Mr. Wright and continue to do so for the Taliesin Associated Architects. I am a Jew. My wife and children are Jewish. Mr. and Mrs. Wright accepted us as nonpaying members of the Fellowship following an interview. After the first year, I requested and received payment for my work at the going rate through the years. My wife, my children, and I were welcome as guests at Taliesin whenever we came. I could not have concealed my "Jewishness" even if I had wanted to. I was never conscious of any anti-Semitism.

There were many Jewish apprentices at Taliesin from the first year of the Fellowship to the present. Mr. Wright's headquarters in San Francisco for years have been in the office of Aaron G. Green, with both Mr. Wright's name and the red square on the same panel with that of Mr. Green, who is Jewish. Mr. Wright could have had his pick of offices.

Collins gratuitiously mentions the fact

Imperial House, Dallas, Texas
**Architect:** George L. Dahl, Inc.

# "Imperial House" of Dallas... Outstanding Architectural Creation with Ludowici-Celadon Roofing Tile



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that Adler "was the son of a rabbi," the only purpose apparently being to underscore Adler's "Jewishness"; but this had no effect on the warm personal and professional relationship between the three men. Collins mentions Wright's "taught" reference to Rabbi Hirsh among the "conclusive" evidences of anti-Semitism. Here is the quotation from the *Autobiography:* "Monday night I had gone to Uncle Jenkin to spend a few days at the parsonage. Interesting people came there to dine. Dr. Thomas, Rabbi Hirsh, Jane Adams Mangasarian and others. I enjoyed listening." What is anti-Semitic in that?

Collins refers to Wright's "offensive description of Oppenheimer." I don't know what that was; but I am sure, if offensive, it was because of Oppenheimer's connection with the development of the atomic bomb. I have heard Wright's characterizations of gentiles, high in government, whom he held responsible for our involvement in war, and they were very unflattering.

Collins tries to place Sullivan under the "anti-Semitic" blanket because he referred to his partner Adler as a "short-nosed Jew." Had Adler been a "long-nosed Irishman" — Eamon de Valera, for example — would that made Sullivan "anti-Irish"? What nonsense! Both Sullivan and Wright speak of Adler with the highest admiration and respect.

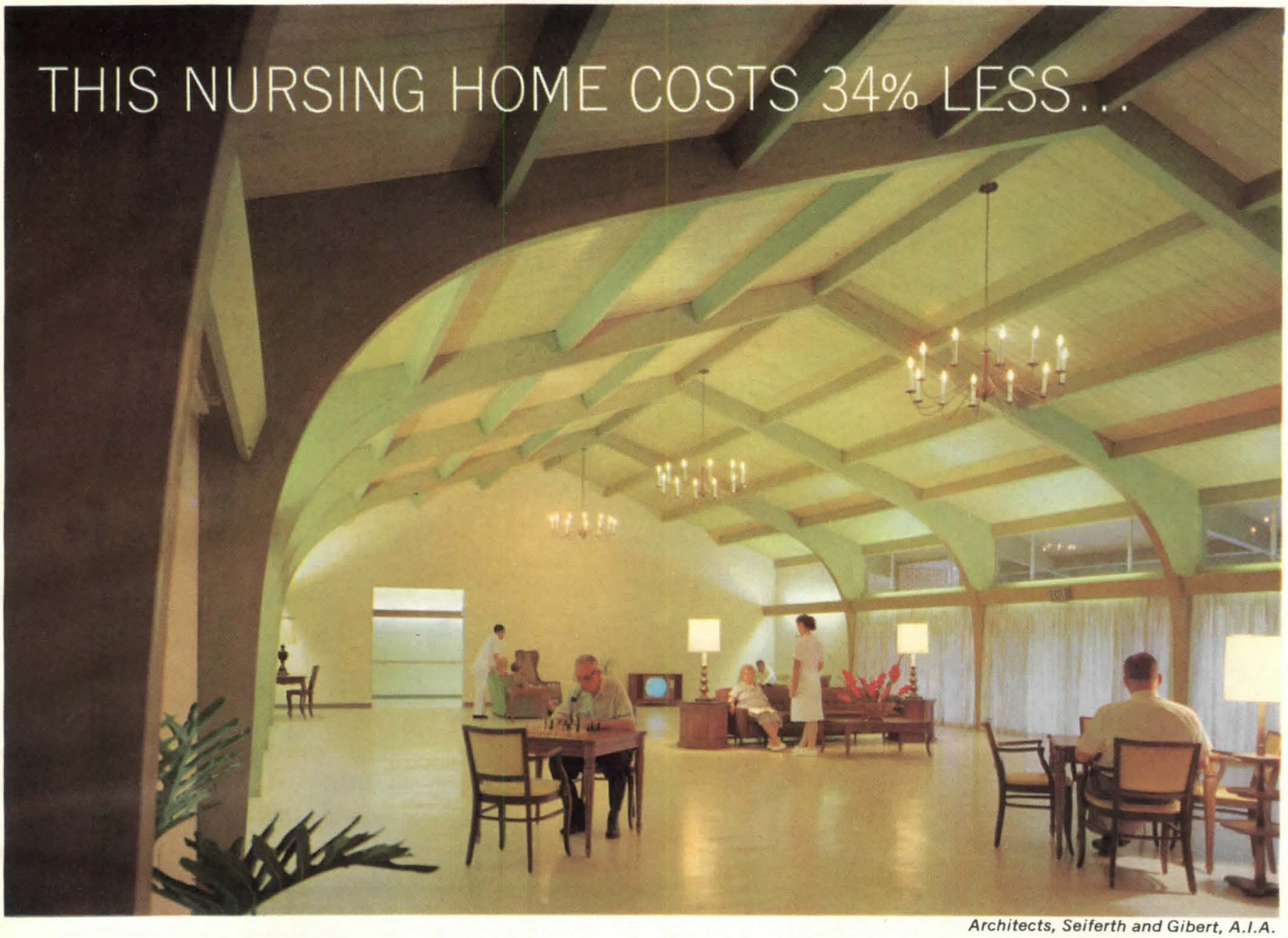
Collins takes issue with author Smith's thesis that both Wright's and Sullivan's romanticism are best characterized by the difference between the ancient Hebrew and the Greek "conceptions of being" — that of the Greeks, static and impersonally rational; that of the Hebrews, dynamic "in the direction of some living purpose." A similar view point is expressed by Vincent Scully in his *Frank Lloyd Wright.*

Smith quotes both Sullivan and Wright to show that they rejected the Greek concept of form and beauty; and uses the metaphor "Wright, on the other hand, thought in Hebrew," then follows with a quotation from the *Autobiography.*

Collins takes the metaphor out of context and states, "Professor Smith concludes that *Wright thought in Hebrew*" — italicizing the last four words, intentionally giving a false meaning to the author's thoughts.

He continues with a *melange* of "arguments" in an apparent attempt to show that Sullivan and Wright, though "primarily stimulated" by Jewish intellectuals, were in reality influenced by a "century-old synthesis of German mystical and philosophical beliefs"; that, essentially, the influence was that of "*Germans*

*Continued on page 16*




*Architects, Seiferth and Gibert, A.I.A.*

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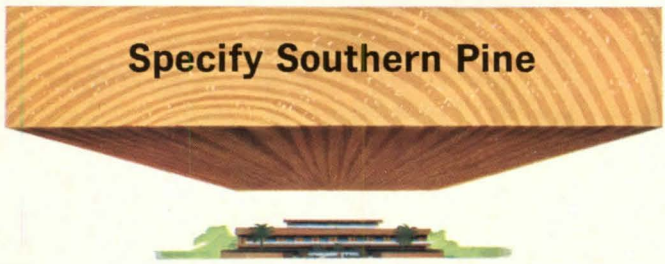
Pre-shrunk Southern Pine is utilized for partition, wall and roof framing throughout the expansive complex. Cost—exclusive of land, fees, furnishings and site improvement—is $13.94 per square foot and $5,878 per bed—34% less than $8,960 per bed average for 25 other nursing homes built in 1965, as reported by the U. S. Public Health Service.

The Southern Pine framework, approved by FHA, Federal Medicare authorities and the State Board of Hospitals, has structural safety—important in this area where hurricanes can be so destructive. Use of a sprinkler system brought a 58% reduction in fire insurance rates.

MORE INFORMATION:—A special folder giving complete details is available. Write: Southern Pine Association, P. O. Box 52468, New Orleans, Louisiana, 70150

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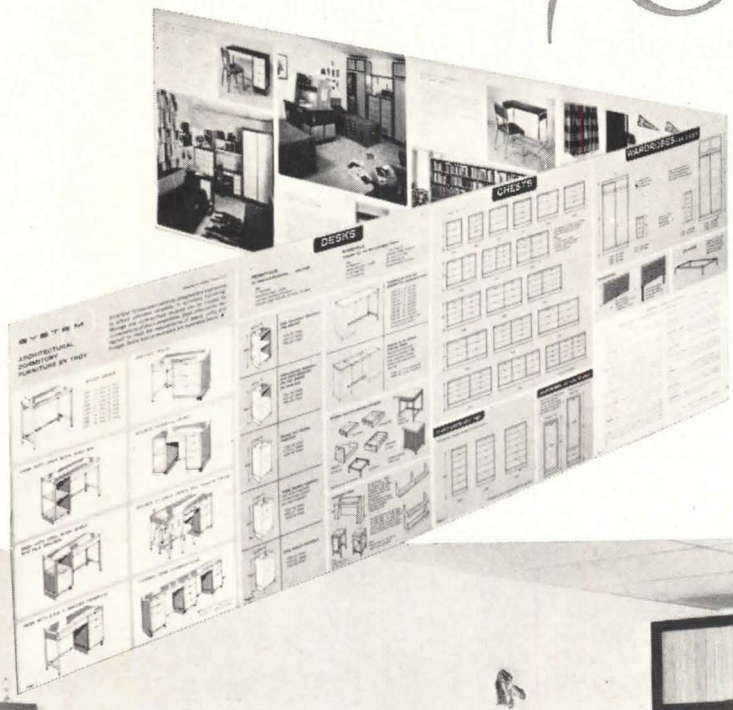


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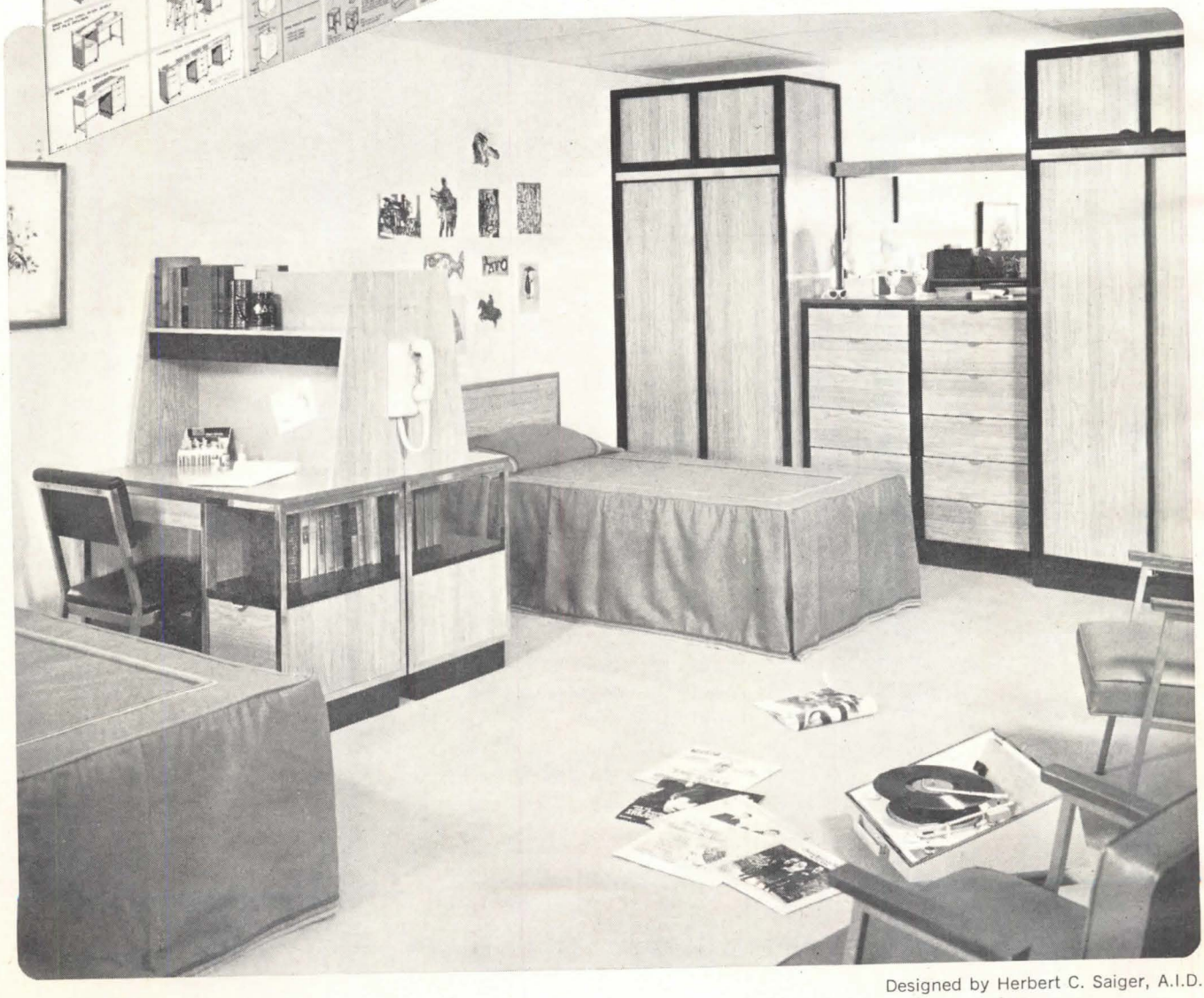

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Stanley hinges were the ones chosen? Stanley Hardware, Division of The Stanley Works, New Britain, Connecticut. **STANLEY**

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*Continued from page 12*

whether of Jewish or Gentile blood." Karl Marx, he adds, "thought and wrote in *German*." The relevance of this revelation escapes me. Who can say how much influence the Old Testament had on the thinking of German philosophers, Jewish and gentile? And what of relevance to Smith's proposition as to the definition of romanticism?

As final "proof" of Wright's philo-Germanism, Collins recounts Wright's departure for Europe in 1909, when he "handed over his practice to 'a German-born architect'" and "went straight to . . . Berlin."

Wright had Marion Mahoney and Burley Griffin, talented and familiar with his work; to have left office management to them would have resulted in chaos. Marion Mahoney had worked for von Holst. Better let a stolid, systematic German handle the office routine and the others complete the work — as they did.

Berlin was Wright's first stop in Europe because the Wasmuth Folio "needed editing and comment by Wright himself. Wright's presence in Berlin had become a necessity" (Grant Munson). Wright then went on to Italy.

Far from "pulling the rug from under" all that has been published "in honor of the Master," as Collins asserts, *Smith's* book is one more addition to the great volume of critical and historical testimony to Frank Lloyd Wright's power and influence as a force for human values and poetic content in architecture.

MENDEL GLICKMAN
Norman, Okla.

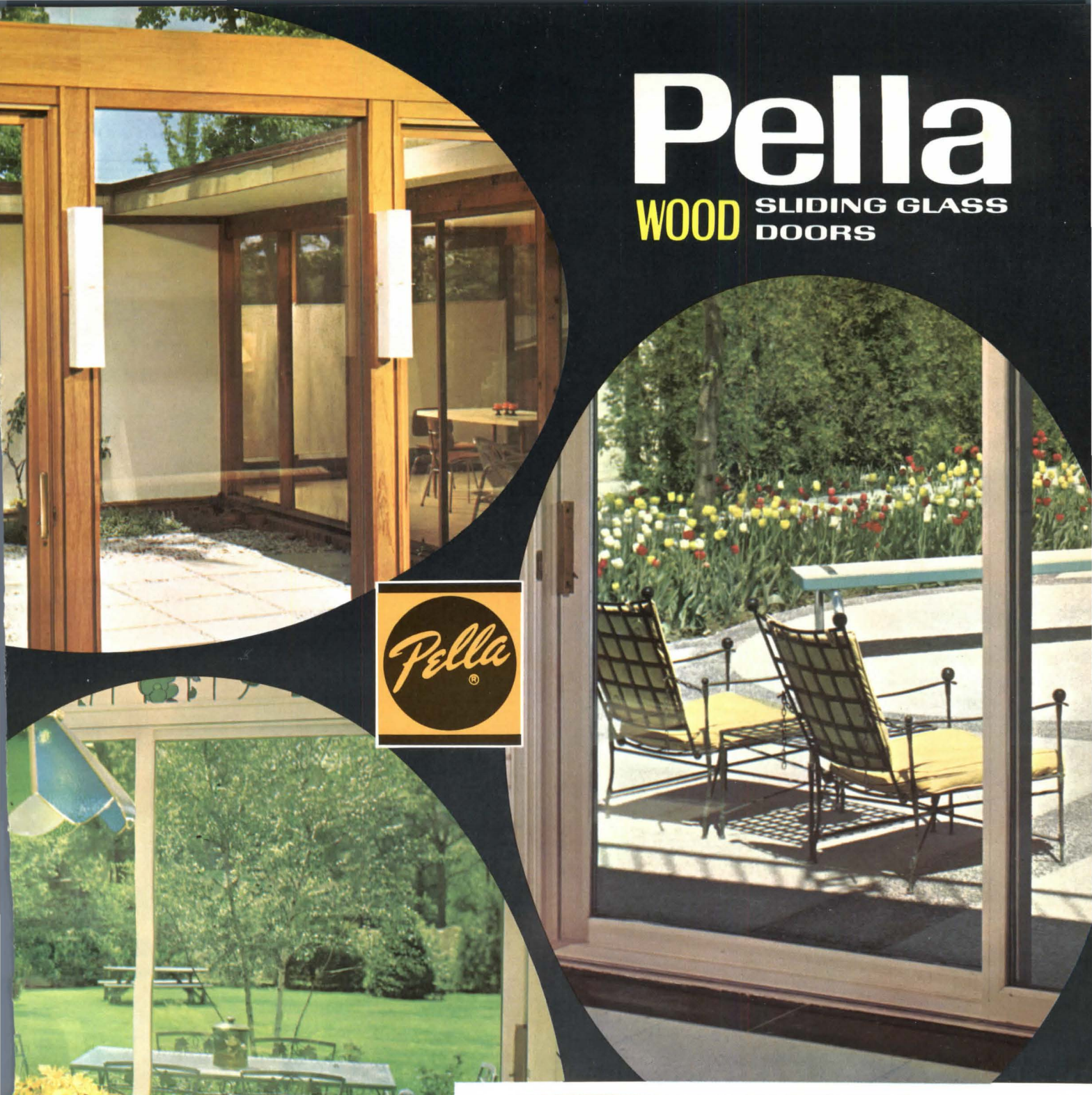
### *Professor Collins Replies:*

If Mr. Glickman really considers that I was maliciously sullying a great man's reputation by implying that he was a Germanophile, then his own Germanophobia must be almost pathological. But in fact I simply stated that, in my opinion, the intellectual influences on Wright's architectural thought were not Hebrew (as Professor Smith seemed to be demonstrating in the book under review) but German. Old Testament influences on Protestant ideals may well have exerted a strong effect on Wright during his childhood; but if Mr. Glickman really thinks that the philosophy expounded on page 148 of the *Autobiography* justifies Professor Smith's assertion that "Wright thought in Hebrew," he should consult a dictionary of Old Testament Hebrew (not a modern Israeli dictionary), and discover for himself whether "organic plasticity" is of Semitic or Indo-European origin.

Oppenheimer was not, of course, the famous scientist, but the draughtsman in Adler's office with whom Wright had the fight described on p. 101 of the *Autobiography*.

I am not sure what Mr. Glickman is so fervently trying to demonstrate by libelously asserting that I was "intentionally giving a false meaning to the author's thought." But if he is at all interested in what I was trying to explain, it is the — to me — interesting idea which emanates from Professor Smith's masterly book: Namely, that the origins of the "Modern Movement" seem essentially Teutonic. In other words, the common notion that it derived from American, French, Swiss, German and Scandinavian ideas, etc., may well, thanks to Professor Smith's insight, give place to a truer notion whereby all these ideas are seen to originate in German Transcendentalism. That is why I alluded to Karl Marx; for the fact that his father, by becoming a convert to Christianity, cut himself off entirely from those Semitic *linguistic* influences which form such an important part of Professor Smith's thesis, seems to demonstrate also that what Adolf Hitler considered Jewish ideas were, paradoxically, essentially German.

PETER COLLINS
Montreal, Canada



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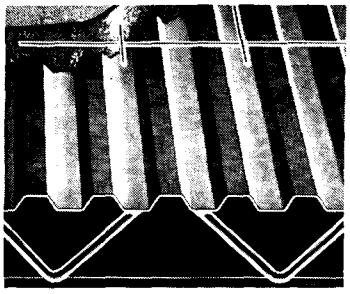

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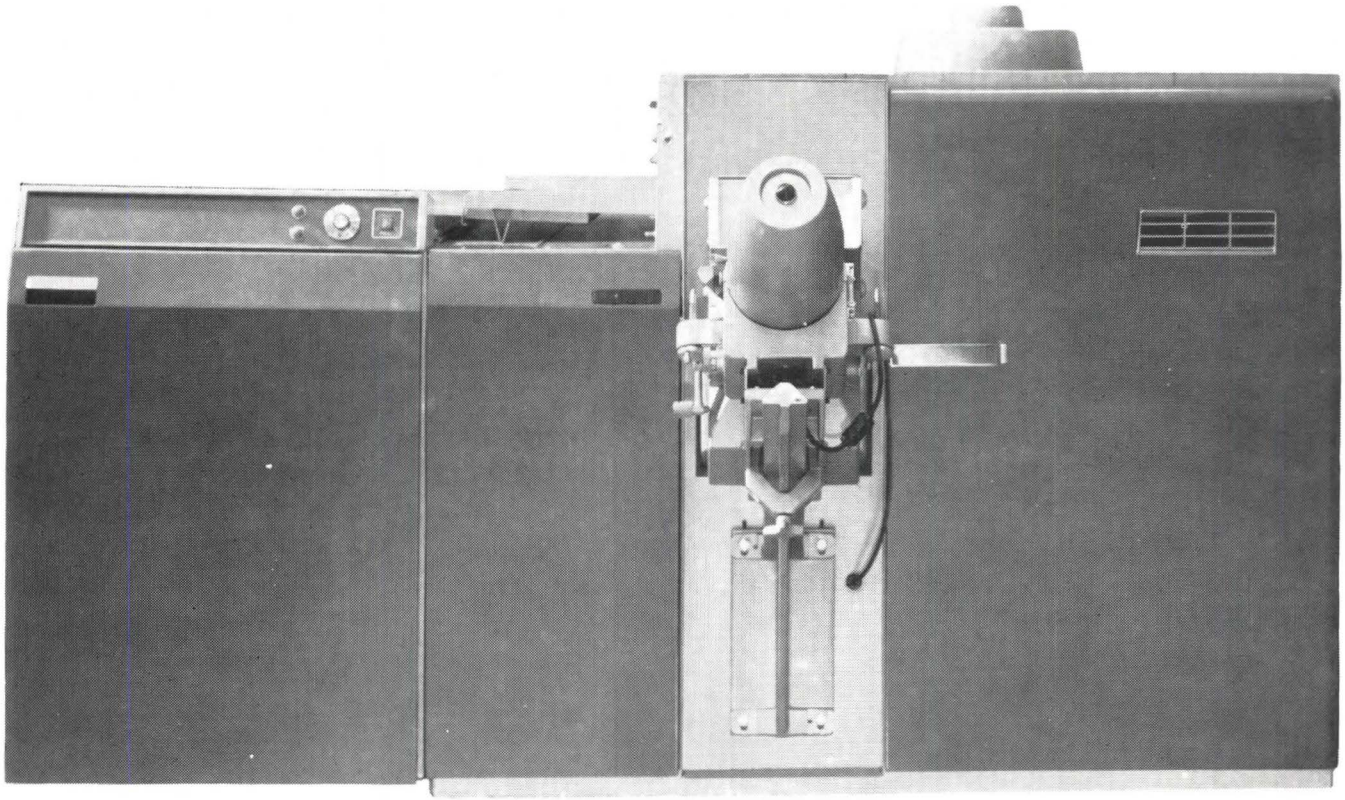

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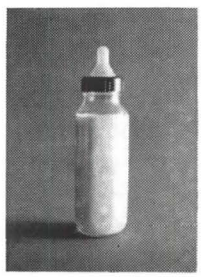

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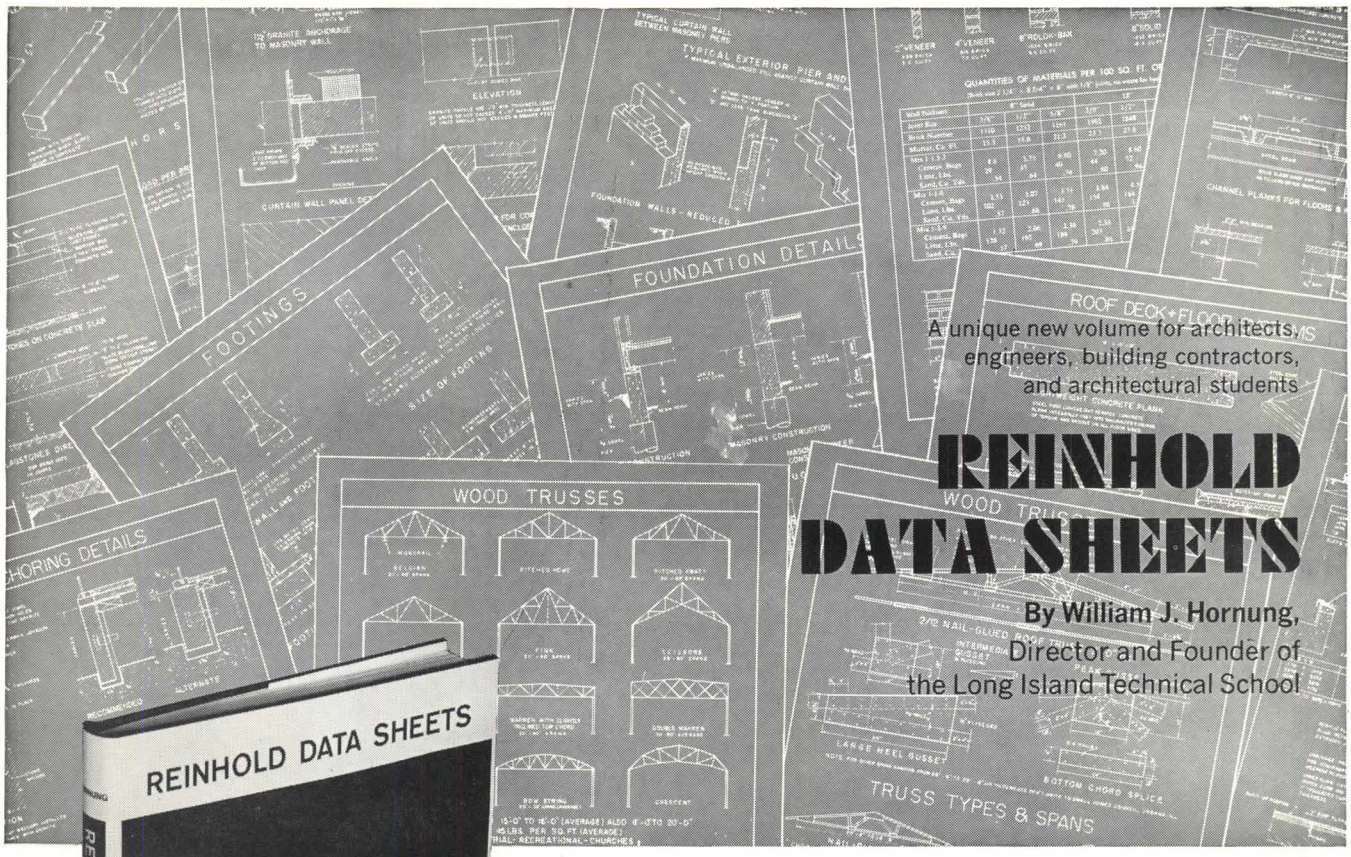


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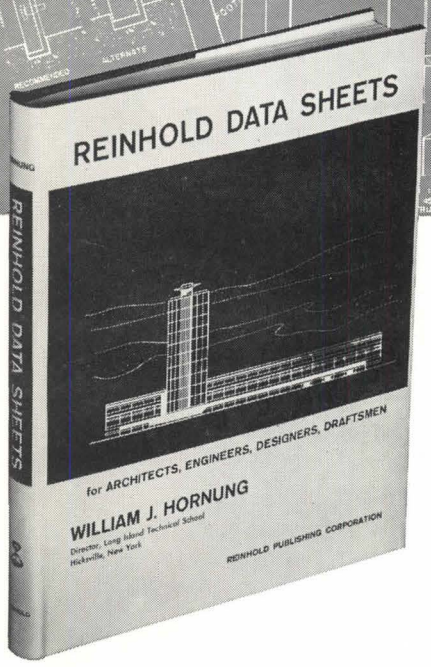


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# P/A NEWS REPORT

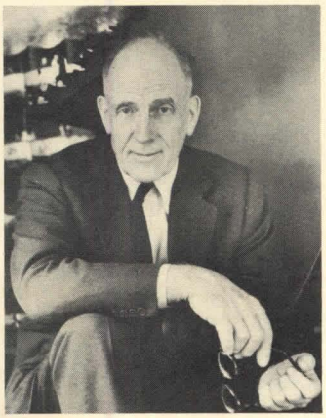
*Progressive Architecture's Monthly Digest of Buildings, Projects, People and Products* *February 1967*

## HARRISON TO RECEIVE AIA GOLD MEDAL

WASHINGTON, D.C. In May, Wallace K. Harrison will become the thirty-third recipient of the Gold Medal of the AIA. It is, of course, the highest honor granted by the AIA in recognition of "most distinguished service to the profession of architecture or to the Institute." Harrison, whose commissions have included many of the most important buildings constructed in this country during the past 30 years, has displayed a diplomat's skill in working both with clients and with teams of some of the world's most prestigious architects. Probably his best known display of this skill was as director of planning for the United Nations buildings in New York. Although many feel that the final solution was a sadly watered-down version of Le Corbusier's original scheme, his team of 17 architects from 10 countries, including Corbu and Oscar Niemeyer, produced a unanimously agreed upon design in less than three months, a feat once called the architectural equivalent of the four-minute mile. It is perhaps less well known, but indicative of Harrison's character, that when his firm was selected to oversee construction of the U.N., he took no fee, working only for costs.

Appropriately, at one point during World War II, Harrison was a diplomat, serving as Director of the Office of Inter-American Affairs.

Speaking of Harrison's special talent, architectural historian Talbot Hamlin once said, "He's been so phenomenally successful in gaining the confidence of businessmen that they've begun to accept innovations in modern architecture more readily than they ever did before. Thanks to him, many business leaders have actually become enthusiasts for the best in progressive design. Harrison has won a new kind of respect for the entire profession. I shudder when I think what could have happened if the same opportunities had fallen into the



hands of a man who was less responsible, or less creative, or both."

Much of Harrison's growth as an architect and diplomat came during the 30's, when he was the youngest of a team of architects working on the design of Rockefeller Center. Back in 1954, a three-part profile on Harrison in the *New Yorker* told of a meeting between the Center's architects and John D. Rockefeller, who conceived and financed the project. Rockefeller had lived in an era of rococco office buildings, with fluted columns and Gothic arches and intricately carved cornices. He envisioned the same sort of structure for the RCA building and told the architects so. According to the *New Yorker,* the architects listened until Rockefeller had finished; then Harrison blurted out, "Goddamn it, Mr. Rockefeller, you can't do that! You'll ruin the building if you cover up its lines with that classical gingerbread."

In the past 14 years, Harrison has won three national awards from the AIA: In 1953, for the Corning Glass Center in New York; in 1956, for the Interfaith Center at Brandeis University; and, in 1964, for the University of Illinois Assembly Hall.

Although Harrison's architectural solutions have rarely measured up to the stature of his commissions, and although his designs have seldom shown bold innovations, he has left his mark on 20th-Century architecture. "I don't have time to worry about style when I'm working on a building," he told a reporter recently. What he does worry about is pleasing the people who have to use his buildings. He has a host of satisfied clients, if not satisfied critics. It is, in large part, his role in making contemporary architecture acceptable to the public that makes the Gold Medal a fitting tribute.

## BUILD NOW — OR YOU MAY PAY MORE LATER

What will the construction market be like in 1967? Most pundits, basing predictions on 1966's economic slowdown, are cautious. Yet 1966 was the best year the U.S. construction industry ever had. By the end of the year, more money had been spent on construction — $76 billion — than in any previous year, and profits, also, were riding at record industry levels. This boom took place despite the sharp — and widely publicized — drop in housing, one of the largest segments of the construction field. Most economists agree that housing will continue its weak position in 1967, but just what all this will mean for architects is hard to tell. According to P/A's annual business survey, architects will gain an increasing share of the housing market. Their share has, traditionally, been a small one, but as more people realize the contribution architects can make, and as money available for mortgages eases, architectural work in housing should pick up.

There is a seeming paradox in the prediction of this increased activity, for, with increased inflation, costs have risen and building will cost more this year than last. A potential home builder will gain nothing in waiting for a more advantageous interest rate. Labor costs alone rose an average 6.6% in 1966, and costs of building materials are starting to rise too. This has put the cost of home building significantly above what it was a year ago (as much as 5%), enough to eclipse any rise in interest rates. In light of this, it seems wise for architects to advise clients worried about the money market to go ahead with building plans. Besides, as prices continue upward, many observers expect only a slight easing of interest rates, perhaps between one-quarter and one-half of 1%. In short, if you don't build now, you may well pay more later.

## *THE ENVIRONMENTAL INSULT*

*"What a blessing it would be if we could open and shut our ears as easily as we do our eyes."*

GEORGE PICHENBERG,
*18th-Century physicist.*

In New York City, a hostess has a summer party for about a hundred friends. On her patio, a rock-and-roll band, with all that electronic equipment, plays dance music. Her patio, walled on all sides by high apartment houses, forms a sort of natural echo chamber, and, with the volume turned up, the music coming from the electronic amplifiers reaches close to the threshold of pain (120 db). After a while, the police arrive, summoned by the neighbors.

At Carswell Air Force Base near Fort Worth, Texas, jet planes scream off runways into the sky with a roar (140 db) that would be literally deafening to persons directly in its path. Each morning, children there file into an underground school where they can study, oblivious to the chaos above them.

A housewife in Sioux Falls, South Dakota, has the kitchen radio going as she does the ironing; also going are the dishwasher and garbage disposal, producing such a din (80 db, about the noise level in a DC-3 cockpit) that, when her mother-in-law calls on the

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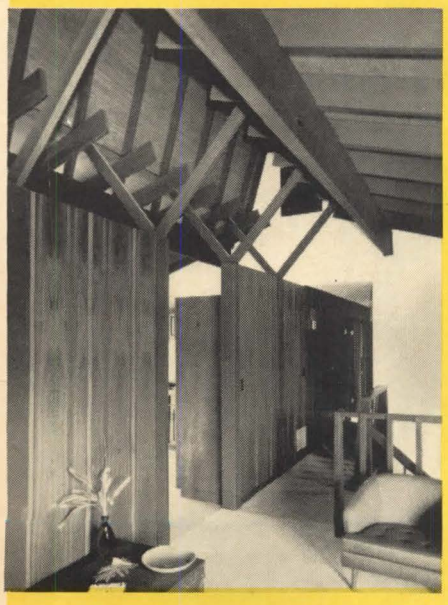

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phone, she has to move to the living-room extension.

Secretaries in a large office building in Atlanta work amid the clatter of typewriters, the jangle of ringing telephones, and the clank of automatic computers (75 db).

In a Chicago apartment, a musician, employed at night, manages to sleep during the day despite the rumble of truck traffic (85 db) on the street outside. Then a jack hammer starts up (125 db), repairing a gas main.

Like most of unfortunate humanity, these people are caught in the grip of a technological age. Although noise, one of the major by-products of this technology, is something that most people can ignore some of the time, studies show that the continued effects are highly damaging, both physically and mentally. And, as more and more persons crowd into cities, noise increases. According to one source, the average noise levels in cities have risen about one decibel per year for the last 30 years. One scientist long concerned with the effects of noise said recently: "Research has shown that noise as an external irritant can play a serious part in the development of cardiovascular disease, nervous and mental illness, and a number of other diseases."

Most current research on the effects of noise has centered on damage to hearing, merely because this is the most obvious result. Prolonged exposure to levels greater than 90 db results in decreased hearing. Italian borax well drillers who work constantly in a noise over 130 db put plugs of wood putty into their ears. If, for some reason, the plugs slip or fail to fit snuggly, the workers become immediately and permanently deaf. Scientists estimate that, in the U.S., a person exposed for 20 or so years of his adult life to the constant din of an ordinary noisy environment loses about a decibel per year of his hearing ability.

But the damage from noise goes far beyond hearing loss. One scientist found that even periodic exposure to the shrill scream of sirens produced heating of the skin (rats and guinea pigs have died of this increased body temperature), and that there was an apparent weakening of the muscular structure. A recent article in *Harper's* magazine reported that a test in Oklahoma City showed that after 10,000 chickens were subjected to the boom of supersonic jet testing twice a day for six months, only 4000 were still alive. They sustained hernias, internal bleeding, loss of feathers, rupture of reproductive organs, and could lay no eggs.

Such effects are, of course, not so immediately apparent in the human animal, but over half a century ago, Dr. Robert Koch, a Nobel Prize winner in medicine, predicted: "The day will come when man will have to fight merciless noise as the worst enemy of his health, as he did long ago with cholera and plague." And the World Health Organization, which has been studying noise, points out that "it is rapidly becoming more pernicious than air or water pollution."

More important than noise itself seems to be an individual's reaction to it. Our reaction to noise, like our response to the Doublemint Gum twins, is highly personal, and the most damaging noises are not necessarily the loudest but rather those one finds frustrating or irritating. Teenagers bouncing to the beat of a rock-'n'-roll record call the sound music; their father in the next room, trying to read his paper, has a different name for it. Noises can be annoying because of their unexpectedness (sonic boom), their unattractiveness (traffic noise), their intermittency (they recur but not at exact intervals), or because you cannot locate or identify them.

There have been attempts in the U.S. to control noise, but, for the most part, they have been futile and limited. It is both ironical and typical that when New York City Congressman Theodore Kupferman, one of the country's most enlightened spokesmen on noise control, read 23 pages of testimony — including a bill for noise control, which never got out of committee — into the *Congressional Record* last spring, he was followed immediately by Congressman Pucinski of Illinois, who congratulated the FAA for allowing jets into National Airport.

This apathy exists despite findings that noise reduction leads to greater worker productivity and a lower turnover rate in apartments and housing. One estimate states that office workers spend 20% of their time fighting noise, and that, in all, noise may cost American industry as much as $4 billion a year in lost production and accidents. An insurance company that soundproofed its offices found that typing errors went down 29%, that machine operators made 52% fewer mistakes, that absenteeism dropped 57%, and employee turnover dropped 47%.

Even when noise controls are enacted, they are difficult to enforce, which is again partly attributable to a far-reaching apathy. Contractors in Coral Gables, Florida, for example, found that, when noise-control legislation was passed last June, they could not install air-conditioning units in homes until manufacturers had made them quieter. Memphis, Tennessee, has been a pioneer in enforcing strict noise control, and for a while, until the Council was disbanded, that city won the Noise Abatement Council's annual award as the U.S.'s quietest city. It had little competition.

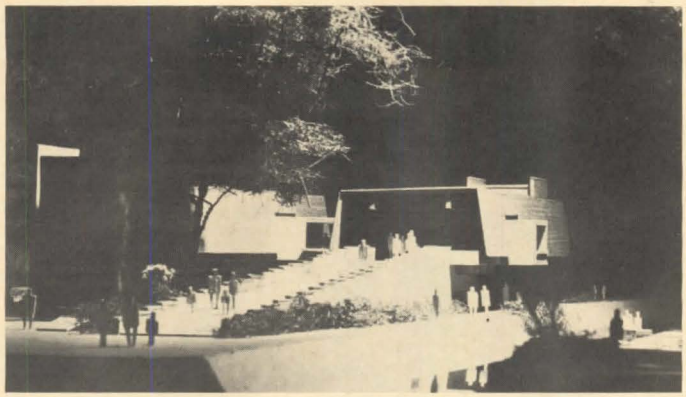
Europeans who have been noise conscious for some time look on Americans as barbarians where noise is concerned. In 1954, municipal authorities in Paris put gongs and two-tone horns on fire engines and ambulances. And anyone who has experienced the effects of that city's ordinances against automobile horns knows what a difference it makes. They also put rubber wheels on Paris subway trains and recently talked Montreal into doing the same. In both Germany and France, garbage cans must be covered with rubber or plastic. West German police issue summonses to persons whose radios are audible outside their houses. In England, any three persons may sign a complaint against someone responsible for objectionable noise and have him summoned to appear in court.

Photo: World Wide

Although New York City recently passed an ordinance making it mandatory for apartment builders to limit the noise of passing aircraft heard inside buildings to 45 db; this level is as much as 15 db higher than a level thought necessary for steady, uninterrupted sleep.

Architects, of course, have a large responsibility in making our cities quieter places in which to live. Robert H. Tanner summed it up in a recent article in the *Journal of the Royal Architectural Institute of Canada*. "Up to now," he wrote, "too much attention has been given to the dangers of hearing loss in factories, etc., which is more a matter to be dealt with by employers, than to the problems of tension and fatigue. The architect who keeps these latter in mind in the design of all his buildings, and seeks the right kind of expert advice, will be contributing in no small manner to the quiet, the relaxation, and perhaps the peace of the world."

## PAVILION BY THE FALLS



GREAT FALLS, VA. A small (11,500 sq ft) visitors' center for Great Falls's park, alongside what remains of the Potomac Canal, will get under way shortly. Designed by Kent Cooper & Associates of Washington, D.C., the center will be located between newly created parking areas and the Great Falls. The National Park Service, which operates the park, hopes visitors on the way to viewing platforms over the falls will pass through the building for an historical briefing. The center will contain an exhibit area, an auditorium seating 143, administration offices, and concessions. A terrace will provide room for outdoor dining.

The architects have chosen a concrete block matching the original canal lock stone walls in color. Because of possible flooding, public areas are on the building's second floor and are approached by a gently sloping ramp, which provides an inviting entrance. The concrete floors of these public areas will be cantilevered beyond the exterior walls to provide sheltered areas outside for visitors caught in the rain.

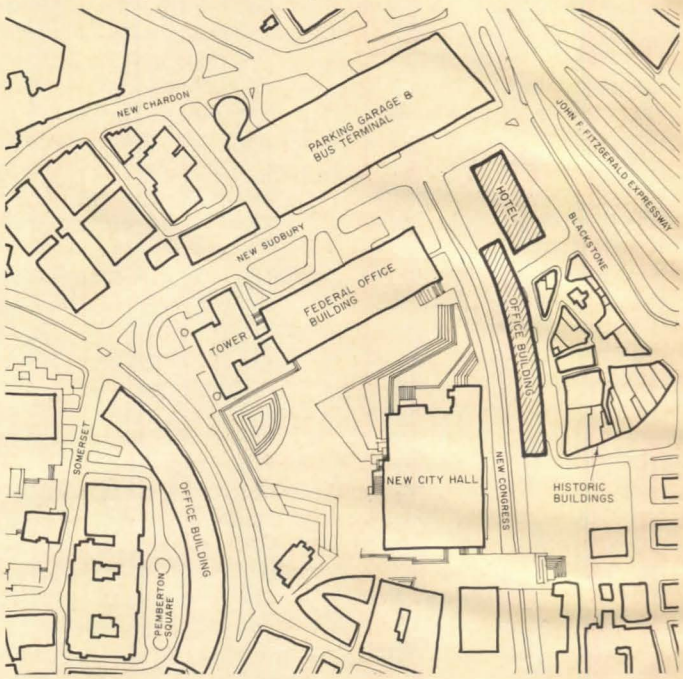
The project is expected to cost $323,000.

## DEFINING THE GOVERNMENTAL CENTER

BOSTON, MASS. Latest proposed addition to Boston's Governmental Center is the hotel-office building complex shown here. The Boston Redevelopment Authority wanted a building that would define the eastern perimeter of the Center, forming a backdrop for the new City Hall, while at the same time acting as a transition between the Center and the older historic buildings of the Blackstone Block section beyond. The solution they selected, designed by Raymond & Rado of New York City working with the Parcel 7 Corporation, shows an eight-story office building, curved slightly as it stretches across the site. The City Hall will be reflected in its glass curtain-wall façade. It is raised one story above grade on concrete supports, allowing a ground-level viewer to see through the glass-enclosed lobby. In this way, the older section of the city is linked visually with the newly developed Center.

To the north of the offices will be a 14-story hotel, also with a see-through lobby and with below-grade parking for 150 cars.

The project is still in the design stage. At present, it is estimated that the office building will offer a total floor area of 251,300 sq ft at a cost of $7,439,000; the hotel will provide 216,000 sq ft at a cost of $6 million.




## U.S. GYPSUM REHABILITATION PROJECT SUCCEEDS

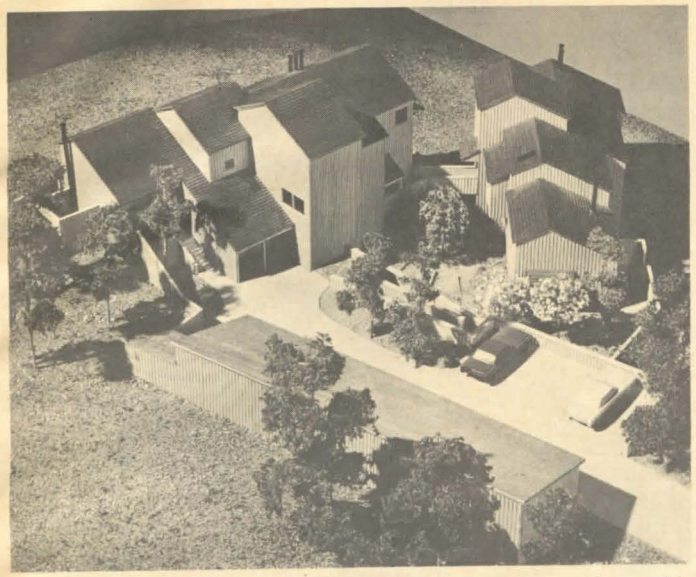
NEW YORK, N.Y. When U.S. Gypsum decided in July 1965 to enter the rehabilitation business, it estimated that 58,000 buildings in New York City alone were ripe for their efforts. They pegged the market at from $5 billion to $7 billion. After completing a pilot project — the rehabilitation of six tenement buildings in Spanish Harlem — they were so pleased with the results that plans are afoot to expand the program throughout the country. Already the company has purchased six additional tenements, and is buying six more in Cleveland. It is also considering projects in Chicago, Los Angeles, Philadelphia, Atlanta, San Francisco, and Oakland.

Gypsum's first six buildings (see p. 45, JANUARY 1966 P/A) came in at a cost of about $11,500 per rehabilitated unit — half the cost of demolishing the buildings and putting up new ones. Federal funds provided financing at an interest rate of about 3%, and additional help came from city tax laws, which make the structures tax free for 10 years. U.S. Gypsum plans to turn them over to a neighborhood nonprofit group, Metro East Housing.

While work on the project was underway, tenants were moved into the building next door (one building was done at a time), then moved back in when the job was completed. And although rents are now more than double the $20 to $40 per month former rate, apartments are now more spacious, cleaner, and are equipped with up-to-date facilities.

U.S. Gypsum sees its rehabilitation work as an outlet for its home building products. For the Harlem project, they contributed several new ones, including a metal studding system and a gypsum slurry for floors.

## *ADDITION TO SEA RANCH*



SEA RANCH, CALIF. Scheduled for construction next year is a Guest House/Condominium along the rugged California coast at Oceanic Properties' Sea Ranch (pp. 120–137, MAY 1966 P/A). To be built up the slope behind the existing condominiums, designed by Moore, Lyndon, Turnbull & Whitaker, it will be located close to another grouping of condominium apartments designed by Charles Moore and a store and restaurant designed by Joseph Esherick. The proposed Guest House/Condominium, the work of the San Francisco firm of Marquis & Stoller, will match its neighbors in style.

After considering a single-story arrangement, the architects decided that such a solution would be too incohesive, relating poorly to the more compact adjacent buildings. They therefore decided on multistory structures grouped in a complex that is roughly triangular. This triangle is formed by two groupings of housing blocks with multilevel shed roofs, one facing down the coast, one up, both avoiding a view of the housing directly below; the third arm of the triangle is formed by a car shed.

The architects feel that their cluster arrangement provides a sheltered feeling in the midst of the vastness of the sea and grassland.

## LYNDON TO MOVE TO MIT

CAMBRIDGE, MASS. By the start of the fall term, Donlyn Lyndon, 31, will become chairman of the Department of Architecture at the Massachusetts Institute of Technology. He moves to MIT from the University of Oregon, where, since 1964, he has headed the architecture department.

Lyndon received his M.A. in architecture from Princeton University in 1959, and spent a year as a Fulbright scholar studying Hindu temples in the Far East. He has lectured and written widely on architecture, and this month becomes the new editor of the *Journal of the Association of Collegiate Schools of Architecture.*

As a partner in the firm of Moore, Lyndon, Turnbull and Whitaker of Berkeley, Calif., he has been responsible for some highly acclaimed designs, notably Sea Ranch on the California coast north of San Francisco (see pp. 120-127, MAY 1966 P/A).

Photo: Lee Wiener

Lyndon told P/A that he would, of course, continue to practice architecture and work with his partners. "We have to decide how we will handle the arrangement," he commented, "but we will definitely be working with one another."

Lyndon takes over MIT's architecture department from Dean Lawrence B. Anderson, who has been acting chairman, as well as dean, since 1965.

## CIRCULAR CAPITOL FOR NEW MEXICO

Photo: Eyewitness Photography

1

SANTA FE, N.M. In 1860, the Palace of the Governors in Santa Fe was large enough to house "more than a thousand persons, 5000 head of sheep and goats, 400 horses and mules, and 300 head of beef cattle, without crowding." Dedicated last month in Santa Fe was the U.S.'s newest State Capitol, which, with 232,206 sq ft of space in its four stories, could hold almost as much livestock as the old Palace. It has underground parking space for 167 cars, chambers and offices for the state Senate and House, legislative offices, lounges, and committee rooms. The design **(1)** by W.C. Kruger & Associates is in the shape of the Zia Indian Pueblo sun symbol, shown emblazoned on the floor of the central rotunda **(2).** Kruger's original design for the capitol **(3),** which he called a "monumental pueblo," met with such a storm of protest in this community, which is intensely conscious of its 356-year history, that it was substantially redesigned. (For a still earlier plan, see p. 69, MAY 1963 P/A.) He substituted a more traditional territorial feeling, one in keeping with Santa Fe's passion for adobe construction. It has a façade of adobe colored concrete.

Photo: Dick Kent Photography

2

3

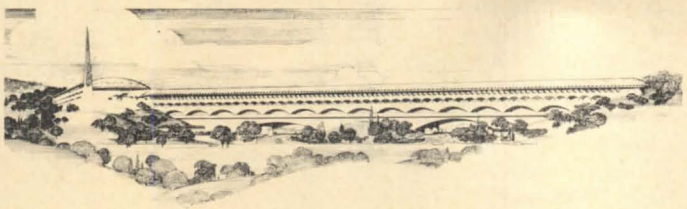
The capitol's $4,500,000 cost has been financed by state severance tax bonds.

## PERSONALITIES

**Donald A. Ostrower,** partner in the firm of Vollmer Ostrower Associates of New York City, has been elected president of the New York Association of Consulting Engineers . . . The American Institute of Consulting Engineers has chosen **Richard O. Walker, Jr.,** as its president for 1967. Walker is vice-president of Abbott, Merkt & Co., Inc., New York architects and engineers . . . New president of the Hawaii Chapter, AIA, is **Edward Sullam** . . . **Edward**

**Durell Stone** was honored for "services to mankind" by the construction industry at its annual dinner on behalf of the Federation of Jewish Philanthropies . . . P/A Design Awards winner **Robert Venturi** is among the most recently designated trustees of the American Academy in Rome . . . **Jose Luis Sert, Dr. John Ely Burchard, Hans Hollein, William Kessler, and William Morgan** will comprise the jury for the 1967 Reynolds Memorial Award for Architecture with Aluminum . . . **Morten Awes,** an architectural student at California State Polytechnic College, has been designated president of the Associated Student Chapters of the AIA . . . **Dr. Winston R. Weisman,** professor and head of the department of art history at Pennsylvania State University, has been appointed special consultant to the Landmarks Preservation Commission of New York City . . . **Richard L. Hartung,** architect, has been appointed Educational Director of the Indiana Limestone Institute . . . **Professor Frederic D. Moyer** of the University of Illinois department of architecture has been elected president of Scarab, a national professional organization of the environmental design fields . . . New chairman of New York City's Housing Authority is **Walter E. Washington,** who comes to New York from the National Capital Housing Authority . . . Brazil's best-known architect, **Oscar Niemeyer,** has been commissioned to design the new seat of the French Communist Party in Paris . . . Eighth chairman of New York's City Planning Commission is **Donald H. Elliot,** former Special Council to the Mayor . . . Head of a newly formed group appointed by HUD secretary Robert C. Weaver is **William L. Slayton.** The group is to advise and assist in implementing the Model Cities Program . . . **Graham J. Morgan,** President of United States Gypsum, has received HUD's Urban Pioneer Award for his company's efforts in rehabilitation.

## WRIGHT'S SHIP OF STATE



SAN RAFAEL, CALIF. In 1957, shortly after he was selected to design the Marin County Civic Center and Fairgrounds, Frank Lloyd Wright told the people of the county, "A good building is not one that hurts the landscape, but is one that makes the landscape more beautiful than it was before. . . . In Marin County, you have one of the most beautiful landscapes I have seen, and I am proud to make the buildings of this County characteristic of [its] beauty."

Typically, Wright saw his buildings, which were to be sited in the rolling hills above San Francisco Bay, as examples to government officials throughout the country.

Although Wright finished the plans for the Civic Center and Fairgrounds just before his death in April, 1959, only one structure has been completed: the Marin County Administration Building, opened in October 1962. Now construction is underway on the Hall of Justice, a mirror-image wing of the administration building. Resting on the brows of three hills, the Hall will have two roadways running beneath it, through arched culverts. The curve of these culverts is reiterated in the gentle, repetitive arches of the windows in the building above them, the arches being reminiscent of gentle swells on the sea. But the feeling generated by the Administration Building, as one comes upon it, is not so much one of the sea, as of a ship riding the green-brown hills. It even has a concrete prow. (Did Wright have a ship of state in mind?) Like the Administration Building, the Hall of Justice will have an open central well running the length of the structure, covered by a plastic skylight.

If work proceeds on schedule, the Hall of Justice will be completed in 1968, and the Superior and Municipal Courts, as well as the District Attorney, the Sheriff, the county jail, and supporting agencies will move in.

Wright also completed plans for a Health and Welfare building and for fairground structures, including an amphitheater seating 3000 persons and an exhibit pavilion. Work on these will proceed as funds become available. Current work is being carried out by Taliesin Associated Architects and Aaron G. Green of San Francisco, associated architect.

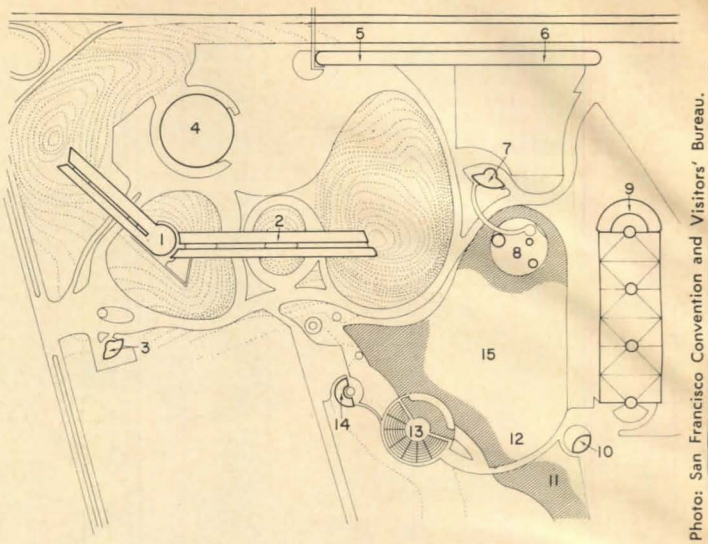
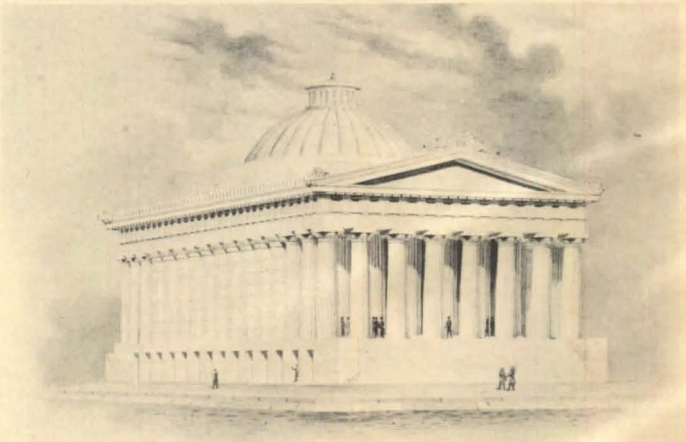



Photo: San Francisco Convention and Visitors' Bureau.

*(1) Administration Building; (2) Hall of Justice; (3) Post Office; (4) Veteran's Auditorium; (5) Public Health and Welfare; (6) Warehouses; (7) Children's Zoo; (8) Children's Island; (9) Exhibition Pavilion; (10) Restaurant; (11) Yacht Lagoon; (12) Bridge; (13) Amphitheater; (14) Senior Citizen's Building; (15) Lagoon.*

## A.J. DAVIS (1803-1892)



NEW YORK, N.Y. On display through February 15 at the Metropolitan Museum of Art is a selection of project drawings of architect Alexander Jackson Davis. Davis, whose most active period was during the mid-19th Century, designed buildings of almost every type, mostly in either Greek or Gothic revival styles. Many of Davis' watercolor paintings of his projects include lush vegetation, trees, bushes, grass — an unspoiled landscape that attracted him greatly. He is credited today with being among the first architects to insist that a building relate to its natural site. Shown here is his design (done with Ithiel Town) for the New York Customs House, which later (1833) became the Sub-Treasury Building and which stands today on Pine Street as the Federal Hall Memorial Museum.

## WORLD TRADE CENTER PRICE TAG INCHES UP

NEW YORK, N.Y. The cost, if not the height, of the proposed World Trade Center is inching upward. The height of the Center's twin towers, each 1350 ft, will, as everyone knows, make them the tallest buildings in the world, and their cost, if some sidewalk critics are correct, may place them among the most expensive. Revised cost estimates, released in time to greet the new year, called for an anticipated total cost of $575 million. This figure was up $50 million from the last estimate, an increase of a significant $305 million from the original $270 million estimate. According to Lawrence A. Wein, head of a synadicate that operates the rival Empire State Building, the total cost will approach $1 billion. Wein points out that Gov. Rockefeller has twice mentioned a $650 million price tag.

The official revised estimate was increased for three stated reasons: delays caused by unsuccessful lawsuits against the project; upward spiraling costs of labor and materials; and cost of the redesign of the low-rise buildings, which form an enclosed courtyard at the base of the towers. The center's designers, Minoru Yamasaki & Associates (Emery Roth & Sons are associated architects) made minor changes in these buildings' façades and siting last year.

Foundation work on the center, which is scheduled for occupancy in 1972, is now under way.

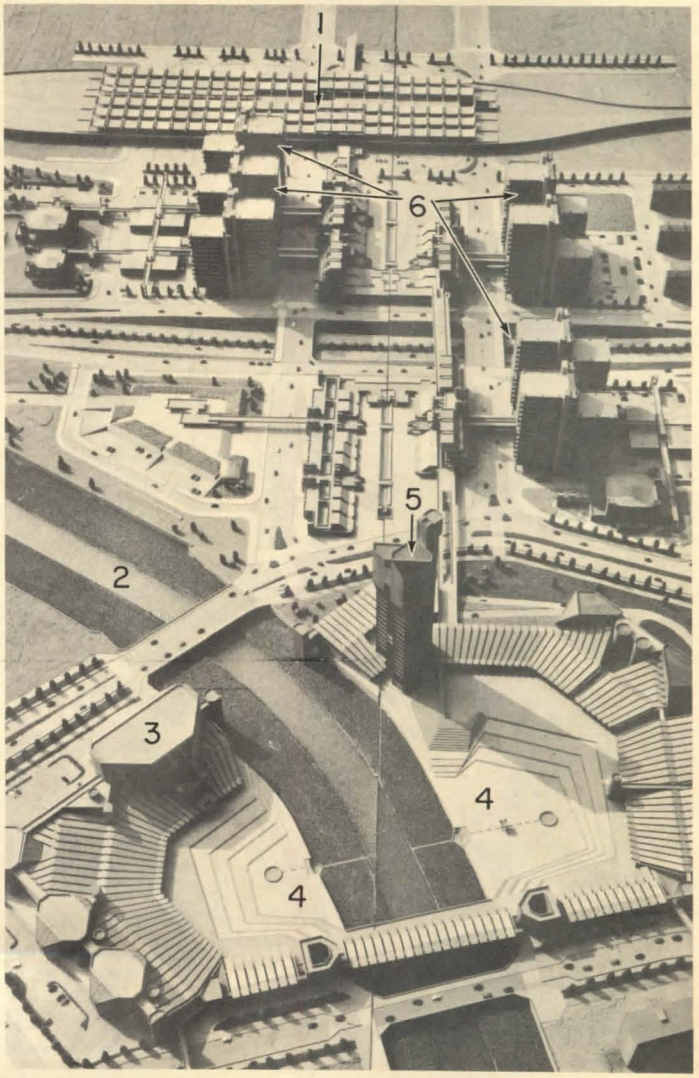
## MASTER PLAN FOR SKOPJE

UNITED NATIONS, N.Y. Adolf Ciborowski, the Polish city planner who is supervising the reconstruction of Skopje, the Yugoslavian town leveled by an earthquake in 1963, was in New York recently for meetings at the U.N. Ciborowski, a large, genial man, dresses in a middle European style, but with a flair. He is neat and well organized, and his work shows it. As reconstruction manager, he coordinates an international team of planners and architects, a job that takes both diplomacy and professional skill. Ciborowski's skill first attracted international attention following World War II, when he planned the rebuilding of Warsaw.

The United Nations contribution to the work in Skopje has been to assemble one of the most experienced teams of planners ever to work together on a single project. Besides Ciborowski, there is Kenzo Tange, who rebuilt Hiroshima, van den Brock and Bakema, rebuilder's of Rotterdam, and Arthur Ling, who helped reconstruct Coventry. The master plan now being followed in Skopje was prepared by Polservice of Warsaw and Doxiadis Associates of Athens, and it incorporates several ideas gleaned from an international competition held in 1965 (see pp. 48 and 50, NOVEMBER 1965 P/A). Kenzo Tange, winner of that competition, working with the Skopje Town Planning Institute, has completed details for reconstruction of the city center (see model photo), and work is proceeding there. Also underway is further planning for Skopje suburbs and for highway engineering, which is being done by the U.S. firm of Wilbur Smith & Associates.

In working out the master plan, the U.N. also assembled a gold star team of seismic engineers. They wanted, of course, to minimize the possibility of a recurrence of the 1963 disaster, which claimed more than 1000 lives and left more than 170,000 persons homeless. As a result of the engineers' advice, the master plan shows greenbelts snaking through the city, dividing it roughly from north to south and from east to west. The largest, most dangerous zone of seismic activity, they found, was along the Vardar River; accordingly, the largest greenbelt stretches along the river on either side of the city center. When asked about this textbook use of the waterfront, Ciborowski laughs and calls it a perfect example of theory meshing with expediency. The greenbelts separate residential from industrial sections. To further minimize the effect of any future earthquakes, each section of the city will have two main access roads, two sources of water supply; no naural gas will be allowed in the city.

Skopje today has a population of about 320,000 — 30,000 more than at the time of the disaster. This increase, Ciborowski points out, consists mainly of peasants who came down from the surrounding hills to work on con-




**(1)** *Railway Station;* **(2)** *Vardar River;* **(3)** *Republicate Assembly Hall;* **(4)** *Republicate Square;* **(5)** *Offices of the Republicate Assembly;* **(6)** *Business, Administration, Hotel, Shopping.*

struction. There are also more homes. Fifteen thousand prefabricated units were built immediately after the quake. An additional 15,000 were added to replace destroyed buildings, and recently 3000 more were completed.

In addition, the industrial output of the town is greater now than it was before the quake. Most of the industrial increase comes from the full-time operation of a newly completed iron-and-steel mill, which was under construction before the disaster and only partially damaged by it.

Skopje's reconstruction is financed by a special fund set up by Yugoslavia's government, which contributed the greatest share. The rest was donated by other East European countries. At present, the fund is expected to finance the rebuilding program for five years.

A recent visitor to Ciborowski's temporary office on the twenty-fourth floor of the U.N. building commented on the view, which looks out over the East River to the industrial section of Queens, a drab, smog-covered area of factories and warehouses. Ciborowski laughed in a way that recalled Bella Lugosi, and said with a twinkle in his eye, "I think what we need here is a little earthquake."

## *AIR TERMINAL FOR BONN*

BONN, WEST GERMANY. The proliferation of air passengers and planes is choking many airports throughout the world, and the airport serving Cologne and Bonn is no exception. Designed for a capacity of 300,000 passengers a year, it handled more than twice that number last year; obviously, new facilities are needed in a hurry. Bonn's air passenger traffic is not large compared to that of other cities in the Western world. Anchorage, Alas., for instance, handled about the same number last year, and London's Heathrow airport accommodated 12 million.

Now under construction as a new facility for Bonn is this U-shaped terminal with its star-shaped loading gates, designed by Düsseldorf architect Paul Schneider-Esleben. In all, it offers 20 loading positions. Enplaning passengers enter the terminal at the upper level. Deplaning passengers take escalators from the loading platforms to the lower level, where they collect their baggage and exit to cars and buses. All baggage checking and ticket service takes place at the boarding stations (to which passengers must carry their luggage — about 80 yds.). The terminal's upper level will house the usual supporting shops and restaurants, and on the rooftop are viewing areas for visitors. According to the architect, the new facility will be able to handle as many as 2,500,000 passengers a year.

Completion is scheduled for 1968, at an estimated cost of $54 million.

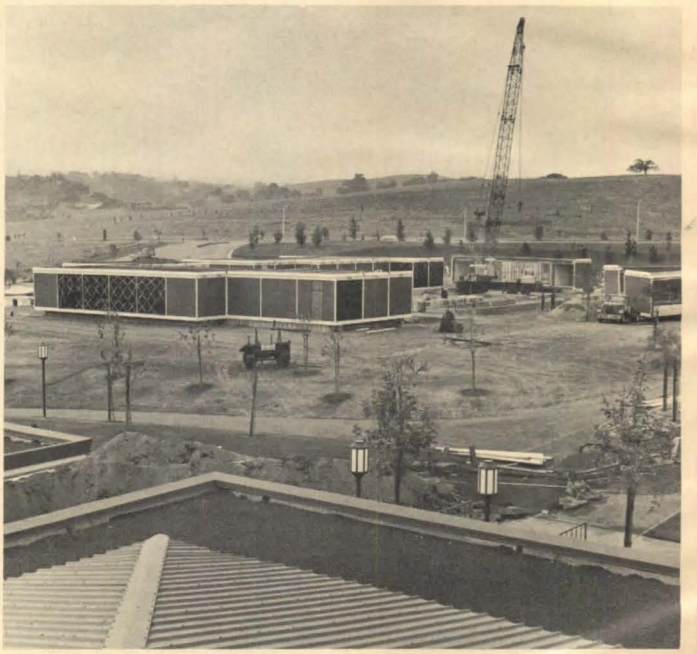
## KENNEDY LIBRARY FACES DELAY

CAMBRIDGE, MASS. Construction of the John F. Kennedy Memorial Library, planned to go up on the Harvard University campus, may be delayed at least four years. The library, which is being designed by I.M. Pei, will be located in part on land now owned by the Massachusetts Bay Transportation Authority, which operates the Greater Boston Rapid Transit System. The delay stems from difficulties in obtaining the land.

## CALENDAR

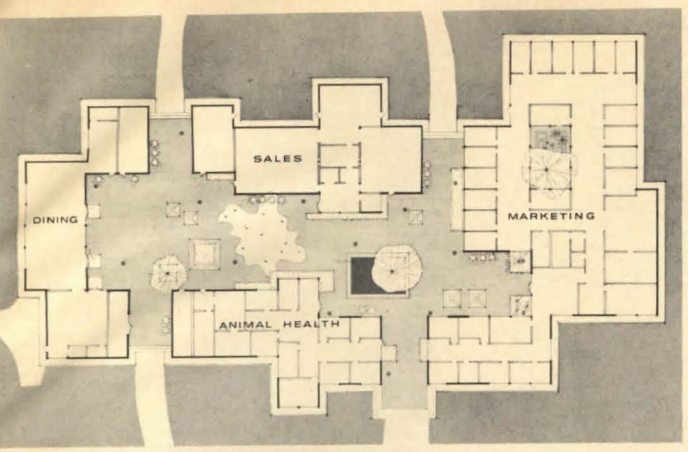
The University of Iowa's Third **Annual Sacred Music Conference** will feature a lecture by Joseph E. Blanton on "Contemporary Organ Building in Relation to Architecture." Architect Blanton will speak at the afternoon session of March 10 . . . The Alberta Association of Architects will sponsor a conference on architectural education entitled **"Session '67,"** to be held March 20–23 at the Banff School of Fine Arts, Banff, Alberta, Canada. The Pittsburgh Council for Urban Transportation will sponsor a second **International Conference on Urban Transportation** in April 1967; details to be announced soon . . . Modern dwellings will be featured at the **Eastern U.S. Modern Living Show,** Cherry Hill, N.J. The show will run April 18–22 inside the Cherry Hill Mall . . . New York City's Coliseum will be the scene of **Contract '67,** trade show and conference of the interior furnishings industry, April 25–27 . . . The Illuminating Engineering Society plans to hold its **Third Annual Theatre, Television, and Film Lighting Symposium** May 14, 15, and 16 at the Hollywood Roosevelt Hotel, Hollywood, Calif. Write for information to: T. M. Lemons, Sylvania Lighting Center, 100 Endicott St., Danvers, Mass. . . . **The 99th Convention and 17th Building Products Exhibit** of the AIA will take place May 14–18 at the New York Hilton . . . May 29–31 are the dates for the **Eleventh Annual Construction Specifications Institute Convention and Exhibit,** to be held at Miami's Hotel Fontainebleau . . .

## *PREFAB LAB*



PALO ALTO, CALIF. Architects Ian MacKinley & Associates of San Francisco have arranged prefabricated trailer-sized units into a pleasant temporary building that provides generously for color, space, and light. MacKinley's client, Syntex Laboratories, Inc., a manufacturer of synthetic steroids (chemical compounds used in pharmaceuticals), found their business booming with the acceptance of birth-control pills. They needed additional space, and they wanted it right away, not in the three years it would take to build permanent facilities. While waiting for permanent buildings, they decided to put up interim ones on their headquarters site, rather than leasing space in town. Architect MacKinley, working with the Design Facilities Corporation, manufacturers of prefabricated units, solved the problem at a cost currently estimated to be no greater than that of leasing. D.F.C. units are 10′ wide and either 32′ or 60′ long. Trans-

Photos: Tom F. Walters



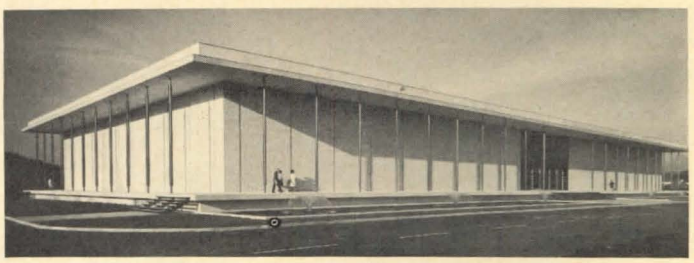

ported to the site on flatbed trailers, the units are assembled on concrete footings. A covered mall, planted with trees and spotted with benches, between units will make them a single, integrated complex. In all, there will be 23,000 sq ft of space, housing a cafeteria, conference, information and training rooms, a utility plant, and pharmaceutical and animal health marketing offices.

The D.F.C. units are framed in steel, with plywood floors and sheet metal roofs. Exterior walls will be either gray-glass curtain walls, or textured, insulated wall panels. Use of color in walls and carpeting, and fairly extensive landscaping, will soften the prefabricated effect.

## *AWARDS*

The New York Society of Architects has announced that its Sidney L. Strauss Memorial Award has been presented to the **J. M. Kaplan Fund, Inc.,** for its promotion of quality of architectural design in architectural and urban planning projects . . . Two Exhibition Awards for outstanding design have been given by the Southern California Chapter, AIA, to the Long Beach firm of **Hugh Gibbs and Donald Gibbs** . . . **Bethlehem Steel Corporation** has been presented with a Service Award by the Association of Student Chapters of the AIA. Award recognized the company's concern for the future of the architectural profession . . . Recipients of awards for excellence in product literature directed to architects are **Weyerhaeuser Company's Wood Products Group and the National Association of Architectural Metal Manufacturers.** Awards were made by the AIA in conjunction with construction industry groups . . . Winner of the fourth annual Jack Evans Landscape Architecture Scholarship at California State Polytechnic College at Pomona is **Jack P. Dangermond** . . . **Seattle** is the latest recipient of an AIA Citation for Excellence in Community Architecture. Award was made for the Seattle Center for Cultural, Sports, and Recreation, built around the site of the 1962 Century 21 International Exhibition . . . **Hofstra University** in Hempstead, Long Island, N.Y., has received recognition for its new library and other structures. The Concrete Industry Board of New York cited the buildings for excellence in design and construction with concrete. From among 73 entries in an awards program sponsored by the Orange County (Calif.) chapter, AIA, four architects have been chosen to receive top honors.. They are **William E. Blurock,** a winner in the commercial category, for the design of his own office in Corona Del Mar; **Richard Leitch & Associates** of Newport Beach, architect and site planner for George M. Holstein & Sons Bluffs residential development in Newport Beach; **Ron Yeo** of Garden Grove for his design of a sculpture studio in Costa Mesa for George Hall; and **Thomas Echternach,** also of Newport Beach, designer of a nursery building for Raymond O. Amling and the Irvine Company . . . **The Denver Chapter of The Producers' Council** has set a record by winning, for the third straight year, the council's annual Silver Bowl Competition for excellent program planning. The chapter was cited for planning services to specifications writers, builders, building managers, and the Air Defense Command, in addition to its traditional services to engineers and architects. Also recognized were the chapters in Little Rock, Ark., Columbus, Ohio, and Los Angeles, Calif. . . . **R. Buckminster Fuller** is the recipient of the Industrial Designers Society of America's Award of Excellence . . . At a recent meeting of the New Jersey Society of Architects, awards were presented to **Richard J. Chorlton** for a retirement community in Princeton, N.J., and to architects **Chorlton & Jandl,** for the Princeton Borough Hall . . .

## ARCHITECTURAL HUBRIS



"In looking for a building from the standpoint of both beauty and timelessness, our attention became focused upon the Parthenon, constructed in Athens, Greece, in 500 B.C.," said Paul Broyhill, president of Broyhill Furniture Industries of Lenoir, N.C., in describing his company's new office building and showroom. Aside from the interesting theological implications of this design approach — what takes the place of the deity in the inner shrine? The latest bedroom "suite"? — it will be suspenseful to await reactions from Nashville, Tenn., where, of course, they have the *real* original replica of the Parthenon, done in concrete. A spokesman for Broyhill points out that "the concept and design of the windowless building were created by Broyhill's management and design staff after having studied architecture of all types and all ages."

## A VILLAGE OF FINE ARTS

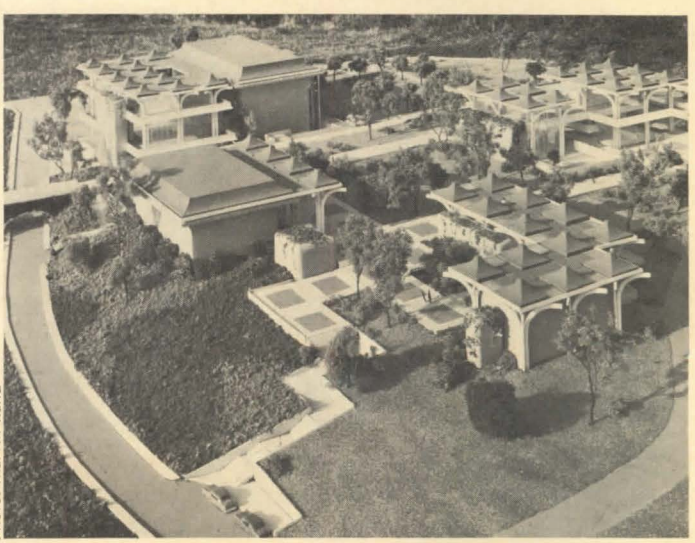
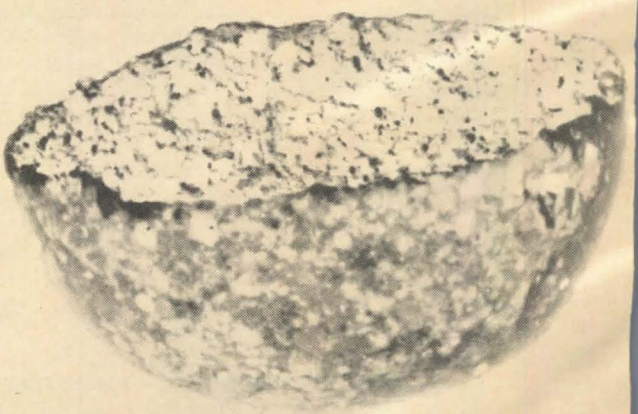


Photo: Marvin Rand

IRVINE, CALIF. Looking like a world's fair pavilion, the latest planned addition to the University of California campus at Irvine sounds like one, too. A "fine arts village," it is called, but despite the name and the unreal appearance, this section of the campus is meant to be an integral part of the university and of university life. "Painting, sculpture, drama, music, and dance typically have been relegated



to a back shed or the gymnasium on American college and university campuses," observed Fine Arts Dean Clayton Garrison recently. "But at UC Irvine we plan to make the fine arts a full academic partner of the sciences and humanities, as well as the center of campus and regional campus life." Architecturally, this partnership will be achieved by juxtaposition. To be constructed on a knoll near the central ring of academic buildings and adjacent to the Mesa Court student residences, the village will be on a path traveled by students going from dormitory to class. It sounds a little like getting religion by passing the church on the way to the pool hall.

Shown here is the first increment of the 9-acre complex, which is being designed by William L. Pereira & Associates. This initial grouping is expected to cost $2,700,000 and to be completed by 1969.

## VICTOR GRUEN'S ONE-BUILDING TOWN

SAN FRANCISCO, CALIF. Fox Plaza, a 29-story combination parking garage, shopping center, office building, and apartment tower, which opened here last year, rests on a site that in the past has been used for even *more* purposes. Its triangular plot of ground, on Market Streets at Hayes and Polk, was originally part of the Yerba Buena cemetery for Chinese immigrants. Nearby, in his father's livery stable, heavyweight champion James J. "Gentleman Jim" Corbett was born. It was in that area of the Hayes Valley that Eric von Stroheim filmed his motion picture "Greed." Finally, in 1929, Twentieth-Century Fox put up the Fox theater on the site. The Fox was one of those gilt rococco theaters of the late 20's and early 30's with cherubs, gargoyles, and red velvet drapes. "For 75 cents (evenings after five)" said a recent article in *San Francisco* magazine, "you could hear Eddie Cantor in person, talking about Ida and the five girls and singing of the value of knowing Susie as he knew her. Then 90 minutes of gripping the armchair loges while watching Warner Baxter and Lois Moran in 'Behind That Curtain.'"

When the National General Corporation, parent company of Twentieth-Century Fox, decided to tear down the old theater and put up an income-producing structure, there was, of course, an outcry in San Francisco. Few persons had used the Fox in recent years, but suddenly many wanted it saved.

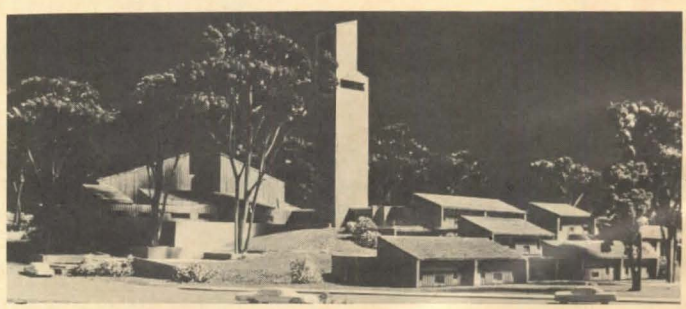
Now, in its place, stands the Victor Gruen-designed Fox Plaza. The tallest building in that section of Market Street near the Civic Center, the Fox Plaza is also the only office structure and the only apartment house in an area mostly consisting of small retail shops. It should begin a renaissance of that end of Market. Some 40,000 persons who work daily in the area now can shop in a branch of Joseph Magnin women's stores, eat in a sidewalk café, and browse in a number of shops opening off a two-level interior arcade, which sprawls beyond the high-rise part of the structure. Two underground levels provide parking space for 420 cars. Floors 3 through 12 offer 185,000 sq ft of office space. Floors 14 through 29 hold 448 apartments.

Set back on its triangular site, the building is surrounded by a landscaped plaza with trees and benches. The concrete building has a steel frame; the thirteenth floor, dividing offices and apartments, serves as the mechanical floor.

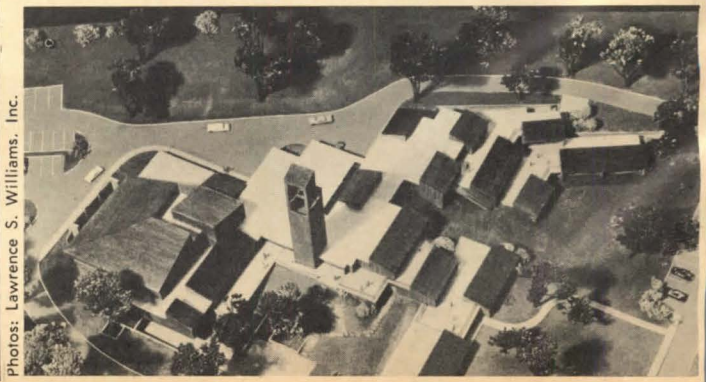
## INTERIOR DESIGN BY THE GREAT ONE

MIAMI, FLA. Jackie Gleason sold his home outside New York City to CBS recently, for a reported $380,000. He had designed the four-room circular home himself, a structure that architectural critic Georgie Jessel once described as "a bar with a sort of house attached." Now word comes that Gleason, "The Great One," is adding to his activities, which include a weekly TV program, weekly predictions of the outcome of football games, and consumption of brew with friends. He is becoming an interior decorator. His first commission is for the public area, nightclub, dining room, and coffee shop of the Statler Hilton in Miami Beach.

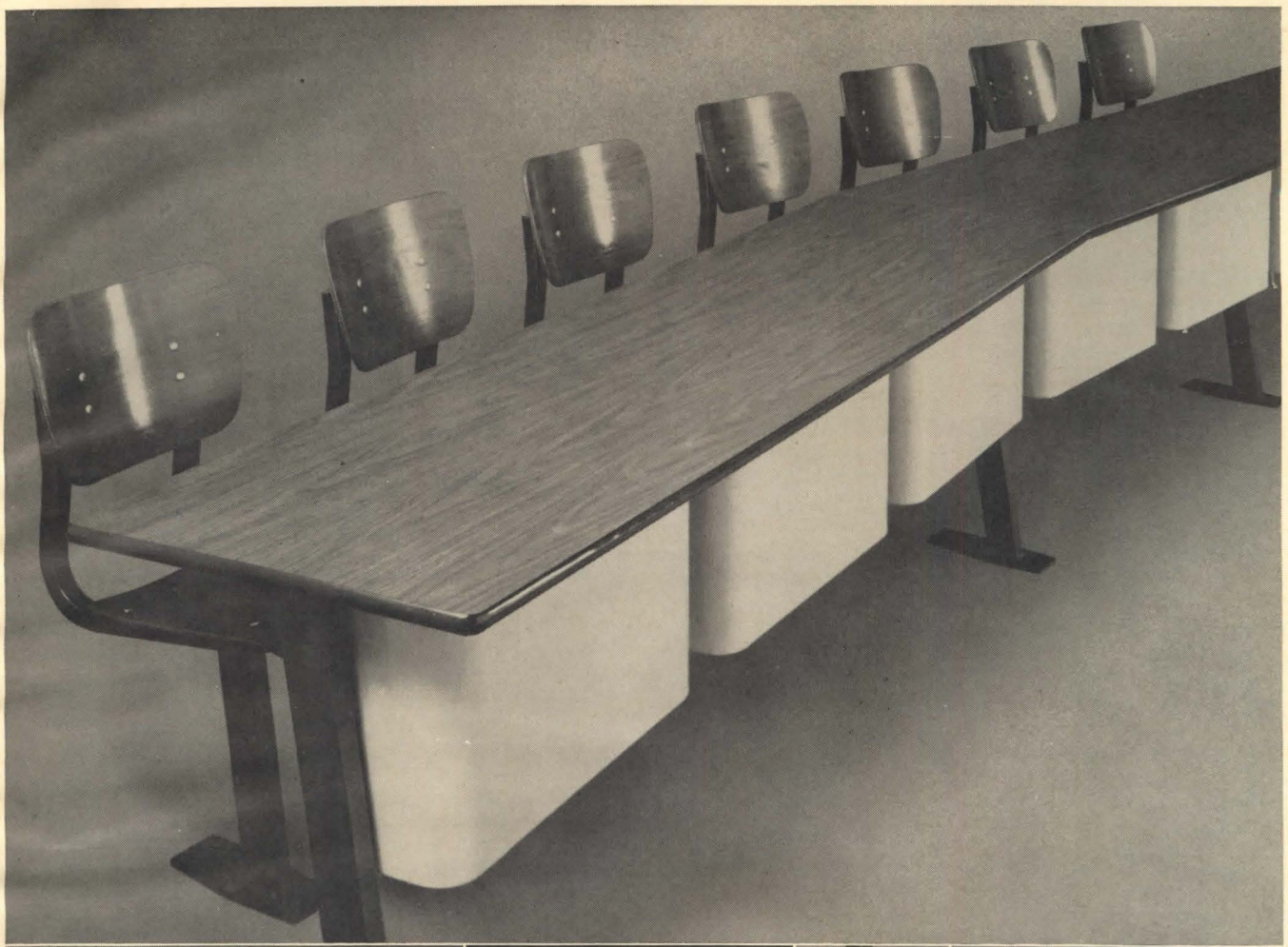
## REDWOOD CHURCH IN THE GROVE

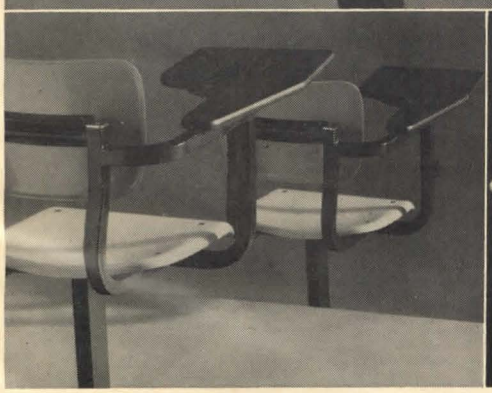


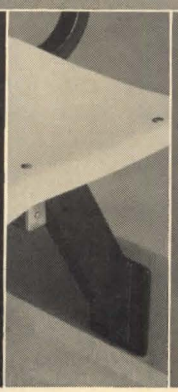
SOUTH BEND, IND. Parishioners of the First Christian Church in South Bend wanted a church that would have a domestic rather than an institutional character. It seems an entirely appropriate request at a time when much religious practice is becoming more informal. Accordingly, architects Harold E. Wagoner & Associates of Philadelphia have designed a church that should be both inviting and comfortable. Its exterior walls will be of untreated redwood



Photos: Lawrence S. Williams, Inc.







## INTRODUCING THE NEW COLLEGE & UNIVERSITY FURNITURE GROUP BY AMERICAN DESK MANUFACTURING COMPANY

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planks laid over concrete block; its many shedlike roofs of wood shakes. Sprawling around a central campanile, the church rises and falls with the level of the wooded, hilly site. There will be three main levels, all accessible at grade. On the intermediate level is the sanctuary, arranged to create what architect Wagoner calls a "church in the half round." Beneath the sanctuary *is the* Fellowship Hall and a dining terrace. On the lowest level are classrooms, all of which open to the outside, so that, during good weather, classes can easily move outdoors under the trees.

## PRIZE-WINNING PLAN UNDER FIRE IN ALBUQUERQUE

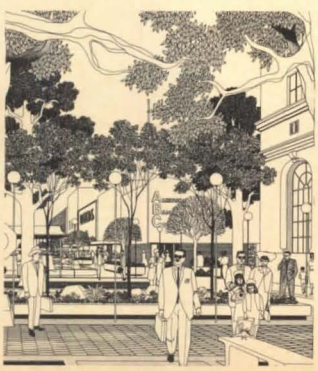
Existing

Proposed

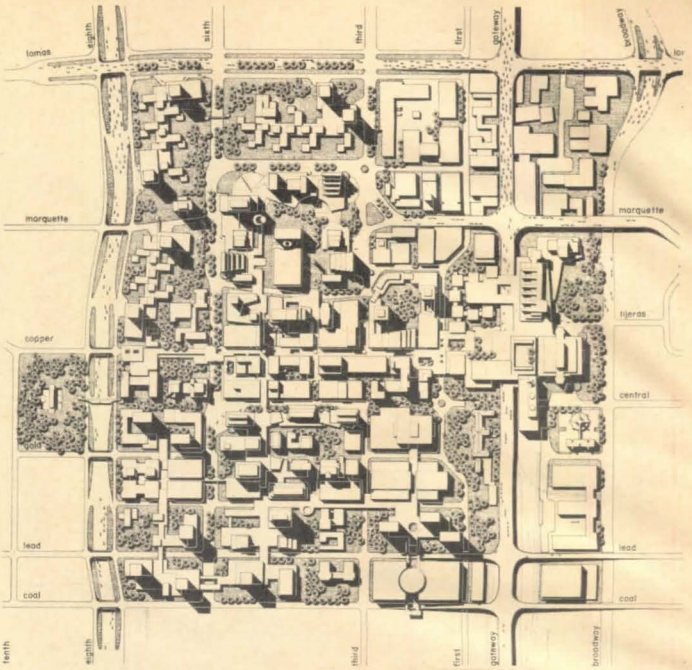
ALBUQUERQUE, N.M. "Only bums will use those benches," said a critic of the plan to beautify downtown Albuquerque. The beautification plan, which got under way in 1965, includes, of course, more than benches. But the small-mindedness of the above critic is typical of an attitude that may undermine the entire program. Perhaps one of the most carefully worked out schemes for revitalizing a downtown area put forth by any city in the country, it had, until recently, everyone's cooperation. Civic leaders, businessmen, architects, planners, the local chapter of the AIA all cooperated on its details. Last fall, it won one of the AIA's Awards for Excellence in Community Architecture. Now, for political reasons, its chances for success seem uncertain: The chairman of the Albuquerque Metropolitan Development Committee (AMDEC), which is supervising the plan, belonged to an organization that sponsored the "wrong" candidates for the city commission. His candidates were defeated in last fall's election, and the newly elected commissioners are cool to AMDEC. Ralph Trigg, city commission chairman, recently expressed doubt about AMDEC's future.

At stake is a plan that started in the urban planning committee of the local chapter of the AIA, chaired by William E. Burk, Jr. Its details, worked out by architects Ronn Ginn and Charles Quinlan, following suggestions made by Burk's committee, show changed traffic patterns, some streets turned into malls and parks, and a considerable amount of storefront refurbishing. Eventually, community buildings such as a theater and a main library will be added. The plan is intended as a guideline — one that will accommodate future changes and attract people, commerce,


Existing



Proposed




and industry to the downtown area, over a 20-year period.

A small portion of the plan is already completed, including planting boxes and those maligned benches, which line Central Avenue.

After so many have come so far, it can only be hoped that political rivalries will not hasten the decay of downtown Albuquerque.

Existing

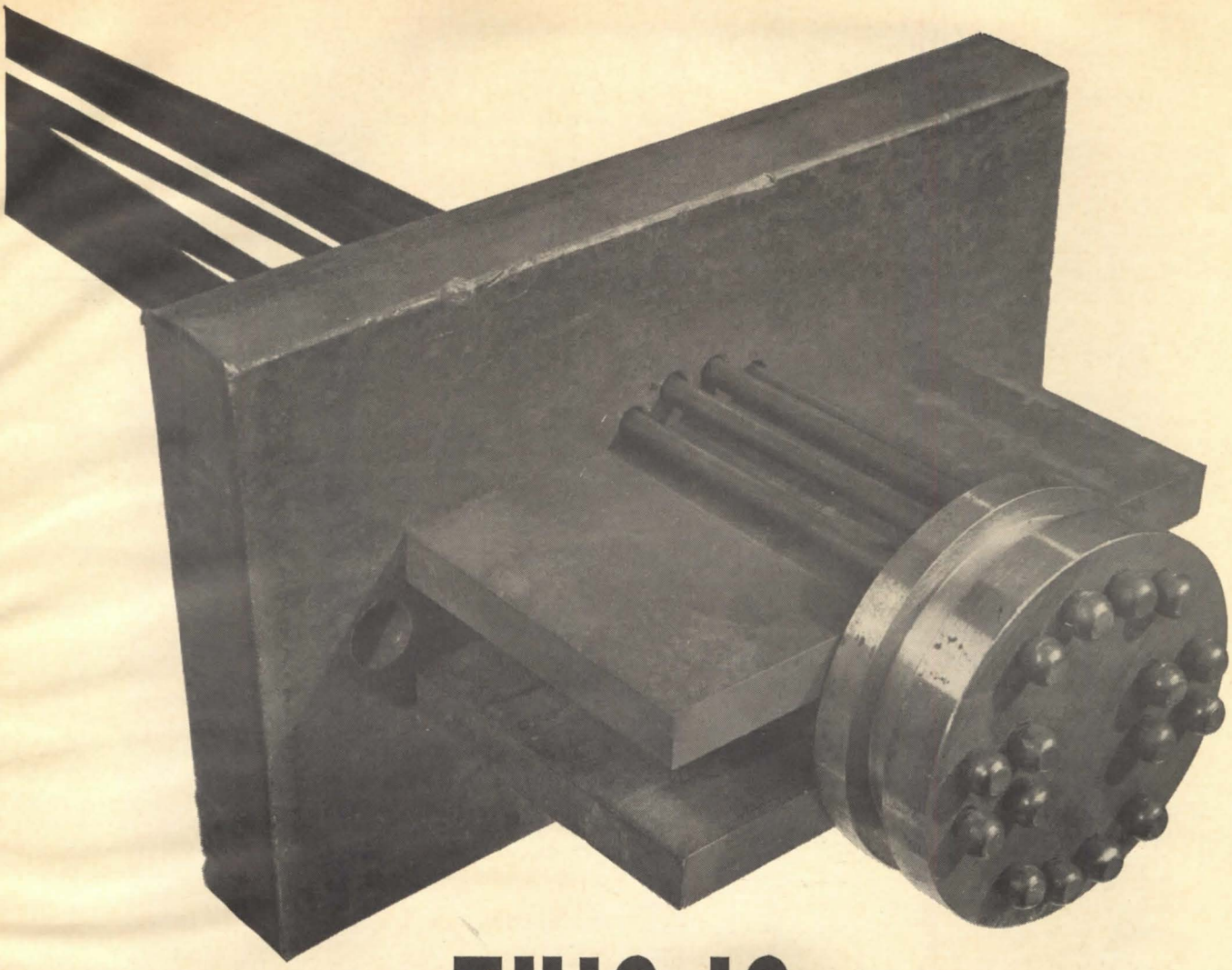
Proposed

## EAVESDROPPINGS

The building [The Salk Institute for the Biological Sciences] fulfills "a need for a structure that itself possessed some of the characteristics of the living organisms to be studied in it." *Dr. Jonas Salk, quoted in* Look *magazine.*

"Although every age has had its proportion of junk compared to its works of value, it is my unhappy conviction that never before in the history of man, with possible exception of the Victorian era, has the proportion of junk — the man-made wasteland in the name of Art — been higher than it is now. The really exciting new visions, techniques, and materials which constitute perhaps 10% of what is currently produced — to these new adventures we must open our eyes and our minds: They are the authentic voices of our time." *Marya Mannes, speaking to the Connecticut Commission on the Arts Statewide Conference.*

"Since the new opera [Metropolitan Opera House at Lincoln Center, New York City] promises to be an excellent performing house, with satisfactory acoustics, it may not matter that the architecture sets no high-water mark for the city; that it is average, rather than adventurous or avant-garde. Performance, after all, was the primary objective. It is secondary, but no less disappointing, to have a monument *manqué." Ada Louise Huxtable.*



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# WASHINGTON/FINANCIAL NEWS

By E. E. HALMOS, JR.

There was a kind of left-handed, oblique rebuttal to that recent proposal on building codes, by the Advisory Commission on Intergovernmental Relations. It was delivered by the powerful Producers Council, just as Congress was getting ready for another session.

The rebuttal, prepared for the Council by Douglas E. Parsons, retired chief of the Building Research Division of the National Bureau of Standards, came soon after ACIR's suggestion (see p. 50, JANUARY 1967 P/A) for a "national" building code to be adopted by the states.

But it was really aimed at efforts now being made by the Housing and Urban Development Department; HUD is quietly working on its own version of a national code, which it could make binding on local communities through its power of the purse.

Parsons' conclusions, after years of study, boil down to a couple of points:

☐ As someone once said of democracy, the present system of building codes is complex, not always workable, and sometimes bad; but it is better than anything else yet invented.

☐ A national code would not remedy defects, and could in fact result in overly rigid and less up-to-date controls.

☐ A Federal agency administering such a code might become too hidebound, might not always receive enough appropriations to properly administer and constantly revise the code; thus the result would be a national code less effective and less current than the local codes now in use.

Clearly implied in the report is the fear that a Federal agency, acting at the highest levels in Washington, would not be as aware of, or sympathetic to, local conditions as a local agency, and thus would tend to insist on standards that would increase costs and complicate building procedures.

(ACIR, by the way, had suggested a model national code, which includes provisions for licensing building inspectors, for adoption and modification by the states and their component local communities.)

**Parsons Report Says No to National Code** — The Parsons report was prepared for the Producers Council in response to a request by HUD — one of several reports sought by that agency for its continuing study of codes and other matters that affect "the welfare of the building industry and the cost of buildings." But it obviously didn't come out quite the way HUD wanted it.

Problem, said Parsons, is that the states — not the Federal Government — are the sources of legal power to enact and enforce building codes. (It is estimated that there are at least 12,000 jurisdictions that issue building permits or otherwise influence building practices.)

"Authors of local codes commonly pattern the requirements after those in other codes. And, in recent years, the four recognized model codes (American Insurance Association, International Conference of Building Officials, Building Officials Conference of America, Southern Building Code Congress) have been widely used.

"The producers of construction materials have strong incentives for initiating and stimulating standardization. . . . Moreover, the procedures of the voluntary organizations . . . seem admirably adapted for developing nationwide standards for the elements of the building structure and electrical and mechanical services.

"[Concerning engineering and design standards] despite the diversity in requirements of local codes, the evidence indicates that these differences ordinarily do not create . . . major problems."

Needed and effective remedies, suggested Parsons, don't lie in a broad-scale national code, but rather in:

More frequent updating of local codes; better and more professional staffs and administration; perhaps better machinery for national evaluation of techniques and products on a voluntary basis.

"There is no evidence," concludes Parsons, "that a national code would minimize the defects of the present system. Progress in improving the quality of national standards would not be improved, needed new standards would not be supplied, training of staffs for building officials would not be improved. . . . Emphasis on a plan to write a national code seems misplaced, if the purpose . . . is to achieve better, as well as more uniform, requirements and to prepare performance requirements to the extent feasible. . . . Concentrating attention on the conspicuous project of drafting and promulgating a national code would not of itself result in a solution."

**Air-Pollution Session** — That four-day national session on air pollution in Washington just before Christmas accomplished its principal objective — a noisy kick-off for legislation on the subject, and very little else.

Principal conclusions from four days of speeches: nobody knows much about the subject or what to do about it; politicians are impatient with scientific approaches, are likely to push for broad-gage, perhaps "meat-axe solutions."

For architects and planners, not much of significance came from the session. Only this seemed likely: because of the obvious popularity, politically, of moves against air pollution, there'll be a demand for more open design of metropolitan centers, more demand for location of smoke-and-fume producing industries in outlying areas.

**Financial** — There's no question that the most important decisions facing the new Congress, now that it has received the President's annual messages, are going to be economic. And there's no question that almost any action the lawmakers take will affect the construction industry and all who depend on it for a livelihood.

☐ Key is the tendency of politicians to persist in believing that, to control the economy as required, construction can be turned on and off like a spigot. Evidence is the already announced intention of chopping $3 billion or more from Federal construction spending — $1,100,000,000 on highways, the rest from other public work — regardless of what Congress appropriates or authorizes. The Federal agencies have already reinforced their moves with steady pressure on private industry — a pressure that has resulted in a foreseeable cut in business spending for new plant and equipment.

☐ Construction industry groups such as the Associated General Contractors have already organized to bring pressure on Congress to reverse this trend. They fear a "ripple effect" that will lead from less work to more contractor failures, to lowered sales of machinery and material, to loss of jobs — and higher prices.

☐ Any effort to reverse cutbacks is politically difficult, however, since the Administration has put opponents in the position of cutting back social programs in favor of construction. No politician can afford to seem to be favoring more highways or Federal buildings at the expense of the poor. So the already mounting moves for restoration of construction money must be handled with great finesse.

☐ The Federal Aviation Agency, its funds untouched by cutbacks so far, has announced allocations of $72,500,000 in Federal matching funds to help local communities construct and improve some 341 civil airports. Of the total, $59,200,000 will go for improvements on 295 existing airports (ranging from land purchases to construction of buildings and runways); $13,300,000 for construction of 46 new airports. In a new procedural emphasis, FAA is concentrating on relieving traffic congestion at major air terminals.

☐ As the year 1966 ended, there was some evidence of an easing in money markets: The Federal Housing Administration noted that, during the first 10 months of the year, the number of areas in which funds were generally available for financing home loans had steadily decreased. But, on December 1, the percentage of offices reporting adequate funds had increased; 35% of its offices reported funds were now available. However, there was a cautionary note: Average yield for FHA's 30-year, 6% new-home mortgages as of December 1 was 6.81%, compared to 5.90% in December 1965.

# The ceiling for terrible places to have to put a ceiling.


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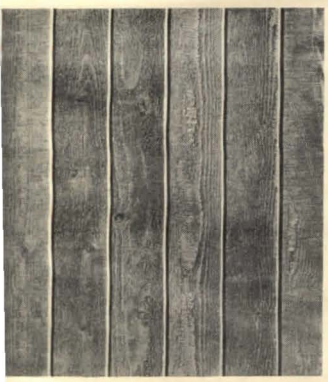
# PRODUCTS

## CONSTRUCTION

**Flexible roofing.** Synthetic resins insure elasticity of roofing material without the use of plasticizers. Formulated from neoprene and Hypalon, the coating will conform to unusual roofing contours and is said to retain its tough elasticity in both high and low temperature extremes. Manufacturer says "Neolon" is available in an unlimited color range with excellent color stability. Desco International Assn., P.O. Box 74, Buffalo, N.Y. 14205.
*Circle 100, Readers' Service Card*



**Ceilings.** Prefinished tongue-and-groove decking of white fir is available in a wide variety of colors and surface textures for exposed ceilings. Colors include silver, smoke, and jade; finishes are either smooth or rough-sawn. Wood is kiln-dried to 10%–12% moisture content to prevent warping and shrinking. Potlatch Forests, Inc., 320 Market St., San Francisco, Calif. 94111.
*Circle 101, Readers' Service Card*

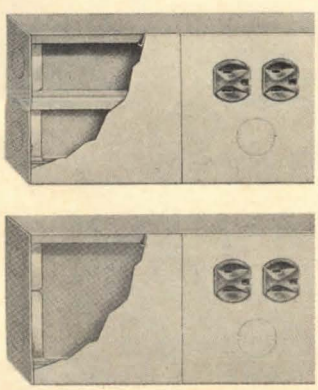
**Yeasty filler.** Bentonite clay products seal joints and cracks, and are used as underlayments to protect foundation floors. High-swelling granular compounds form an impervious seal when mixed with water, and will adhere to concrete, brick, wood, or metal. Company also manufactures a gel compound for calking and lubricating. Building Materials Div., American Colloid Co., 5100 Suffield Court, Skokie, Ill.
*Circle 102, Readers' Service Card*

**Outdoor deck topping.** "Promdek" may be trowel-applied over concrete, tile, wood, and other construction materials. It is impervious to snow, ice, and intense heat, and permits normal movement of the substructure without cracking, claims manufacturer. Suitable for institutional, commercial, or residential use, it is available in either pastel or dark colors. Selby, Battersby & Co., 5220 Whitby Ave., Philadelphia, Pa. 19143.
*Circle 103, Readers' Service Card*

## DOORS/WINDOWS

**Glazing material** of press-molded polycarbonate is unbreakable for five years, claims manufacturer. "Zelux" thermoplastic is ultraviolet stabilized, self-extinguishing when exposed to flame, and offers lower heat loss than glass. Sheets up to 36″ x 48″. Suitable for buildings subject to vandalism or accidental breakage. Crystal-X Corp., Second & Pine Sts., Darby, Pa. 19023.
*Circle 104, Readers' Service Card*

## ELECTRICAL EQUIPMENT



**Dual-purpose raceway.** "Plug-mold G-4000" raceway is available with a divider to provide both telephone and power outlets, and is also made without the divider for either communications alone or lighting and power circuits alone. Trim silhouette is 1¾″ x 4¾″. The Wiremold Co., Hartford, Conn. 06110.
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## FINISHES PROTECTORS

**Vitreous epoxy.** Cold-glazed coating, with a flame spread index of zero, covers masonry, wallboard, plaster, wood, metal, and other materials. "Cemramix," suitable for both interior and exterior, is waterproof and resistant to impact and stains. A variety of colors is available. Preco Chemical Corp., 55 Skyline Dr., Plainview, N.Y. 11803.
*Circle 106, Readers' Service Card*

**Water paint.** Semigloss latex enamels for woodwork are now available for complete water-based painting. Acrylic-latex enamels are suitable for kitchens, locker rooms, and other hard-wear or high-humidity applications. Tests indicate that paints based on "Rhoplex AC-22" have less tendency to yellow, crack, or peel, says manufacturer. A number of companies are producing paints using manufacturer's acrylic emulsion vehicle. Rohm & Haas Co., Philadelphia, Pa.
*Circle 107, Readers' Service Card*

## FLOORING

**Seamless floors.** Manufacturer assumes responsibility for seamless polyurethane floors from design through installation. Engineered specifically for new institutional and commercial-industrial construction, the flooring is easy to maintain, resilient, and has good sound-damping qualities. Available in a wide choice of patterns and colors. Sonneborn Building Products, Inc., 1700 S. Mt. Prospect Rd., Des Plaines, Ill.
*Circle 108, Readers' Service Card*

## FURNISHINGS

**Weatherproof Cushions.** On three groups of wrought-iron furniture, Salterini makes available "Sta-Out" expanded vinyl cushions, which are heat-sealed. This method of weatherproofing allows cushions to breathe, yet water does not penetrate the cushion, and, unlike stitched cushions, these can float. Twelve colors are available, including cherry, lemon, ochre, and blue. The furniture includes (besides a traditional rose pattern) a webbed design and a squared-off design. John B. Salterini Co., Inc., 305 E. 63 St., New York, N.Y. 10020.
*Circle 109, Readers' Service Card*

**Four-square and textured.** The frame of Edward Wormley's latest handsome chair combines the textures of wood (ash) and steel: American ash members, oval in cross-section, are interlocked with polished stainless-steel stretchers. Attached cushions on seat, back, and arms are of fabric, naugahyde, or corkette. Wood frame can be finished darker as specified. Dunbar Furniture Corp. of Indiana, Berne, Ind.
*Circle 110, Readers' Service Card*

**Textiles with a difference.** Six new contract fabrics from Scalamandré include five upholsteries and one casement. The nubby oatmeal casement is all silk and can be sized to order. Upholsteries include an all-silk criss-cross pattern of white and tan that can be dyed to order; a heavy textured wool that comes in

deep blue, red, orange, mustard, olive, and navy; a unique wool, cotton, and rayon weave of lumpy stitches forming a grid pattern over an oatmeal background. Also available is a silk warp with wool fill textile that creates a horizontal stripe effect when the silk takes the dye differently than the wool. Last is a draylon and cotton velvet pile with a silk look made in Germany. Scalamandré Silks, Inc., 977 Third Ave., New York, N.Y.

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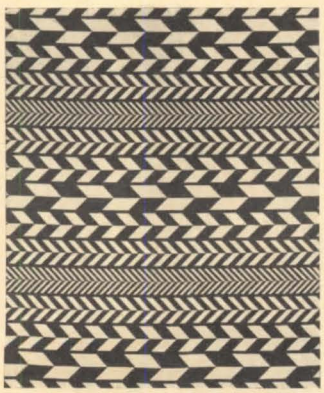

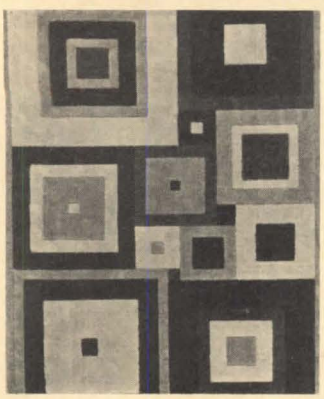

**Danish rugs and textiles.** A line of both rugs and textiles, designed primarily by Ross Littell, is being shown by Unika Vaev. "Square Dance" (pictured), a relief-cut high pile rug, combines shades of only one color (red, blue, beige, or orange) to give a three-dimensional effect. Made of 100% virgin wool, "Square Dance" is 7'-6" x 10'-7". "Arrow" (also pictured), a cotton sateen fabric, comes in six different color combinations. Some all-white bobinette diolen (polyester) casement fabrics have been added to the collection, among them Verner Panton's "Ring," a woven series of concentric circles on a grid background that is ingeniously intricate. Firm now offers overnight delivery from stock in Denmark by using its RCA Telex equipment and jet freighter. Unika Vaev Corp., 305 E. 63 St., New York, N.Y. 10021.

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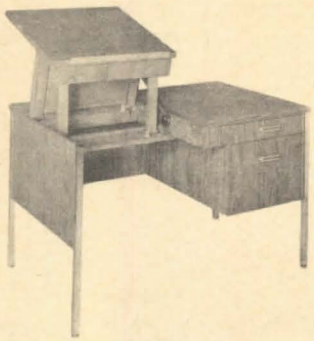

**Selectern.** A unit that at first glance appears to be a 29"-high desk or table converts instantly into a variable height lectern or drawing surface. The lectern surface (24"x24") raises 10" at lower edge (to 46" high at top and 39" at bottom). An adjustable slide stop locks it into the desired place (it can support a projector) and allows it to lower slowly under balanced spring control. Three models, all of walnut laminate, are available: two tables and a single pedestal desk. Haney Equipment Co., Inc., 1600 Berkey S.E., Grand Rapids, Mich. 49507.

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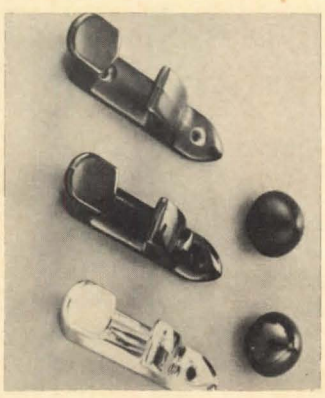

**Black Chrome.** DURAMIR BK, a black chrome plating compound, overcomes former difficulties of earlier experimental black chrome because it requires neither low temperatures (and consequent refrigeration equipment) or high current densities. To convert an existing system, a plater must simply add an extra tank with DURAMIR BK, which can be deposited over bright chrome or the final nickel plate. With the exceptions of aluminum and magnesium, any common substrate can be plated. A variety of deep black finishes can be achieved from a high luster black (light absorption 40%) to a matte finish (light absorption up to 97%), depending on the texture of the surface to which it is applied. Like regular chrome, it will not fade or corrode. Although it is not yet being manufactured, Diamond Alkali foresees uses in office and garden furniture, appliances, and hardware, as well as in automobile trim, toys, and jewelry. Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland, Ohio 44115.

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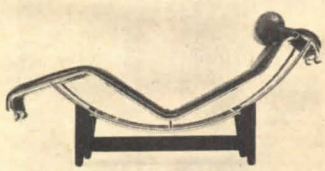

**Le Corbusier Chairs.** Four authentic Le Corbusier chairs manufactured under exclusive license are now in a showroom here: The adjustable chaise longue, 64" long, set on a low base of black and white iron or all black, has a frame of nickel or chrome-plated steel tubing that is covered with black foal hide augmented by a smooth leather neck roll. The tubular steel armchair with pivoting back, which adjusts to the pressure of the sitter, has calf skin sling upholstery and leather arm rests. The two others are the boxy "fauteuil grand confort," which comes in two widths, both fitting one person; tubular steel frame comes in black as well as nickel or chrome plate, with leather covered foam rubber. Although the designs are durable, the standard of comfort may seem to have changed since the chairs were designed in the late 1920's. Scandinavian Design, Inc., 15 E. 53 St., New York, N.Y.

*Circle 115, Readers' Service Card*

**Office furniture.** An attractive and serviceable line of office furniture by Danish designers, Preben Fabricius and Jorgen Kastholm, includes conference tables, chairs and other seating units, desks, and a lighting fixture. One group of designs includes chairs with molded plywood shell and arms, set on tripods of stainless steel, of which one is a high-backed conference chair, the other a low-backed lounge chair. Both are covered by loose leather in a variety of colors. A conference table of pie-shaped sections in teak, ash, walnut, or rosewood, is supported by stainless-steel members that extend out from a central column between the pie sections to the outer edges, where they descend to the floor as supports. A steel-framed, leather-covered chair with floating arms offers the choice of solid upholstered arms or open steel arms wrapped with thick leather thongs (illustrated). The line also includes a table or desk, various-sized cocktail tables, and an armless chair with a horseshoe shaped base. George Tanier, Inc., 305 E. 63 St., New York, N.Y. 10021.

*Circle 116, Readers' Service Card*

**Knitted Fiberglas.** The first seamless draperies of Fiberglas Beta yarn are available up to triple widths (144" wide) and in lengths from 30" to 99". Colors are white, gold,

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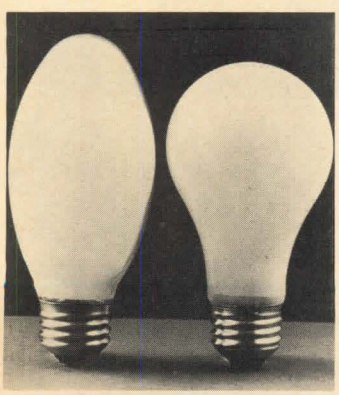
olive, and beige. Four styles are available: an Austrian bouclé woven in vertical stripes, an opaque popcorn pattern, a network of interlacing stripes in a lattice weave, and wide vertical stripes combining an open and close weave. Heidenberg Textile Fabrics Co., Railroad Ave., Closter, N.J.
*Circle 117, Readers' Service Card*

## INSULATION

**Protective family.** Foamed urethane forms core of insulation board products covered with membranes of paper, foil, felt, plastic, and other materials. Products are available in thicknesses from ½" to 2", and are suitable for a number of applications such as bases for built-up roofing, finished wall surfaces, or plasterbase. Typical "K" factor for a 1"-thick board is .13. The rigid urethane core and membrane sandwich has a high strength-to-weight ratio. Atlas Chemical Industries, Inc., Wilmington, Del. 19899.
*Circle 118, Readers' Service Card*

## LIGHTING



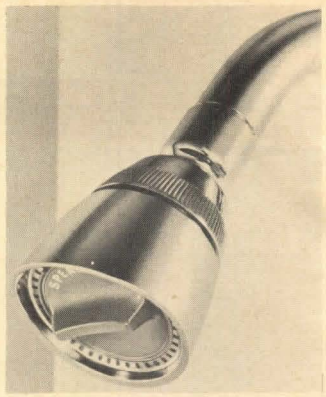
**Smallest mercury lamp.** Picture above compares size of 50-w mercury lamp (left) and 50-w incandescent lamp. The new GE lamp is said to give twice the light and 10 times the life of incandescent bulbs of the same wattage. The light is rich in red and is suitable for commercial use. General Electric Co., Nela Park, Cleveland, Ohio 44112.
*Circle 119, Readers' Service Card*

**Outdoors.** Post lighting for mall, parking area, and other outdoor areas offers a choice of size, trim, and number of squared fixtures per unit. Available for either mercury vapor or incandescent lamps. The Holophane Co., Inc., 1120 Avenue of the Americas, New York, N.Y. 10036.
*Circle 120, Readers' Service Card*

## SANITATION PLUMBING

**Clean story.** Basin-mounted soap dispenser, for use where wall space is limited, is installed through a hole in the washstand. The $^{27}/_{32}$"-dia x 4¾"-long shank will hold 16 oz, filled from the top. Metal parts are brass or chrome finish. American Dispenser Co., Inc., 860 Broadway, New York, N.Y. 10003.
*Circle 121, Readers' Service Card*

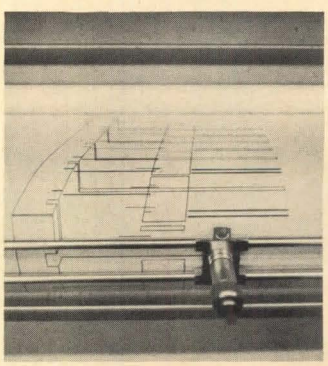
**Back to back.** Manifold fitting for 4"-wide partitions distributes hot and cold water to back-to-back fixtures. Bronze valves and copper tubes for "Bac 2 Bac" manifolds fit around drain pipe in partitions. JMJ Corp., 5310 N. Albina Ave., Portland, Ore.
*Circle 122, Readers' Service Card*



**Plastic shower head.** Recent advances in electroplating make it possible to chromium plate plastic shower heads. The manufacturer says the plastic resists wear, is noncorrodible, and the fixture costs less than comparable all-metal fixtures. Speakman Co., Wilmington, Del.
*Circle 123, Readers' Service Card*

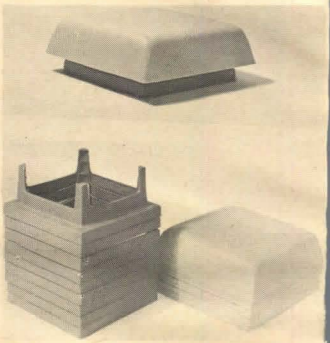
**Swingaway sink.** Stainless-steel sink saves space by pivoting on its drainpipe under a counter. Bowl, 16¾" x 11½" x 6" deep, is supplied assembled with overflow, drain, swivel joint, and bracket for wall mounting. Holderle Bros., 1214 Brooks Ave., Rochester, N.Y. 14619.
*Circle 124, Readers' Service Card*

## SERVICES

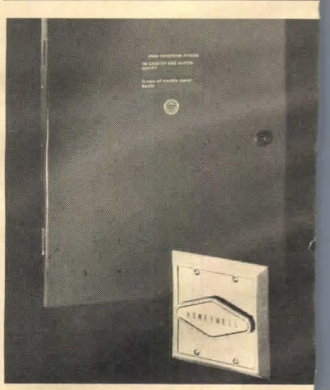


**Computer-drawn perspectives.** Plans and elevations can be converted into perspective drawings by computer at cost comparable to drafting labor, but subsequent drawings made from different viewpoints decrease in cost. A Boston firm offers 24-hr. service for perspectives at any scale and from any vertical or horizontal displacement. Coordinates from architects' drawings are stored on punch cards so that different perspectives can be ordered at any later date. Design Systems Inc., 123 Newbury St., Boston, Mass. 02116.
*Circle 125, Readers' Service Card*

## SPECIAL EQUIPMENT



**Cap and curb.** Designed to accommodate a number of roof-ventilating needs, this two-piece glass-fiber ventilator can act as fresh air intake, relief, gravity and power exhaust, attic ventilator, or skylight/ventilator. Sizes 8" to 48". Williams-Bermuda Corp., 914 Westminster Ave., Alhambra, Calif. 91803.
*Circle 126, Readers' Service Card*



**Alarms.** Fire-detection uni senses invisible combustion by-products long before there is flame or smoke, claims manufacturer. Aerosol by-products interfere with ionized field to break circuit and trigger alarm. Units are available fo ceiling or duct mounting, and can be powered by stand-by batteries. Honeywell, Inc. Commercial Div., 2727 S Fourth Ave., Minneapoli Minn. 55408.
*Circle 127, Readers' Service Car*

# Grandpa . . .
# what does *guarantee* mean?

It means confidence, son. It means that people who make something, guarantee it, when they are confident it will do what it's supposed to do.

Like that beautiful Lamidall paneling on the walls. It's guaranteed . . . for as long as the building in which it's installed. When you grow up and take over that chair, son, that paneling will be just as beautiful as it is today. And you can tell your children the same thing.

That's what Lamidall's guarantee means.

LIFE OF BUILDING GUARANTEE

LAMIDALL INTERIOR WALL PANELS AND PLANKS ARE GUARANTEED FOR THE LIFE OF THE BUILDING IN WHICH INSTALLED BY WRITTEN WARRANTY.

CONOLITE BUILDING PRODUCTS DIVISION WOODALL INDUSTRIES, INC. CARPENTERSVILLE, ILLINOIS 60110

**LAMIDALL is a laminated plastic panel or plank in 8 or 10 foot lengths. You have a choice of 23 woodgrains and colors. It's installed with a concealed, patented clip that "floats" it to prevent buckling. And it's guaranteed in writing for the life of the building. For more details . . .**

On Readers' Service Card, Circle No. 400

**LAMIDALL®**
conolite building products division
woodall industries, inc.

425 maple avenue
carpentersville,
illinois 60110

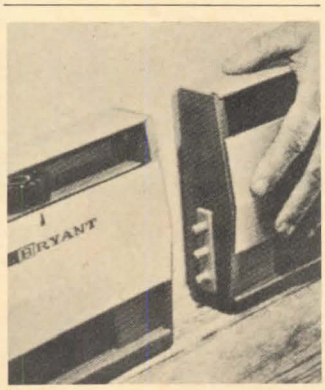
# MFRS' DATA

## ACOUSTICS

**Lead deadens noise.** Discussion of sheet lead as a sound barrier includes analysis of walls, ceilings, isolation of noise from mechanical equipment, and the design of private offices. Construction details included. 6 pages. Lead Industries Assn. Inc., 292 Madison Ave., New York, N.Y. 10017.
*Circle 200, Readers' Service Card*

## AIR/TEMPERATURE

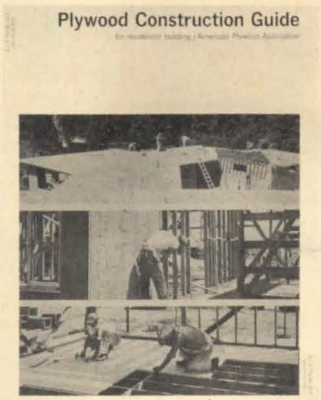
**Handbook for HVA/C'ers.** A review of pneumatic control fundamentals includes sections on theory, operators, controllers, relays, switches, and air-supply equipment. Textbook-type handbook contains detailed discussions on throttling range, proportional band, differential, setpoint adjustment, remote-control point, etc. Text is supplemented by schematic drawings. 40 pages. Honeywell Inc., Commercial Div., 2727 S. Fourth Ave., Minneapolis, Minn. 55408.
*Circle 201, Readers' Service Card*




**Hot line.** Manufacturer enters electric heating field with a comprehensive line of baseboard and wall heaters, strip and duct heaters, unit heaters, and thermostats. Radiant heating cable is also available for ceilings or indoor concrete floors. Technical data, catalog information, price list. 28 pages. Bryant Electric Co., Bridgeport, Conn. 06602.
*Circle 202, Readers' Service Card*

## CONSTRUCTION

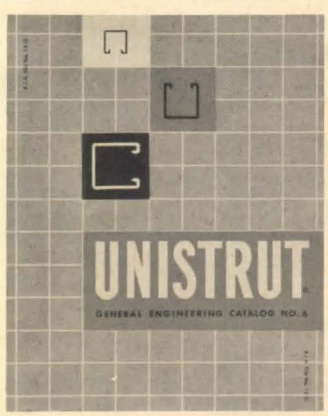
**Glazing seals.** Principal causes of glazing failures, factors governing sealant selection and placement, minimum standards and basic glazing recommendations are set forth in "Glazing Specifications for Vision Glass." Sealant selector chart lists characteristics and limitations of 13 sealants. 12 pages. The Tremco Mfg. Co., Cleveland, Ohio 44104.
*Circle 203, Readers' Service Card*




**Group of booklets amplifies new product standard.** Approval of Product Standard 1-66 (p. 60, JANUARY 1967 P/A) makes new literature necessary for design and specification of softwood plywood. This is now available in packets of 19 publications (PS 1-B) covering such subjects as construction, components, siding, and specifications. The industry is also offering the services of 71 field representatives to meet with groups of users and specifiers to explain the standard. American Plywood Assn., 1119 A St., Tacoma, Wash. 98401.
*Circle 204, Readers' Service Card*


**Stainless architecture.** The advantages of stainless steel are extolled in this well-designed brochure — mainly through a series of excellent photos of buildings and other projects designed by outstanding architects and designers. 32 pages. Committee of Stainless Steel Producers, American Iron and Steel Institute, 150 E. 42 St., New York, N.Y. 10017.
*Circle 205, Readers' Service Card*


**Wood file.** "Western Lumber Technical Manual" has been republished in nine separate catalogs to simplify filing. Basic information on the use of 12 Western softwoods in construction is set forth under the previous titles; and two additions have been made: Moldings, and Fir and Hemlock Doors. Western Wood Products Assn., Yeon Bldg., Portland, Ore. 97204.
*Circle 206, Readers' Service Card*

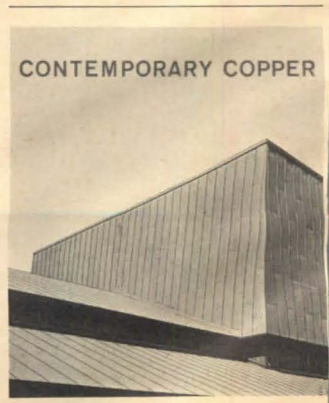



**Metal framing.** "General Engineering Catalog #6" features complete engineering data, illustrations, descriptions, weights, and other pertinent data for manufacturer's channels, fittings, and parts for supporting mechanical and electrical equipment, storage racks, partitions, etc. 156 pages. Unistrut Corp., 4118 S. Wayne Rd., Wayne, Mich. 48184.
*Circle 207, Readers' Service Card*

**Concrete slump.** Admixtures improve workability without using excess water. Charts and graphs give performance data on "Pozzolith" water reducing-set controlling agent, and on several other admixtures that will entrain air, plasticize masonry mortar, etc. 16 pages. Master Builders, Cleveland, Ohio 44118.
*Circle 208, Readers' Service Card*

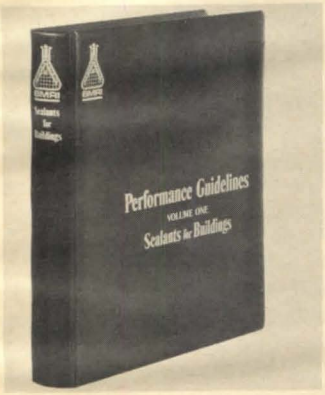
**Put-together buildings.** Steel frames combined with metal wall panels offer a choice of five building profiles in 2500 sizes. Booklet has isometric drawings, details, specifications, and engineering data. 32 pages. Stran-Steel Corp., P.O. Box 14205, Houston, Tex. 77021.
*Circle 209, Readers' Service Card*

**Building exteriors.** The title of this brochure, "Curtain Walls, Windows, Door and Entrances in Aluminum, Stainless Steel, Bronze," explains the contents. Case studies of completed buildings (photos and architectural details) precedes a short catalog section showing manufacturer's pivoted, double-hung, sliding, etc., windows and balanced-door entrances. 16 pages. Flour City Architectural Metals, Div. of The Seagrave Corp., 2637 27th Ave. South, Minneapolis, Minn. 55406.
*Circle 210, Readers' Service Card*



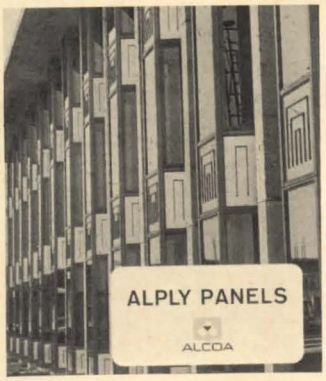

**The patina metal.** Handbook illustrates good contemporary buildings using sheet copper, and provides details of these

applications and other standard uses. "Contemporary Copper" is divided into four well-designed sections: fundamentals (sizes, types, joints, finishing, etc.), design, details, and specifications. The 40-page design section illustrates with photos and architectural details the work of leading architects. The standard details and specs include flashings, roofing seams and patterns (flat, standing, and batten seam, and chevron roofs), gutters, and fascias. Twelve full-color pictures illustrate the five-year time sequence of copper assuming its patina. 96 pages. Copper Development Assn. Inc., 405 Lexington Ave., New York, N.Y. 10017.
*Circle 211, Readers' Service Card*



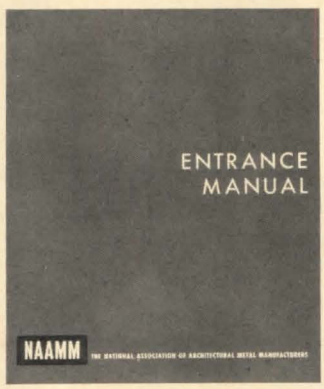

**Sealants assessed.** "Sealants for Buildings" is the report of an independent research group (not affiliated with any manufacturer) that plans to issue a series of such reports on building products. The book contains performance classification according to joint movement; 16 reports on brand-name one- and two-component elastomeric sealants; and a comparative summary of the performance characteristics for the products covered. 100 pages. Price: $75; 10% discount to AIA or CSI members. Building Products Performance Guidelines, Inc., 60 E. 42 St., New York, N.Y. 10017.

**ASTM publications list.** Annual catalog from the American Society for Testing and Materials lists over 500 publications on materials, materials evaluation, and the standardization of methods of testing and specifying materials. 34 pages. American Society for Testing and Materials, Dept. HH, 1916 Race St., Philadelphia, Pa. 19103.
*Circle 212, Readers' Service Card*




**The panel picture.** "Alply Panels," used for the construction of industrial and commercial buildings, and controlled-environment enclosures, comprise interior and exterior surfaces laminated to insulation and a vapor barrier. Brochure gives sizes and weights of aluminum-faced panels, special seams, facing chart, finishes, thermal characteristics, and other technical and appearance data. 12 pages. Aluminum Company of America, 755 Alcoa Bldg., Pittsburgh, Pa. 15219.
*Circle 213, Readers' Service Card*

## DOORS/WINDOWS




**Enter here.** New manual on entrances, compiled and edited by Wayne F. Koppes, tells how to specify, design, and select hardware for metal entrances — principally public entrances. The material is well illustrated with detail drawings, and includes a glossary of common terms. 104 pages. National Association of Architectural Metal Manufacturers, 228 N. LaSalle St., Chicago, Ill. 60601.
*Circle 214, Readers' Service Card*

**Window frames coated** in seven colors of PVC will resist severe weathering and abrasion. Steel frames are electrostatically sprayed with PVC, and then heat cured. Brochure briefly discusses tests and available sizes. Lists projects with "Cecoclad" windows. 24 pages. The Ceco Corp., 5601 W. 26 St., Chicago, Ill. 60650.
*Circle 215, Readers' Service Card*

## ELECTRICAL EQUIPMENT

**Floor outlets.** Carpet flanges and watertight closing caps are features of electrical floor boxes. Catalog lists regular and duplex floor boxes, floor nozzles, fittings, and other floor units. Prices, specifications, dimensions provided on each product. 32 pages. Lew Electric Fittings Co., 627 W. Lake St., Chicago, Ill. 60606.
*Circle 216, Readers' Service Card*

## FURNISHINGS

**Rest Easy.** Office chairs for many uses are included in an attractive partly-color catalogue from Directional Contract. Designed primarily by Kipp Stewart, line includes conference, swivel, desk, and lounge chairs, in addition to sofas. A highly adaptable component group (seats and tables) in modular sizes is featured; variables being upholstery, chair bases and arms, and extent of groupings. Composition and dimensional data for all chairs are included. Directional Contract Furniture Corp., 979 Third Ave., New York, N.Y. 10022.
*Circle 217, Readers' Service Card*

**Tread Gently.** Ranging from high-density "Pliolite" rubber latex foam (for maximum-luxury areas) to cattle hair (for light-traffic areas), Allen rug cushions are made in a wide choice of materials. Others are perforated foam rubber, compounded sponge, and compounded rubber surfaces surrounding a mixture of blended hair and India fiber. All are adaptable to many installations. Folder shows 12 cushion types, describes composition and sizes, and recommends installation locations. Allen Industries, Inc. Contract Div., Detroit, Mich. 48207.
*Circle 218, Readers' Service Card*

**Matting.** Described in 4-color brochure are matting and carpeting featuring "Nova," a new one-piece, sponge vinyl-backed nylon carpeting that does not support combustion. Designed primarily for institutions, its pile is nondirectional, thereby facilitating installation. Also described are two kinds of solid vinyl ribbed runners, nylon-on-vinyl matting for entryways, country-club-carpet matting, and vinyl sponge "anti-fatigue" matting in varying thicknesses. Color and size specifications are included. Catalog S-1, Crown Rubber Co., 1615 Croghan St., Fremont, Ohio 43420.
*Circle 219, Readers' Service Card*

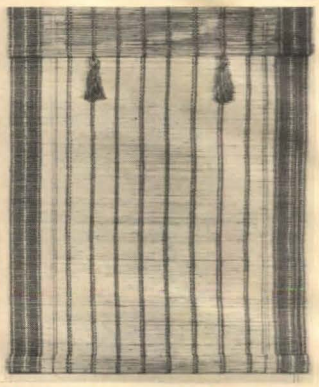
**Quiet, Please.** Patented Quiklok Library Shelving fits together in minutes; lugs on shelf supports fit into holes punched on inner wall of upright posts; shelves fit over supports. Wood or laminated plastic end panels are available in addition to steel. 12-page catalogue shows extras:

snap-in book stops, magazine and newspaper racks, reference shelf, reel rack, etc. Also included, a complete listing of assemblies, parts, and accessories. Hupp Corp., Aurora Steel Products Div., 153 Third St., Aurora, Ill. 60507.
*Circle 220, Readers' Service Card*

**Videne "Total Wall."** Decor System includes paneling, matching doors, and moldings, plus a mastic-type adhesive. Stronger (and reportedly cheaper) than wood, it is available in 14 wood grains including 2 kinds of teak and 3 walnuts, as well as in 44 solid colors (from a bright strawberry to a soft willow green) and patterns (e.g. padded leather, canvas, cracked ice). Videne, a pre-printed plastic surface that is heat- and pressure-laminated to ⅛" hardboard, comes in 4'x8' and 4'x10' panels; other sizes available on special order. The 15-page, 4-color catalogue shows colors, molding types, and finished rooms. Videne Div., Goodyear Tire and Rubber Co., Akron, Ohio 44316.
*Circle 221, Readers' Service Card*

**High and Low.** A folder with data sheets from U.S. Polymeric describes high- and low-pressure laminates and their respective uses. High-pressure laminates serve better in heavily used horizontal installations, but low-pressure laminates serve as adequately in vertical installations, and reduce the cost. Data sheets on low-pressure Polymer Alloy discuss laminating specifications and techniques, as well as resistance to stain, moisture, fading, etc. U.S. Polymeric, Inc., P.O. Box 2187, Santa Ana, Calif. 92707.
*Circle 222, Readers' Service Card*





**Shady Deals.** Pictured in Tropicraft's brochure of wood strips woven for use as shades, panels, and partitions are 11 patterns with descriptions, examples of room settings, and varieties of possible installations. Both hand-woven to buyer's specifications and in a machine-loomed group, these weaves offer a choice of wood (fruitwood, walnut, satin fir, pine, Philippine mahogany, and bamboo) and of yarns (chenilles, cottons, nylons, and other synthetics). Color and finishes can be adjusted to specification. Tropicraft, 568 Howard St., San Francisco 5, Calif.
*Circle 223, Readers' Service Card*

**Floor Tiles.** All patterns and colors of Azrock's vinyl asbestos and asphalt tiles are shown in a 16-page catalogue that contains corks, mosaics, and embossed travertine and woods, as well as more standard spotty patterns. Tiles are for range of installations from residential to heavily trafficked commercial areas. General information on size, gage, and light reflectance values; also, brief specifications are included. Azrock Floor Products, P.O. Box 531, San Antonio, Tex. 78206.
*Circle 224, Readers' Service Card*

**Clay Tiles.** Available in shades of red, light tan, medium tan, and dark tan, "Spartine Tile"



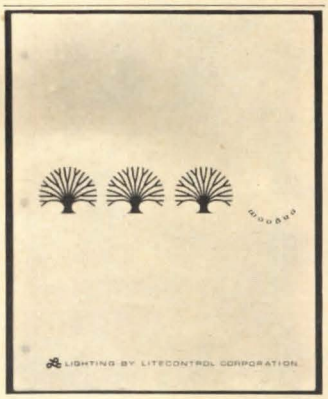

On Readers' Service Card, Circle No. 376

offers natural clay unglazed floor tiles (3″x6″) that may be used indoors or out. Tiles come pre-set in three basic patterns that utilize either one color or a combination of the four colors (known as Golden Pheasant). If other than standard patterns or colors are required, the bricks are supplied unmounted. Specifications, illustrations, and ordering instructions are included. U.S. Ceramic Tile Co., 1375 Raff Rd., S.W., Canton, Ohio 44710.
*Circle 225, Readers' Service Card*

**Table Talk.** "Hugh Acton/Tables," a 12-page catalogue, shows a large collection of institutional tables (some folding), library tables and desks. Tabletops (⅞″ thick for dining, 1¼″ for conference) are reinforced by solid steel bars that extend out from table base. Tops come in oil-finished walnut, textured walnut laminate, and white laminate with continuous extruded vinyl edging (others by special order); base and support bars are chrome-plated steel. Dimensions and photos are included. Hugh Acton, 588 Brookside, Birmingham, Mich.
*Circle 226, Readers' Service Card*

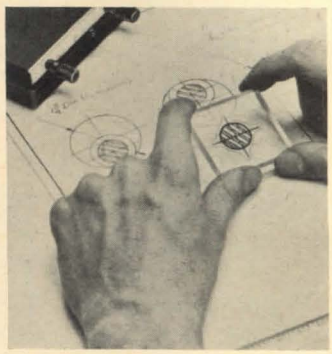
## LIGHTING


**De-light-ful.** Lampposts and luminaires of simple design may act as unifying elements in large-scale projects. Aluminum poles topped by acrylic globes, ellipsoids, and flared diffusers are shown in cutaway drawings, together with a variety of other attractive designs and pole styles. Above is ellipsoid with flat surfaces for area identification markings. 6 pages. Kim Lighting & Mfg. Co., 1467 N. Lidcombe Ave., El Monte, Calif. 91733.
*Circle 227, Readers' Service Card*




**Wood on wood.** Hand-rubbed, oil-finish veneer covers poplar frames for surface lighting fixtures in squares and rectangles with glass or plastic lenses. Walnut veneer is standard; cherry, teak, oak, or maple available on request. "Woodra" series catalog includes descriptions, photos, dimensions, and technical data. Litecontrol Corp., 36 Pleasant St., Watertown, Mass. 02172.
*Circle 228, Readers' Service Card*

## OFFICE EQUIPMENT



**Inked symbols.** Stamps mounted on transparent plastic can be inked from special ink pad and applied directly to drafting paper. Ink dries "instantly" on both porous and nonporous surfaces. Any symbol appearing in the American Standards Association catalog, plus other standard designs, are available from stock; custom stamps may also be ordered. Brochure explains use of stamps and shows ex-

amples of symbols available. 8 pages. The Symbo Co., 2845 Harriet Ave. South, Minneapolis, Minn. 55408.
*Circle 229, Readers' Service Card*

## SANITATION PLUMBING

**Nonclog system pumps sewage.** Self-contained sewage pumping system will not clog, since solids bypass pump, thus eliminating the need for an oversize pump. Suitable for public and commercial buildings, "Hydr-O-Flush" units may be installed underground or in a building. Capacities range from 25 to 275 gpm with head up to 50'. Technical data and schematics. 8 pages. The Hydr-O-Matic Pump Co., P.O. Box 139, Hayesville, Ohio.
*Circle 230, Readers' Service Card*

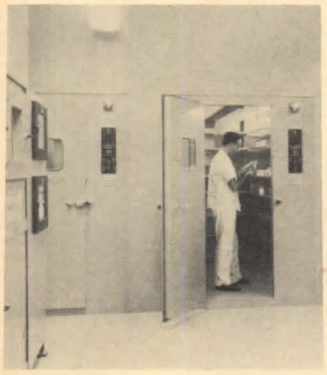
## SPECIAL EQUIPMENT


**The horizontal grid.** Floor and stair treads of steel or aluminum grating are detailed with drawings, data tables, and short specs. "New Grating Manual" contains comprehensive data and index of riveted, press-locked, welded, close mesh, and serrated gratings. 28 pages. Irving Subway Grating Co., Div. of Harsco Corp., 50-39 27th St., Long Island City, N.Y. 11101.
*Circle 231, Readers' Service Card*

**Germ-free interiors.** Ultraviolet lamps installed in forced-air heating and cooling systems decontaminate the air entering hospitals, labs, and other critical areas. One-, two-, or three-lamp units, for both commercial and residential use, may be installed in ductwork and plenums during or after construction. Booklet gives installation instructions, and explains how to calculate the number and type of lamps

required. 12 pages. American Ultraviolet Co., 30 Commerce St., Chatham, N.J. 07928.
*Circle 232, Readers' Service Card*

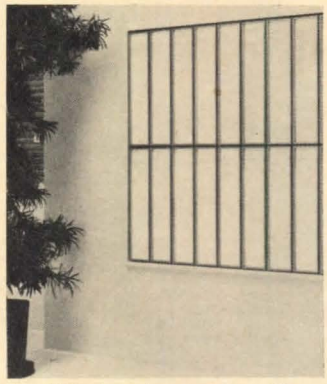
**Put out the fire.** Twenty fire extinguishers introduced during the past year are described in a catalog, which also includes manufacturer's standard models from previous years. Other fire-safety products (foam compounds, wall cabinets, etc.) are included. 26 pages. The Fyr-Fyter Co., 221 Crane St., Dayton, Ohio.
*Circle 233, Readers' Service Card*



**Portable rooms offer controlled environments.** Research labs, quality control rooms, and other spaces requiring precise control of temperature and humidity are prefabricated in pretested and prewired units. Brochure-folder gives sizes, specifications, standard options, and shop drawings. Hotpack Corp., Cottman Ave., and Melrose St., Philadelphia, Pa. 19135.
*Circle 234, Readers' Service Card*

**'Round and 'round.** Turntables for revolving stages, restaurants, or display platforms, among other uses, run at constant or controlled, variable speeds. A portable, folding platform is also shown in leaflet, which includes photos and brief descriptions. 4 pages. Macton Machinery Co., Inc., 131 Jefferson St., Stamford, Conn.
*Circle 235, Readers' Service Card*

**Hush-hush matter.** Silencers control noise from mechanical draft fans, cooling towers, gas turbines, total energy systems, etc. Suitable primarily for industrial plants. Bulletin shows cutaway views of units, explains design of "Power-Flow" silencers, includes a case history, and gives short specs. 4 pages. Industrial Acoustics Co., 380 Southern Blvd., Bronx, N.Y. 10454.
*Circle 236, Readers' Service Card*



**Architectural graphics.** Signs and plaques identify buildings, offices, etc. Suitable for interior or exterior, standard vinyl plaques and letters are available in several finishes and attractive muted colors. Brochure describes type styles, sizes, framing, etc. Also included is the "Vocator" lobby directory comprised of modular panels (shown), which may be easily changed or added to. 24 pages. Vomar Products, Inc., 2807 Empire Ave., Burbank, Calif. 91504.
*Circle 237, Readers' Service Card*

**In the swim.** Brochure gives design information on public swimming pools with manufacturer's special engineering features — pipeless and skimmer gutter system, below-ground filter system, and a 4′ x 8′ underwater observation window. Commercial filters, pumps, water heaters, and poolside equipment are available from manufacturer, as well as a design consulting service. 8 pages. Aquatech Corp., 1220 S. Alvernon Way, Tucson, Ariz. 85711.
*Circle 238, Readers' Service Card*


**PROGRESSIVE ARCHITECTURE**
**NEWS REPORT**

**REINHOLD PUBLISHING CORPORATION**
**A subsidiary of Chapman-Reinhold, Inc.**
**430 Park Avenue, New York, N.Y. 10022**

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# NEXT MONTH IN P/A

***Les dessins des notres écoles sont au bureau***
***Designing for big-city public school boards is likely to inflict on the architect a seizure of bureaucratic schooldaze. Using two new public schools in the New York City system, one by Morris Ketchum, Jr. & Associates, and one by Raymond & Rado, P/A examines all sides of the question in candid interviews with the architects, the educators, and members of the New York City Board of Education. This will undoubtedly be of aid and comfort the next time you beard the bureaucratic lion.***

***Color it exciting.***
***The program of the Sea Ranch Athletic Club was cut back considerably after it won P/A Design Awards Citation last January, leaving a good but diminished building by Moore, Lyndon, Turnbull, Whitaker. To bring some of the fun back into the design, they called in graphic designer Barbara Stauffacher, who, armed with paintpots, two sign painters, and imagination, turned the interiors into really swinging spaces. To be shown in color, of course.***

***How now, ACSA?***
***The feeling that architectural education is, by and large, not doing the job it should to produce architects for today—let alone tomorrow—is one that is shared by most educators and practitioners. From an intensive program of research in the subject and contacts with many architectural educators, P/A reports on new programs, methods, and ideas; what the most serious problems are; what educators see as the architect's role and function; what the "enrollment crisis" means; what remedies might be for the "attrition scandal"; what changes the future will see; and many other related topics. Extensive quotes from leading educators; illustrations by Forrest Wilson.***

***And you should know what we have to say about "Minimal interiors," ornamental plaster, testing models with wind tunnels, a prestressing job on a Florida church, and, of course, lots of opinions, observations, and late happenings in P/A Observer and P/A News Report.***

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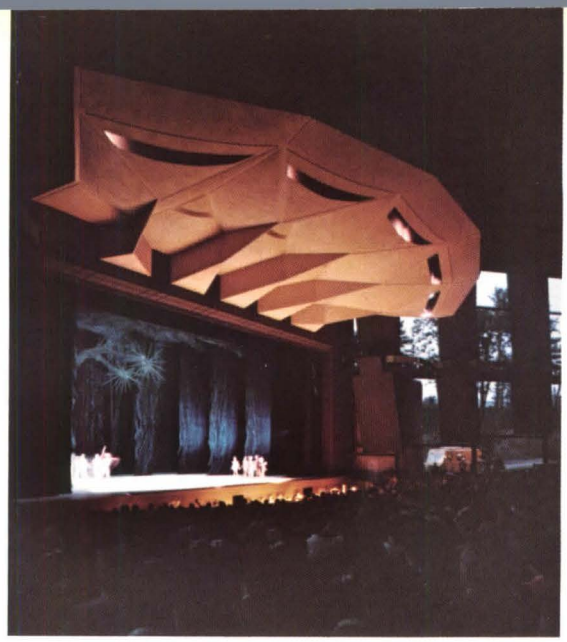
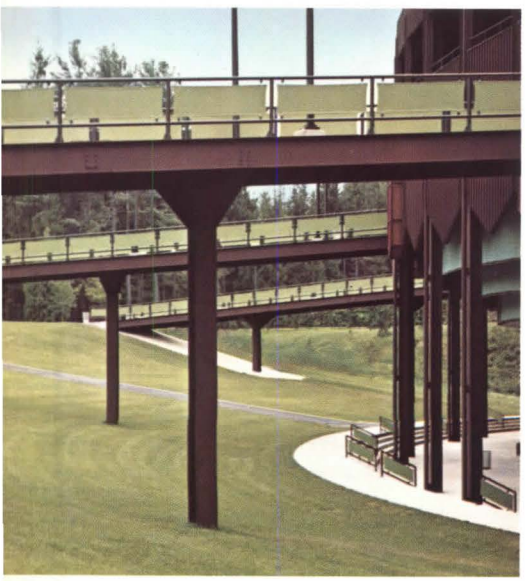


# Saratoga Performing Arts Center



*Steel bridges reach over the lawn to the balcony so ticket-holders don't have to pick their way through orchestra and lawn crowds.*

This summertime center for ballet and music made its debut last year as the home of the New York City Ballet (George Balanchine, Director) in July, and The Philadelphia Orchestra (Eugene Ormandy, Music Director) in August.

Situated on a 150,000 sq ft wooded plot at Saratoga Springs, N.Y., the Center has two main structural elements. First is the steel-framed, fan-shaped amphitheater which seats 5,100 people under roof. The steel frame was designed so that there is an unobstructed view of the stage from every seat. Six steel trusses, each 126 ft long, span out from the steel proscenium girder (82 ft x 10 ft) to form a pleated roof, specially designed to blend acoustical properties with the visual requirements.

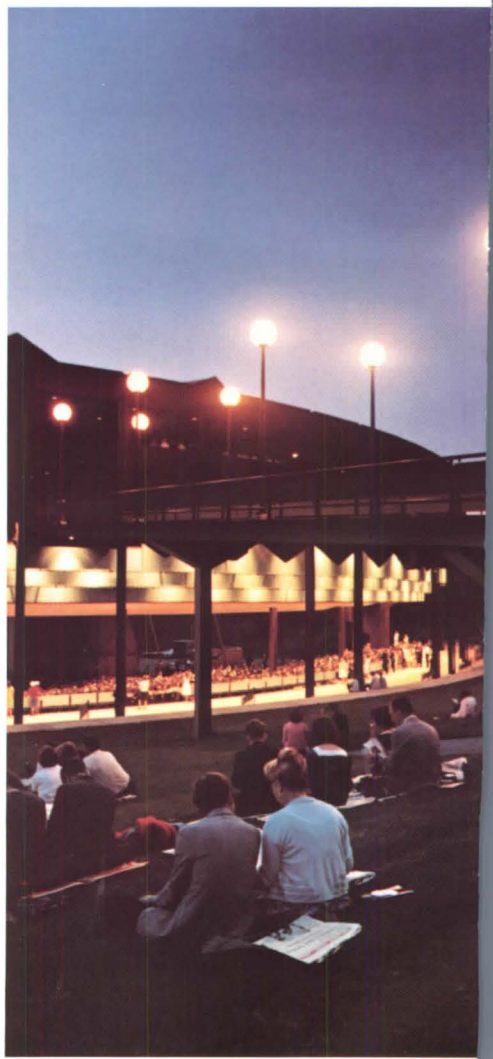
The second structural element is the towering stagehouse, 100 ft high, 102 ft wide, and big enough to accommodate 104 separate sets of scenery. The stagehouse is heavily framed and braced with steel to satisfy all load requirements.

*The Saratoga Performing Arts Center was designed by the architectural and engineering firm of Vollmer Associates. Structural steel was fabricated and erected by James McKinney & Son. General contractor: L. A. Swyer, Co., Inc. Bethlehem supplied the structural steel.*

*BETHLEHEM STEEL CORPORATION, BETHLEHEM, PA.*

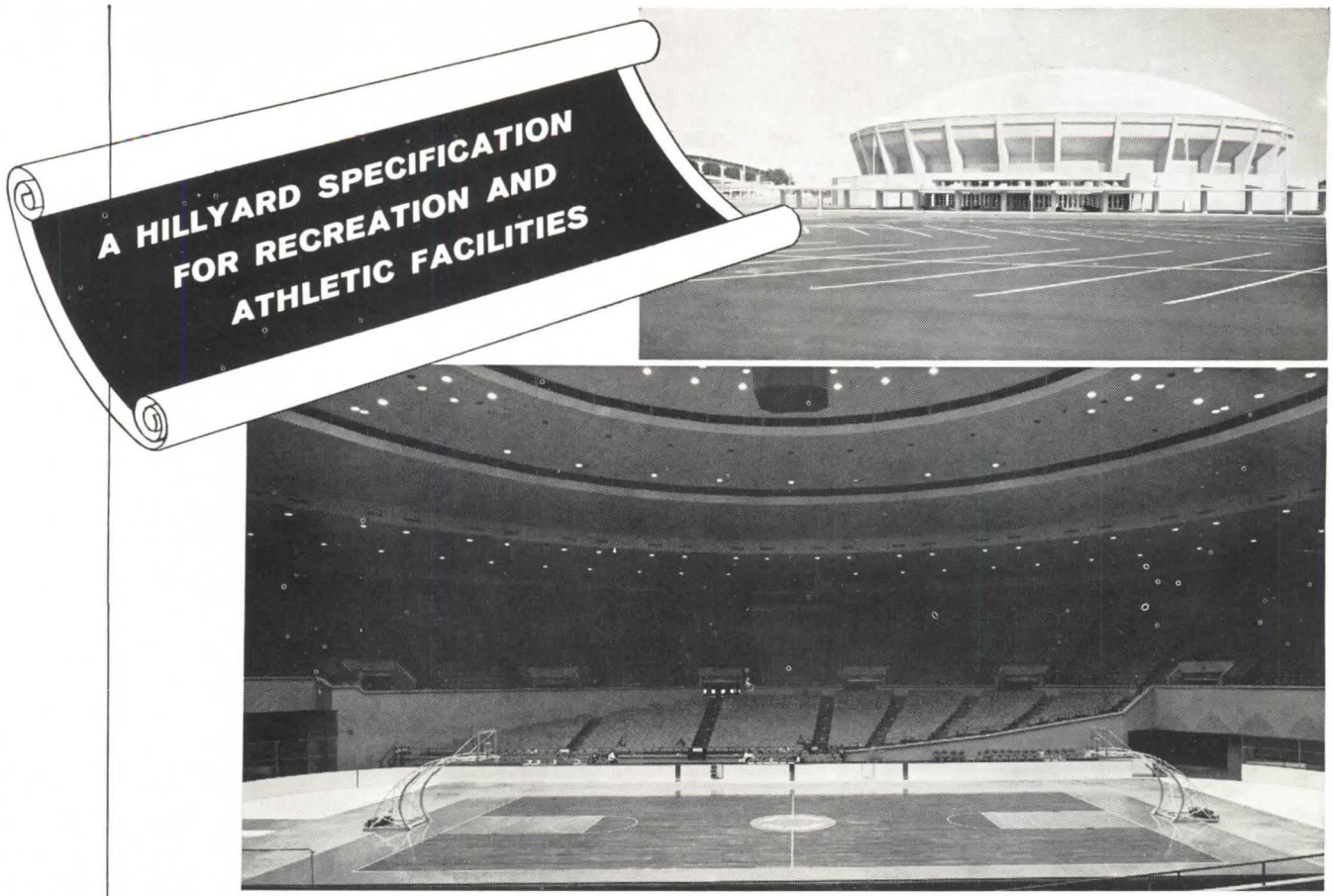
**BETHLEHEM STEEL**

BETHLEHEM STEEL



*The sloping lawn provides room for about 7,000 people who can both hear and see the performances.*

*The pleated roof is supported by 126-ft-long trusses, ranging from 16 to 25 ft in depth. Major acoustical element is a steel-framed canopy 100 ft wide and about 50 ft long, cantilevered 50 ft over the audience.*




New Mid-South Coliseum, Memphis, Tenn. / Architects: Furbringer & Ehrman; Robert Lee Hall & Assoc.

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***COVERAGE (Average):*** Trophy Seal – 350 sq. ft. per gallon. Trophy Finish – 500 sq. ft. per gallon.

***TECHNICAL DATA:*** N.V.M.: Trophy Seal–28%, Trophy Finish–40%. Color: Gardner (typical) 4-5 (extremely light). Drying time: 7 hours to overnight (depending on humidity). Produces a glare free surface with proper light refraction. Exceeds all standards for abrasion resistance. Non-darkening—eliminates need for removing or sanding off finish for 10-15 years.

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***REFERENCES:*** Sweets Architectural File, section 13n/Hi

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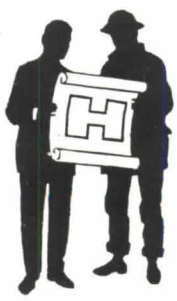
*Free follow-up "job captain" service protects your specifications. A graduate Hillyard Architectural consultant will gladly consult with your specification writers on proper, approved procedures and materials for the original treatment of any type floor you specify. Write, wire or call collect.*



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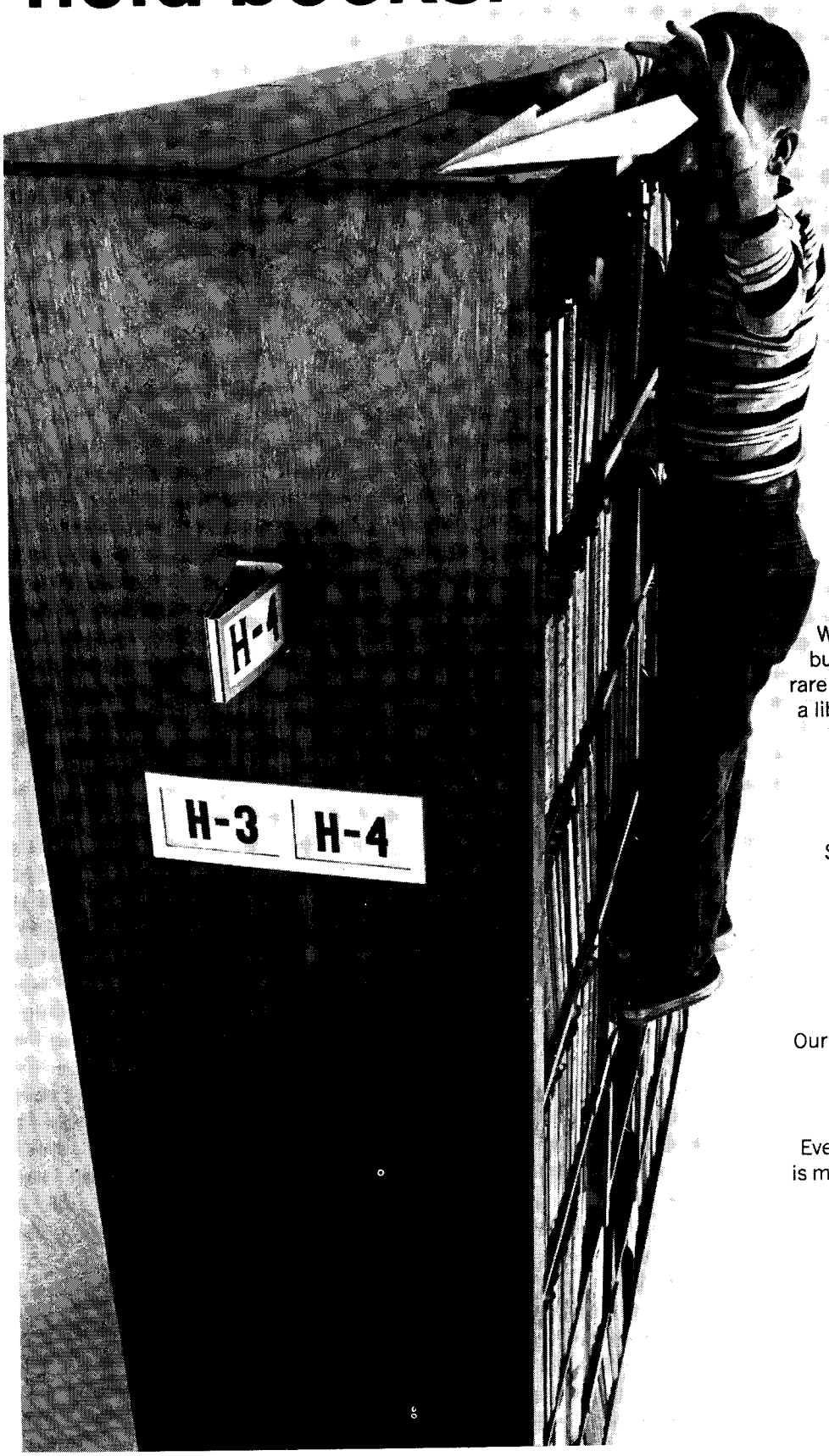


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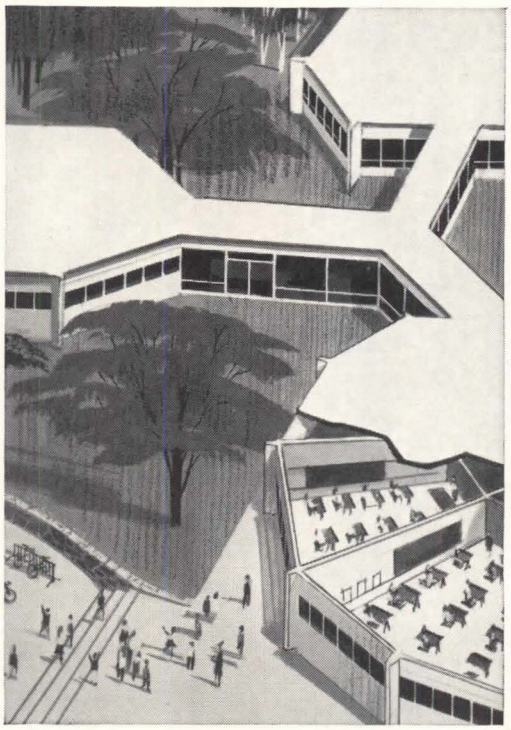
## FLEXIBILITY OF DESIGN



The design simplicity of electric heating and cooling components permits you to design with far greater freedom and flexibility. And since no bulky furnaces or complex distribution systems are required, you can solve problems of office and room design with far greater latitude.

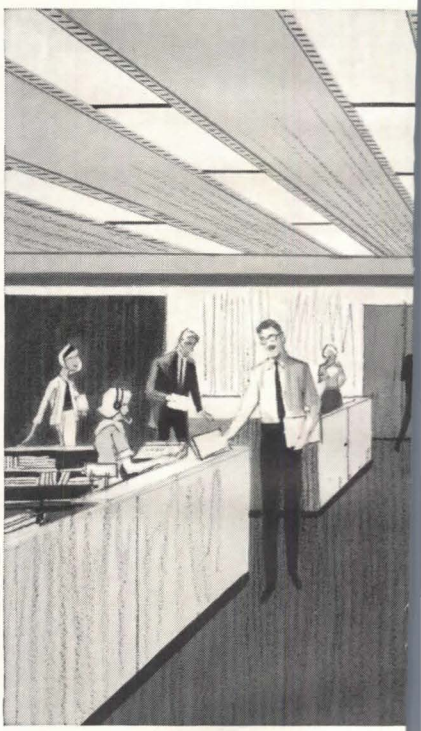
Witness the oval layout of the Pine Hill Elementary School, Pine Hill, N.J. Surrounding a central library and multi-purpose room are classrooms varying in shape and size. And rooms will be added as needed—in satellite clusters.

## LOWER CONSTRUCTION COSTS

The most modern, efficient heating/cooling system you can specify can actually be the least expensive for your client to install. With an electric system, you can eliminate costly boilers, stacks, trenching and steam piping. Not to mention fuel storage and boiler *rooms*. (The boiler is replaced by a compact control cabinet, like the one seen above.) You would also eliminate attendant high installation costs.

How substantially can construction costs be reduced? By going All-Electric, the designers of the 60,700 sq. ft. Hampshire High School, Romney, W. Va., for example, lowered construction costs by $62,900. A saving much appreciated by the local school board.

## HEAT RECOVERY



The principle of recovering heat from high-intensity lighting permits such impressive economies, that it seems sure to dominate the future of space conditioning. By deploying the recovered heat to the cooler parts of a building, or storing it for later use, the architect can effect extraordinary operating efficiency.

Example? The new All-Electric 94,500 sq. ft. engineering and administration building of Electronic Associates, Inc., Long Branch, N.J. So efficient is this building's heat-by-light system that during milder parts of the heating season it provides enough extra heat to carry other EAI buildings.

# design can offer major benefits

## EASIER EXPANSION

Why is it much easier to expand an All-Electric building? Because you can forget about boilers and boiler capacity problems. And there's no need for concern about boiler rooms, fuel storage or stacks. Instead, expansion is accomplished with wiring and a compact control cabinet.

Example? Central High School, Olympia Fields, *Ill., expanded from* 103,500 sq. ft. to 159,685 sq. ft. at an estimated saving of $38,610.

## ROOM-BY-ROOM TEMPERATURE CONTROL

In many buildings, individual room temperature control is a must. Nursing homes require it for critical health reasons. Motels want it for economy. And it is also fast becoming standard in other buildings in which occupancy and activities vary daily from room to room; e.g. schools, churches and hospitals.

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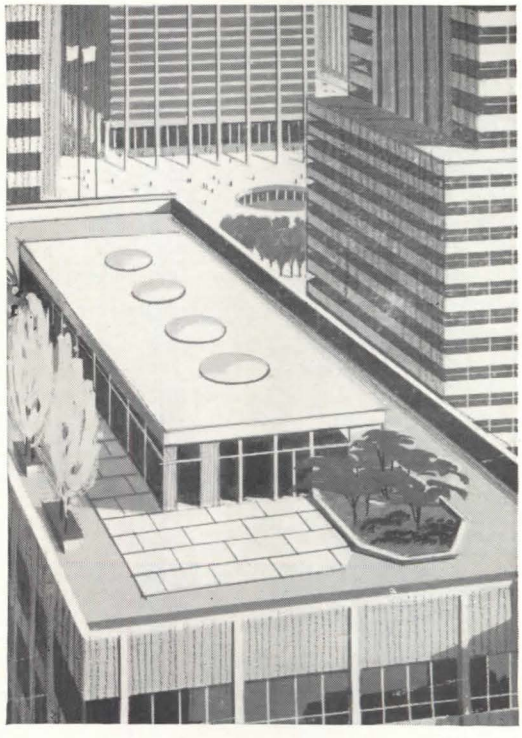

A penthouse serves best as a source of revenue—not as a storeroom for boilers, cooling equipment and fuel. That's one reason why the builders of the $3 million People's Savings Bank Building in Bridgeport, Conn., chose All-Electric design.

By specifying through-the-wall electric heating/cooling units, they freed 4,800 sq. ft. of penthouse space for extra owner income. The added return on capital? $15,000 per year.

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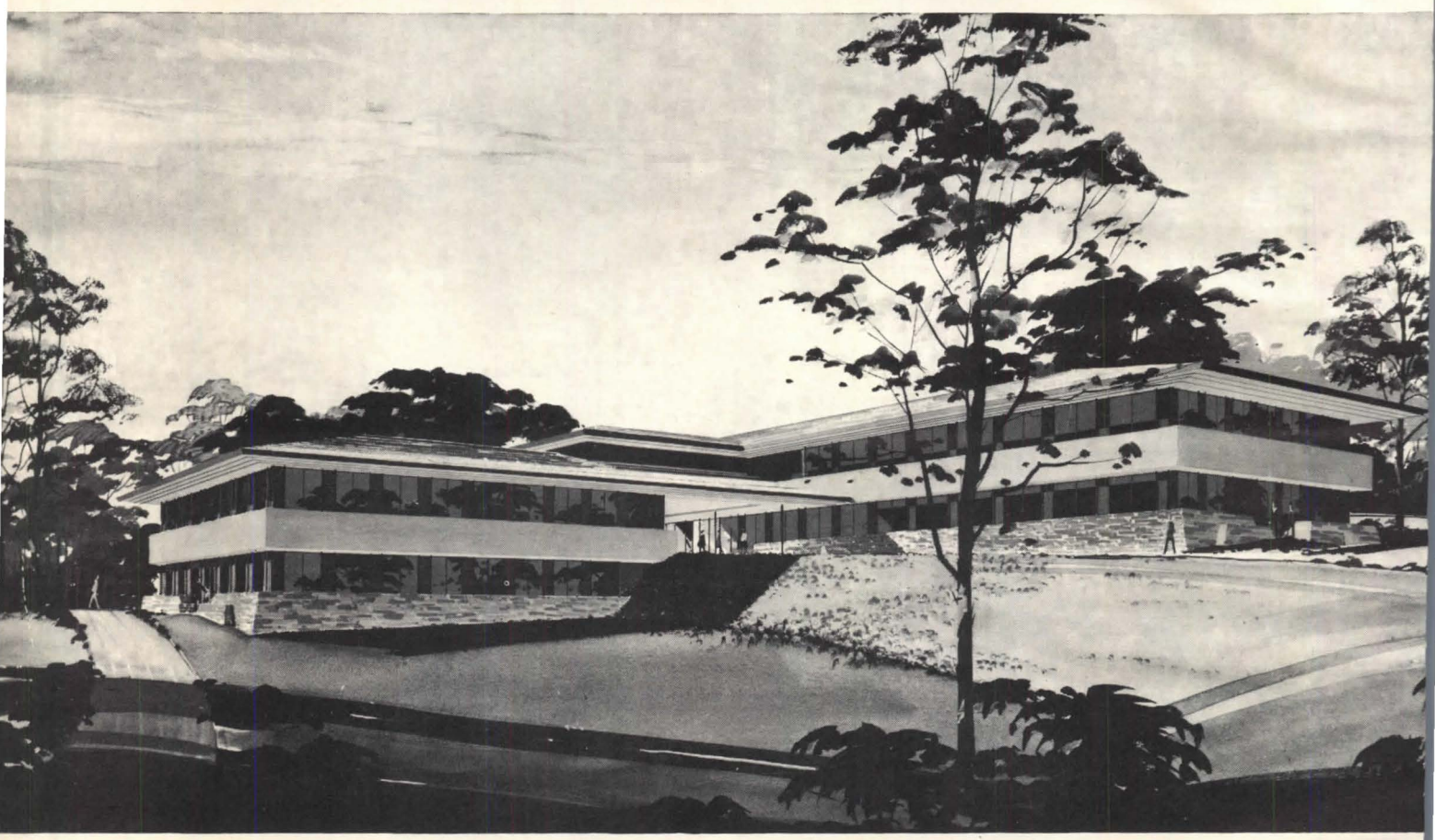

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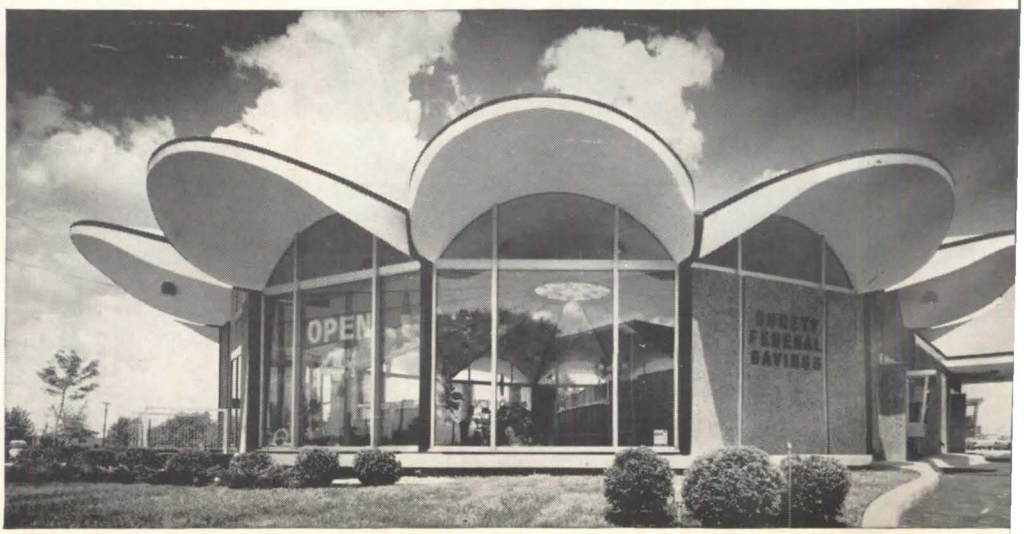

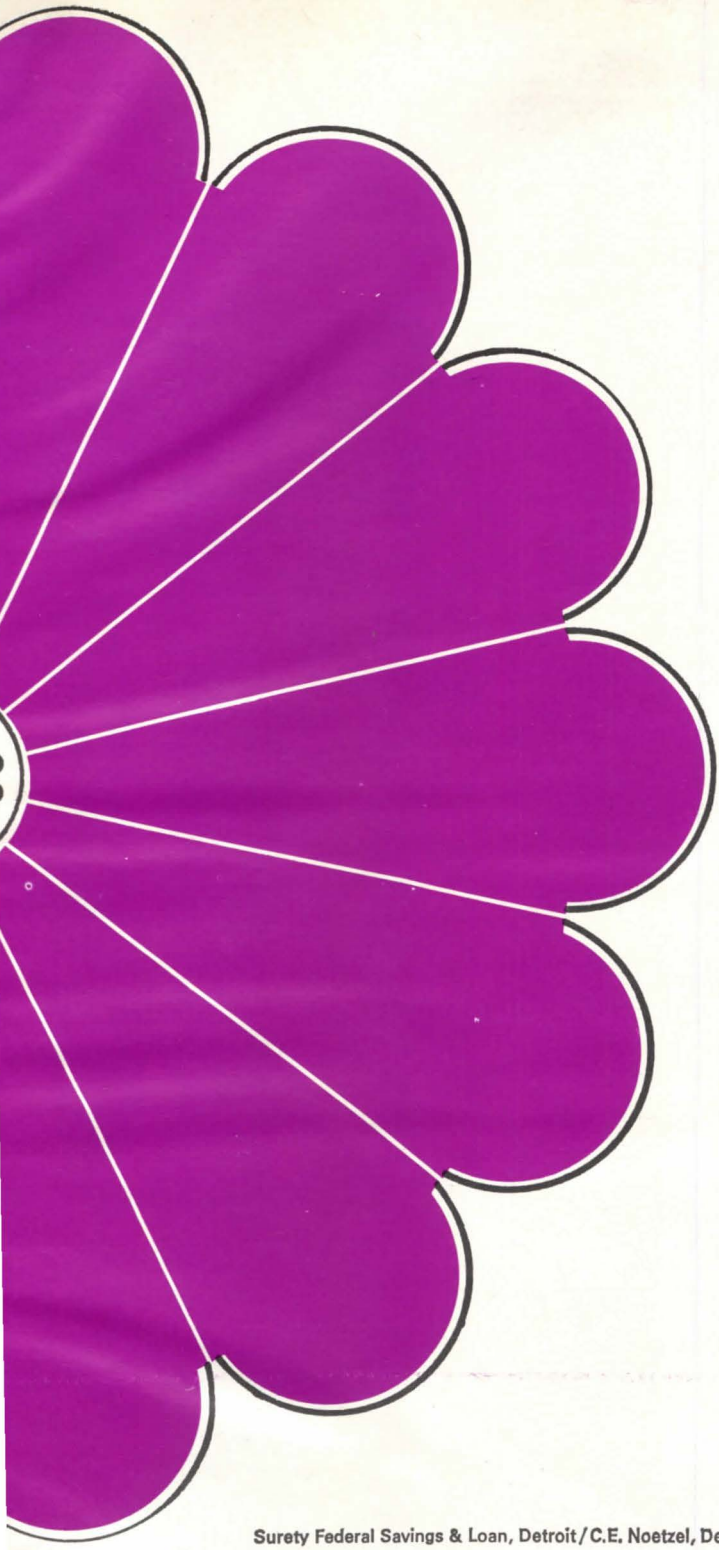

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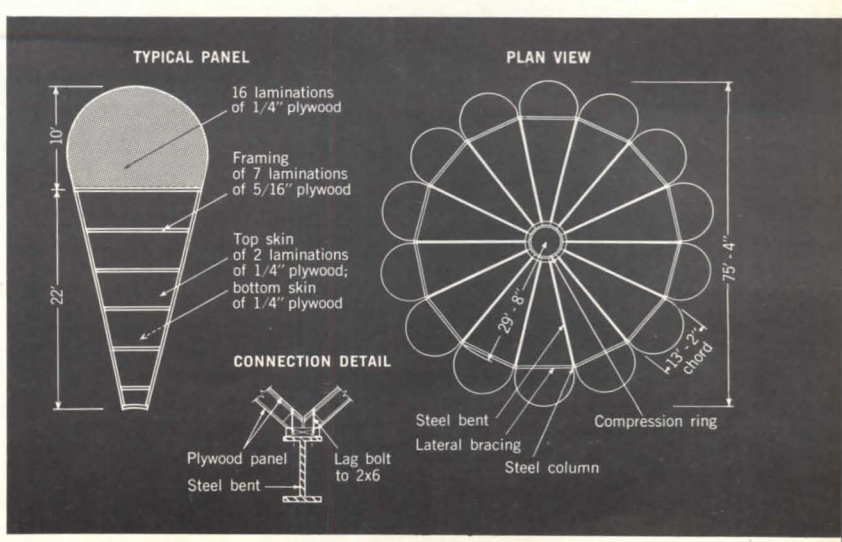


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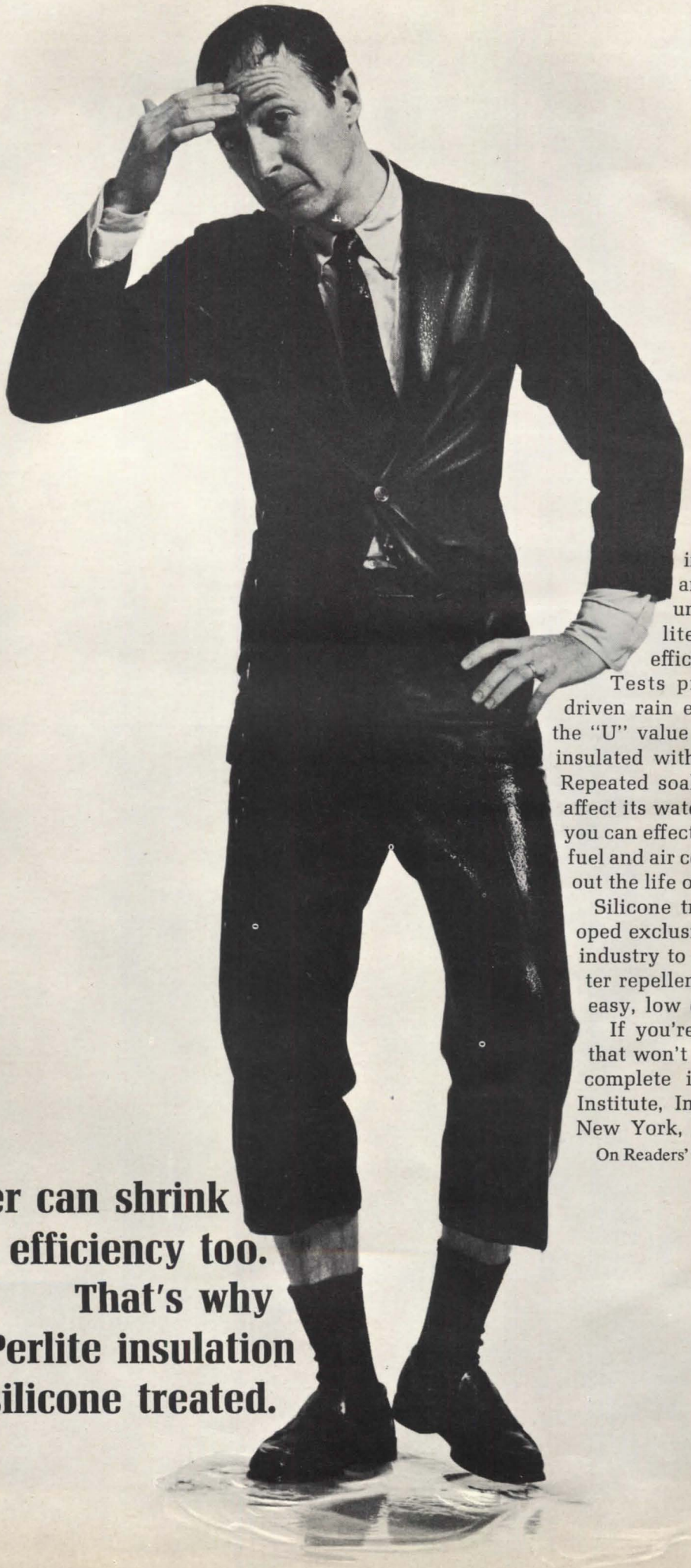

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If you're interested in insulation that won't "shrink" away, write for complete information from Perlite Institute, Inc., 45 West 45th Street, New York, N.Y. 10036.

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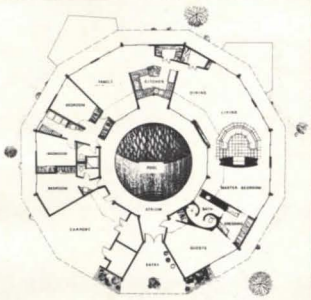
# Ceramic tile lends carefree warmth to an unusual circular home by John Nyberg.



Located in Pasadena, California, this circular home has an atrium as its focal point. All rooms of the masonry and tile structure open off the atrium with its circular pool.

Designed by the firm of Nyberg and Bissner as Mr. Nyberg's home, ceramic tile is used both decoratively and functionally. Quarry tile floors are found in the living room dining, area, kitchen and den. It is also used for kitchen counter tops and back splashes.

Scored glazed tile is used for bathroom counter tops and walls including a unique circular treatment of the walls of the master bath.

In keeping with the contemporary Spanish feeling sought for, extensive use of tile is made throughout other areas of this five bedroom home. Tile contractor for the home was C&D Tile Company of San Gabriel.

If you're looking for a material with limitless possibilities in combined decorative and functional use, look for ceramic tile made in the U.S.A. and Quality Certified by the Tile Council of America. The triangular seal at right is your assurance of glazed wall tile, ceramic mosaic tile and quarry tile that is tested to meet the most rigid government specifications. For more information about Certified Quality Tile, a material that can be used with confidence indoors and out, write: Tile Council of America, Inc., 800 Second Avenue, New York, N.Y. 10017. Or, see the current Sweets Architectural File.

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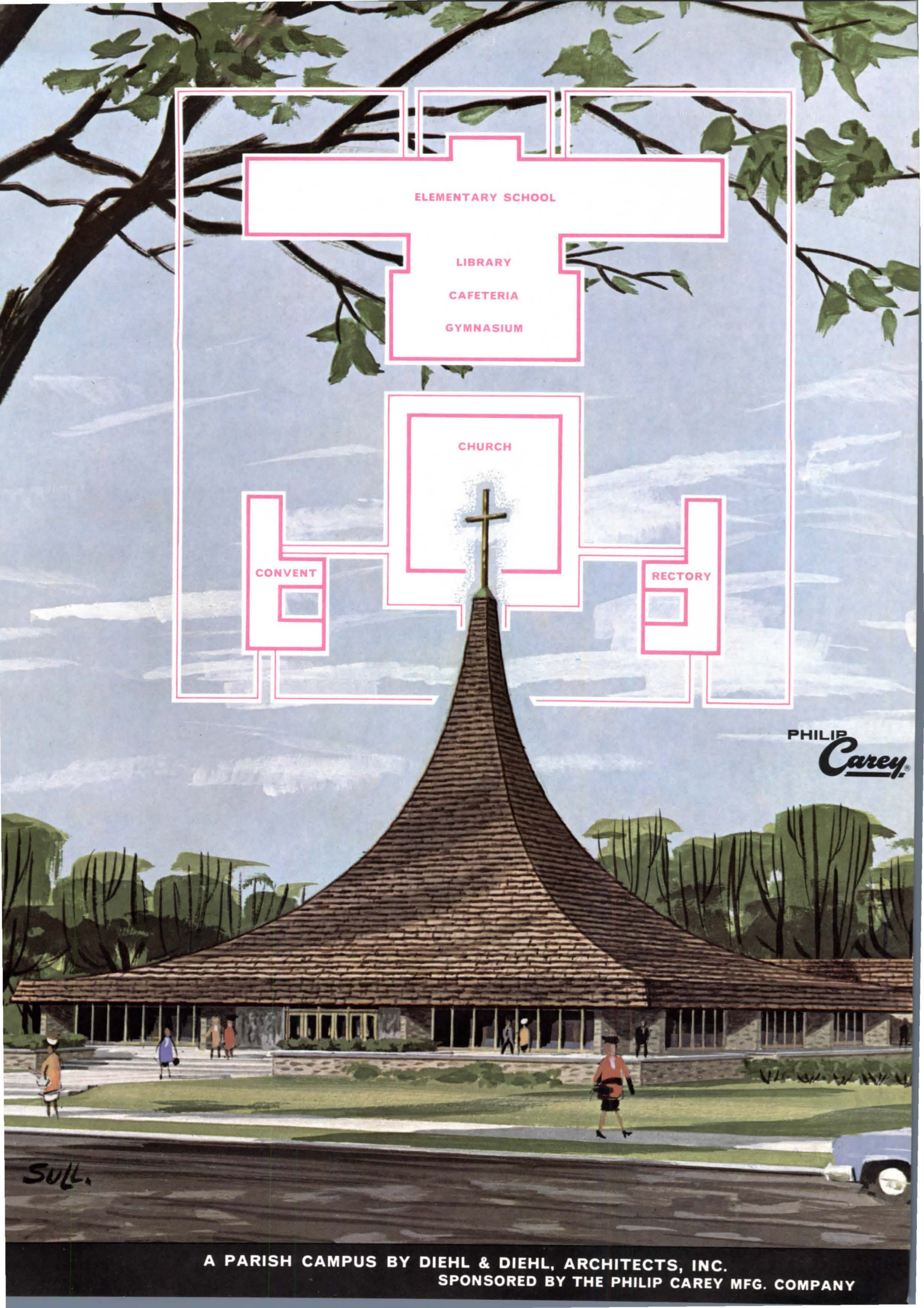


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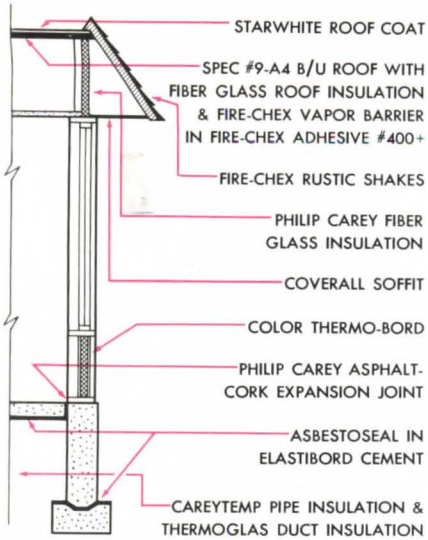


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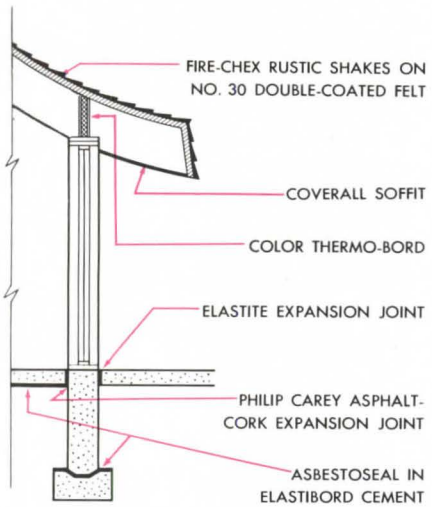


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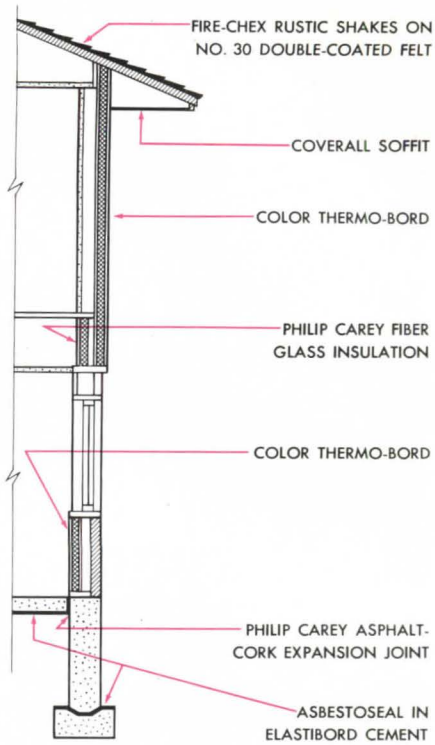


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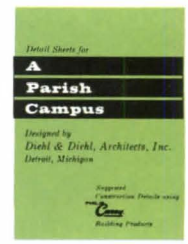


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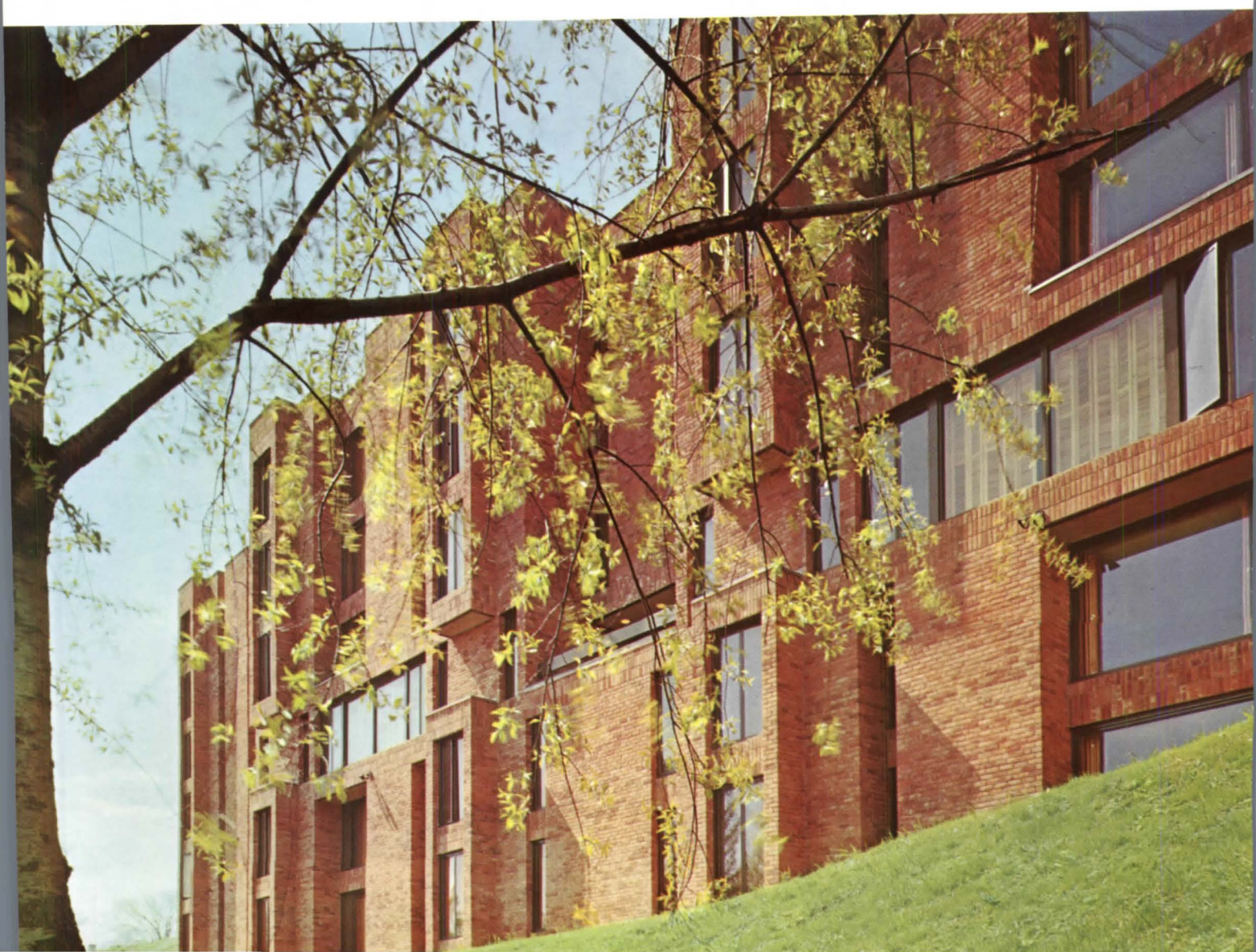
# Isn't this a great college dormitory?



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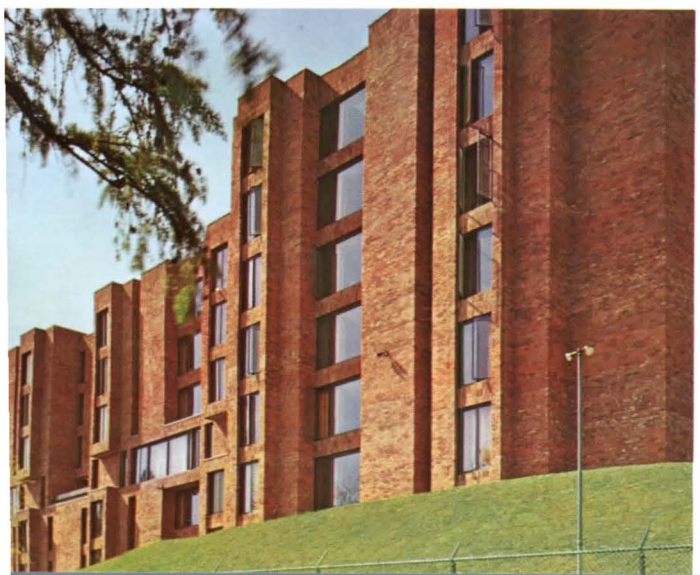
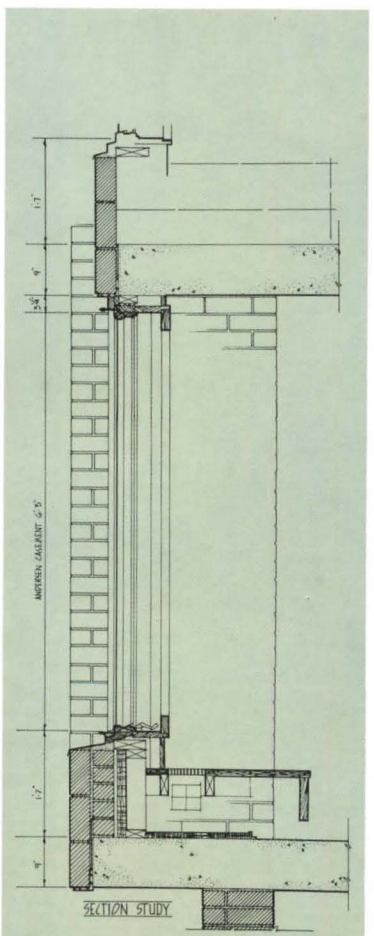
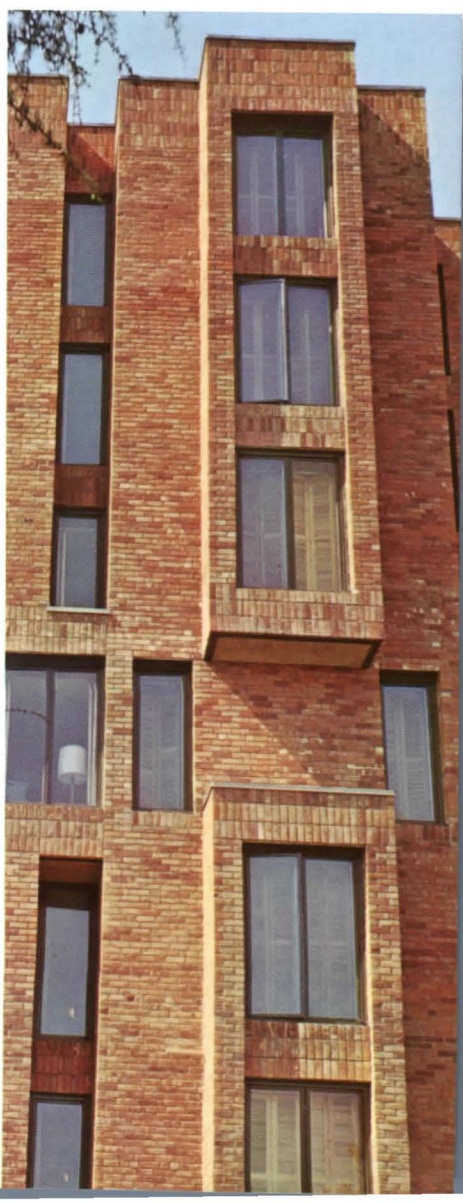





Tufts University Dormitory, Medford, Mass.
Architect: Perry-Dean Hepburn-Stewart, Boston.
Windows: Andersen Casements.



*"It is an instinct with me to attack every idea which has been full-grown for 10 years, especially if it claims to be the foundation of all society."*

GEORGE BERNARD SHAW

## EDITORIAL

**Public Relations,** as the name implies, is an activity aimed at creating a favorable impression on the public. Although of recent origin, the field has mushroomed to the point where some 110,000 people are involved in it full time.

Just as the pixie is a near cousin to the fairy, public relations is a near cousin to advertising. When a man pays for promoting himself or his product in the various communication channels, he advertises; when he receives such promotion for "free," he is involved in public relations work. This tenuous distinction is recognized in professional codes of ethics, which say that public relations is honorable but advertising is not. The hypocritical element inherent in such an attitude is obvious when one considers that large sums of money are often expended on public relations work in the form of payments to public relations men, in printing brochures, in preparing "press releases," and other attempts at disseminating propaganda about one's worth. Yet, because the money is not paid directly to a newspaper or a magazine, the stigma of advertising does not taint this particular form of image-building.

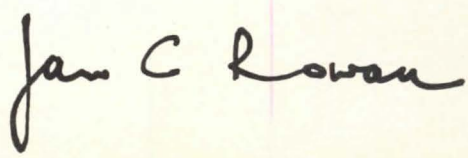
Perhaps because the word "crit" is an integral part of architectural upbringing, architects are prone to be more critical than most other professional groups. Architectural fault-finding covers a wide range of subjects: The clients are gross, or do not understand a genius, or do not have enough money, or are mechanistic bureaucrats, or know too much what they want; contractors are either incompetent or out to get the architect; engineers have no feeling for design and mess up all the brilliant ideas; workmen have no workmanship left in them; package-builders take all the work away. The list could be extended indefinitely.

Obviously, not all architects complain all the time. One does hear occasionally of a great client, contractor, or engineer. But, by and large, there is a tendency in the profession to blame everybody else except oneself whenever something goes wrong with the job. Although it is quite human to indulge in fault-finding, its only possible accomplishment is to reveal where the problem really lies.

One of the games that architects play is to find fault with architectural publications. The criticism varies, depending on the publication and the individual, but, whatever it is, it invariably omits one important element: Because what architects do fills most pages of professional magazines, architectural publications depend to a large extent on the profession for their content.

An architect whose work is to be published can think of it as an act that will further professional knowledge — or he can think of it as another public relations move. It is unfortunate, but true, that so many in the profession consider publication purely as publicity. It is also unfortunate that some magazines cater to it by producing on their editorial pages what are, in effect, inexpensive inserts for architects' portfolios.

Meaningful architectural journalism cannot be accomplished this way. Architectural journals do not reach the general public and should not be considered vehicles for personal advertising. As long as the profession thinks otherwise, architectural journalism will be stymied. The next time you think of the possibility of being published in P/A, you might give a thought or two to this subject. ■

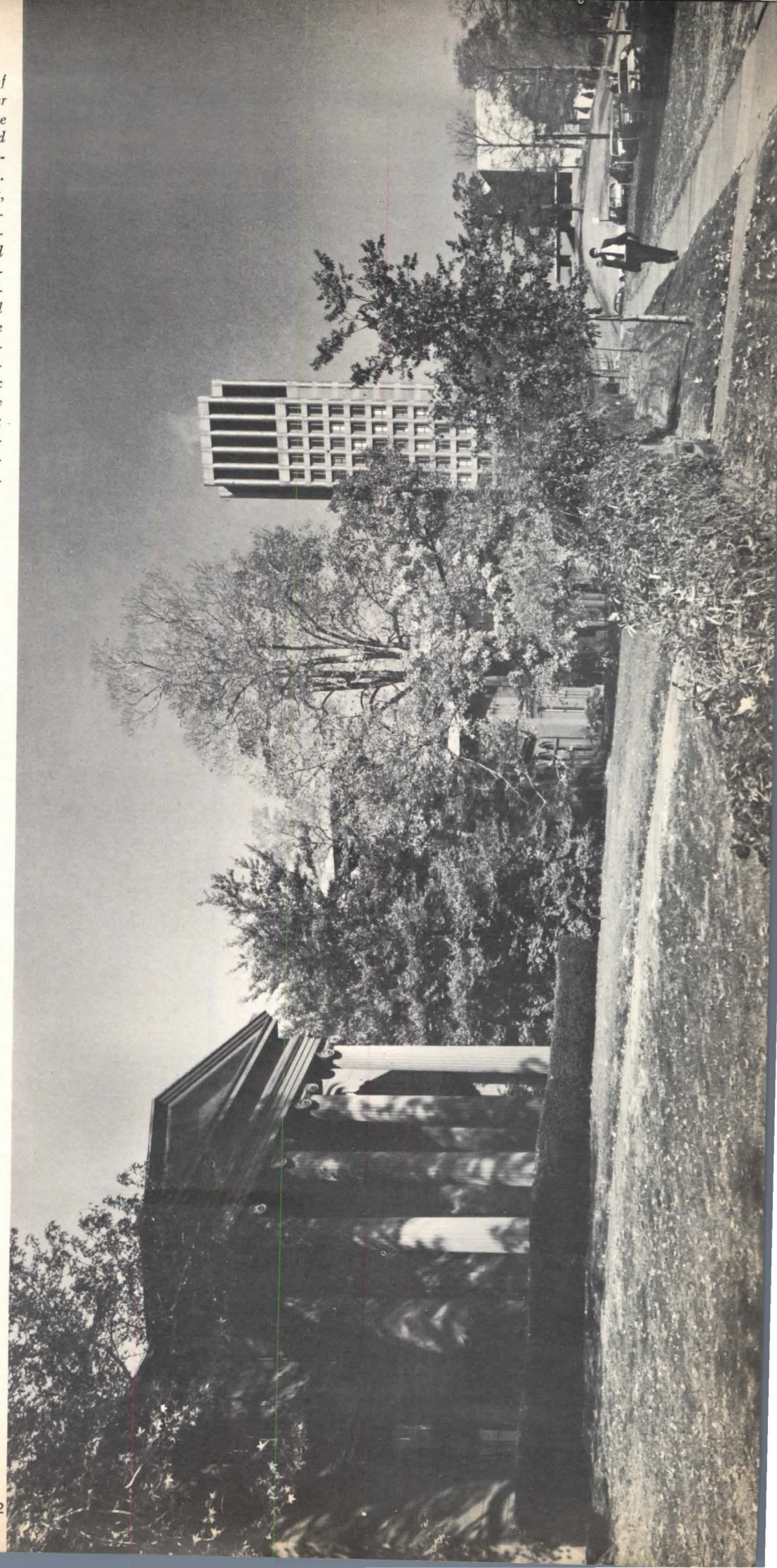


# Locus for Gown, Focus for Town

KLINE SCIENCE CENTER, *Yale University, New Haven, Conn. (with particular reference to the Kline Biology Tower).* **Architects:** *Philip Johnson and Richard Foster.* **Site:** *Yale's Pierson-Sage Square on Whitney Avenue, location of the university's main facilities for study and research in the natural sciences.* **Program:** *Provide buildings for study and research in biology and life sciences, geology, and chemistry, as well as a related library.* **Design Solution:** *A high-rise biology tower atop the highest point of the hill site and low-rise geology and chemistry buildings; related to older buildings. The tower stands in a cloistered quadrangle between the Josiah Willard Gibbs Research Laboratories, designed by Paul Schweikher and Douglas Orr in 1957, and the 19th-Century Sloane and Sterling buildings. The Chemistry Building shares an interior court with Sterling, and Geology is attached by an enclosed bridge to the Peabody Museum of Natural History. Concerning the tower, th architects state that the basic design evolve around a lab module of 10'-6" o.c. An earl decision to carry fume hood exhaust flues u the faces of the building led to their inco poration in the expressed column system. Th sandstone spandrel was designed to stan free of the building, adding to the plasticity c the facade. A window was placed at the en of every lab module. Concealment of th central chilling plant — which also servic*

*other science center buildings — on the roof behind a visual continuation of the columnar structure "created a crowning element of the design."* ***Cost:*** *$11,500,000, including fees and furnishings; $55 per sq ft.* ***Mechanical System:*** *See text.* ***Structural System:*** *See text.* ***Materials:*** *Pennsylvania iron-spot brick, sandstone, and brick anodized aluminum windows framing plate glass on exterior. Foundation and structural frame are of reinforced concrete. Interior partitions are generally concrete block. Lighting is by fluorescent troffers, except for downlights in the lobby and circular lamps in the office area. One of the three elevators is equipped for special service. Floors are vinyl asbestos. Roof is built-up roofing and gravel.* ***Consultants:*** *Zion & Breen Associates, Landscape Architect; Lev Zetlin & Associates, Structural Engineers; Meyer, Strong & Jones, Mechanical Engineers.* ***General Contractor:*** *E & P Construction Company.* ***Photography:*** *Robert Perron.*

Driving from downtown along New Haven's Whitney Avenue, one experiences the Kline Science Center and its tower as a visual accent point of its hill site and of the cityscape itself. Where Yale previously tended to straggle out to the east after the close-knit complexes of its colleges and the architectural excitement of its varied new buildings, Kline Biology Tower and its neighbors in the Center now give a locus and a point to this area. Although the hand felt most strongly here is that of Philip Johnson, with his colleague Richard Foster, many contributions went into making the entire Center the cohesive complex that, to this writer, it is: Zion & Breen did a sympathetic job of landscape architecture, respecting natural forms and growths and lines and using them to tie the area together generally horizontally, which is in contrast to much of this firm's very sophisticated, hard-edged design; Bruce Adams, given the main parking lot to do, accommodated the automobile without letting it get out of hand *or* bounds; an earlier architect, Paul Schweikher, on the Gibbs Laboratory in 1957, sited what now appears a rather dated building of that period very sympathetically, paving the way for the Kline master-stroke; in the new tandem accelerator building (to be presented more fully in the APRIL 1967 P/A), the office of Douglas Orr, de Cossy, Winder & Associ-



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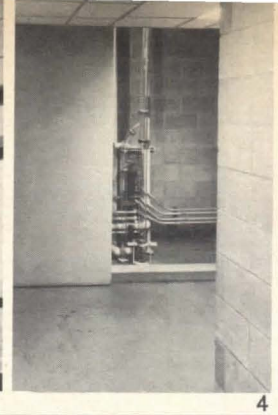

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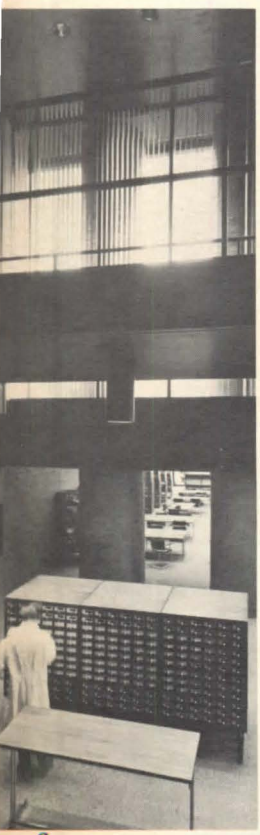

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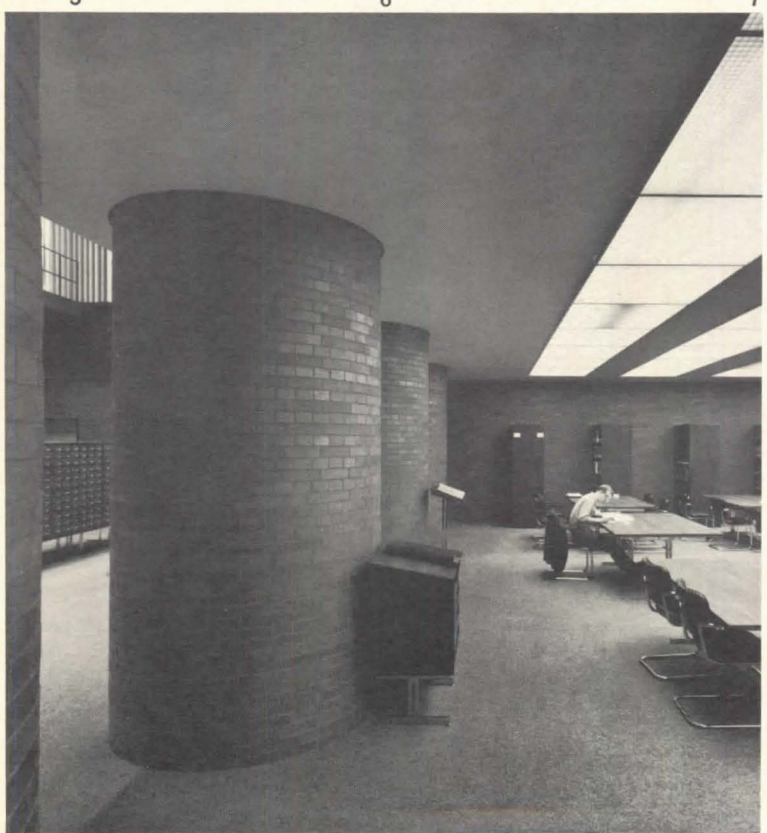

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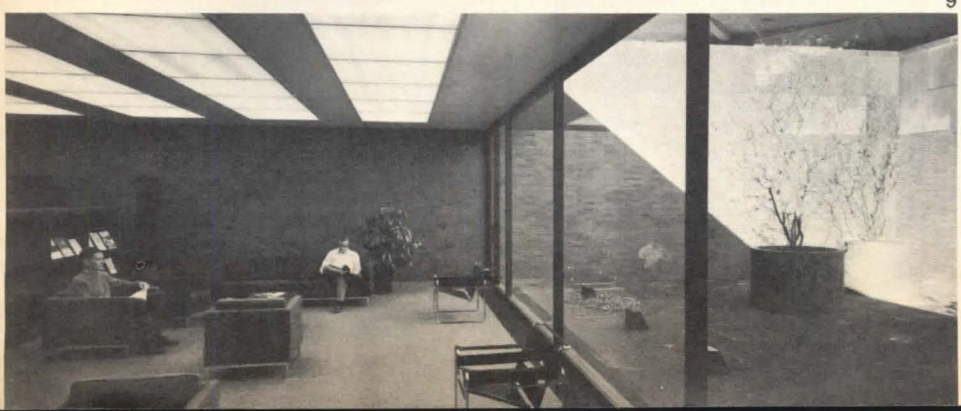

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ates terminated the composition to the north with a strong but compatible land form. And, of course, the architects of the really *old* buildings — Peabody, Sloane, Sterling — gave Johnson a rich palette of tones, lights, and shadows off which to bounce his design of glossy, undulating surfaces and subdued hues.

The Kline buildings — Biology and its older sisters Geology and Chemistry — are, despite their serene mantles of glistening ironspot brick and machine-crandalled sandstone, bare bones work buildings on the interior. Laboratories, classrooms, offices, and other work spaces were developed in coordination with the heads of appropriate departments on a basic modular system. Spaces are generally flexible and usually separated by cement block. The hung ceiling system **(3)** takes air moving equipment, lighting troffers, and partitioning. Corridors around core areas contain access to service stacks via swing-open (in biology) or sliding (in chemistry, **4**) doors. Only in more "public" spaces have the architects indulged in more lavish interior design schemes, but these, too, are generally subdued, as in the angular interior staircase of Geology (**5,** dictated by a fire marshal's law), or the rather barren lobby of Biology **(6)**. The dining areas on the twelfth floor of Kline Biology Tower are richly but modestly appointed in good contract furniture **(7)**; two large sliding walls of wood strips are prominent in the dining lounge. Commanding views of New Haven and East Rock furnish all the "decoration" this dining place needs. The noblest interior in the Center is that of the library in the tower. This has been placed one floor below ground, so that one enters across a bridge and down a staircase — a rather dramatic entrance to a science library, but effective nonetheless. The desk and card-file space is airy and two floors high **(8)**. Passing between the building's exterior columns, one enters the reading room, which is slid under the quadrangle **(9)**. At the end of this room, there are easy chairs that look out onto a small court penetrating the larger court above **(10)**. (It is said that Johnson proposed a smashed-automobile sculpture for this court but was turned down by the faculty; evidently technology is still not a joking matter to scientists). Also on this lower level is a "concourse" system of corridors connecting with Gibbs, Geology, and Sloane.

The circulation and sequence of spaces on the site is of considerable variety and

richness. Approaching from Whitney Avenue, one passes a berm **(11)** that hides the parking lot **(12)**; after parking, one can gain access to the upper quadrangle via stairs on either side of Gibbs Laboratory. Pedestrians can reach the center of the complex up the paths of the hill from Hillhouse Avenue **(1)**, through the court created by Sloane and Sterling (**13**, a section of the loggia has been raised here to permit emergency vehicles to enter; it also creates the effect of a monumental entry), past the Geology Building from Whitney Avenue **(14)**, or down a short staircase under the loggia from the Chemistry Building **(15)**. Each of these approaches and spaces has its own flavor: casual in the case of the hillside paths; traditionally "collegiate" in the case of Sloane-Sterling with its banked bicycles and ivy-covered older buildings; rather formal and aspiring in the approach past Geology up the stairs to the pavilion formed by an enlarged section of the loggia; more business-like in the act of parking and setting forth up the hill; and rather exciting in turning the rounded corner of Chemistry, ducking under the loggia, and emerging onto the broad plaza. In every case, however, the architects have left no doubt that the tower and its quadrangle are the culmination of the composition — the goal for which the hill must be scaled.

The hilltop and its tower, despite the impact of their form on the urban fabric of New Haven and the campus of Yale, are essentially cloistered and aloof when experienced close up. One feels that these sophisticated forms and formal spaces, new as they are, are basically immutable and serenely indifferent to the activities taking place in and around them. In the sense of giving a focus to the cityscape and leading the sequence of the avenues to a logical climax, the Science Center and especially the Biology Tower cannot be faulted as convincing works. As expressions of workaday scientific research and study buildings, the group is less convincing. — JTB

## Local Experts Speak

When a design of the importance of Kline Science Center is completed, local observers naturally have a number of thoughts to offer on its successes and shortcomings. New Haven is, of course, rich in people eminently qualified, through professional and personal experience, to comment on architecture. P/A talked with

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some of these men and presents their observations on Kline herewith. Those interviewed were Charles Moore, Chairman of the Yale Department of Architecture; Vincent Scully, Professor of the History of Art at Yale; Earl Carlin, partner in the New Haven firm of Carlin, Pozzi & Associates; Peter Millard, Associate Professor of Design at Yale and design consultant to Carlin & Pozzi; and William Mileto, partner of McMillan, Griffis, Mileto of Rome, New York, and New Haven.

Of the planning aspects of the complex, Scully commented, "It is beautifully sited. It does two things: culminates Hillhouse Avenue **(2)** and leaves the top of the hill open. The possibility of doing this goes back to Schweikher when he designed Gibbs Laboratory and sited it so modestly. Saarinen had originally proposed a building all across the hill, which would have killed it." In Carlin's opinion, "The location of the tower off axis was a generous act that respects Hillhouse Avenue. The location in the cityscape," he added, "is very handsome." Scully thought that the tower "is a tall building, but doesn't smash anything. It's good in relation to the street, the hill, and the city. Johnson did the right thing to place the tower as a central marker in New Haven. You can see this perfectly from East Rock." Mileto believes that "it fits very well. It's a very classical concept — the silhouette of the city against the sky. The Zoser or Acropolis kind of thing." "It is successful in the cityscape," said Moore. "The tower is successful as an object rising above Hillhouse Avenue. It's a handsomely designed object at the scale of the New Haven skyline, but I don't see what the rooms, corridors, walls, etc., have to do with each other."

The relationship of individual buildings did not receive quite the wholehearted praise as did the Center's contribution to the New Haven cityscape. Millard thinks, "It is kind of hard to tell what the buildings have to do with one another. It looks as though some sort of stately procession should be coming under the raised loggia across the courtyard and into Gibbs. It seems more original in terms of forms and shapes than concerned with movement between buildings and expressions of use. In other words, it is more concerned with what people see than what people do." The loggia and its structure was thought to be an intrusive rather than a binding agent in the relationship of the buildings. "The arcade is a little unsympathetic," said Scully. "Its huge columns are space makers; they're not structural. The big statements are a kind of structural gymnastics. The columns push Schweikher's lab out, but relate to its columns. The scale of the arcade slab is right, but the rest of it — the cantilever and the roof structure — is somewhat antic." The rest of the site drew praise from Scully: "The parking lot by Bruce Adams deserves commendation as being sympathetic to the site and the buildings with its berms, trees, and traffic pattern. DeCossy's tandem accelerator building also goes in very well; it draws you across in the same landscape forms **(16)**." Carlin said that the "attempt to deny the existence of Gibbs by the attachment of the loggia is an unsuccessful means of wishing it weren't there. The quadrangle would have been more successful if the attempt had not been made. It detracts from the success of Kline." Moore disagreed: "Kline gently kicks Gibbs in the face, but this redounds to Gibbs's credit and therefore back to Kline's credit. The two buildings are skillfully related." "The arcade looks very expensive," said Millard. "I guess it's pretty, but its formal characteristic and scale seem to set it apart from existing buildings; it doesn't make the bridge. Maybe that's okay."

Most of the comments for individual buildings were aimed, of course, at the Kline Biology Tower. "I find the tower a little unsympathetic itself," said Scully. "It is grand, but I like the scale of the columns better in the Geology and Chemistry buildings. Just in the laying up of that brick, as you look directly up the columns of the tower, they seem to flicker and waver. There is a slippery, slidy quality to the columns that I find rather unpleasant **(17)**." Moore is a little indifferent about the tower itself: "I can't discover the genesis of the form of the building. From the plan, the tootsie rolls seem to me only a façade decoration. [With their usual word-play on forms, Yale students call Kline Biology Tower, with its semicircle column façade, "The Tootsie-Roll Building." — Ed.] It defies all canons, except on paper. It looks normal on paper." "Kline Tower was a more successful building *per se* when it was raw concrete than it is now as a sable-wrapped jewel," Carlin thought. "It is a kind of hugely complex mechanism glossed over with a handsome skin," he said, "probably like living inside a submarine. There's a question whether it is valid so to hide the functions of a building that is going to need to change so much. The humble, raw-boned Gibbs is a more honest building in that respect." "This is one of Johnson's most elegant designs," Mileto said. "It is very classically oriented; the Greeks would have done something like this had they been able to build that high. It is very suave. It is premolded with no definite reference to function. Johnson has taken and translated from older forms and has given them elements of recollection. This is very good here, even in the colors used." Millard commented, "The tower looks as though Johnson is still struggling with problems architects were debating in the 30's — should a tall building be horizontal or vertical?" He, too, thought that the surface was overemphasized: "It makes too important a thing of its skin. I don't think it will be able to absorb the many changes that are coming in science."

"How do you judge a building like this?" asked Carlin. "As an art form unrelated to the circumstances that gave it birth, or in conjunction with reality? This leads to a moral judgment: Should a university that claims to be great continue to assuage the vanity of wealthy donors with such monuments? This is not so much the architect's fault as it is the university's in its role of a client who condones lavishness probably at the expense of more educational facilities, scholarships, endowed chairs, and the like. The Beinecke Rare Book Library (pp. 130–133, February 1964 P/A) is the most blatant example of this.

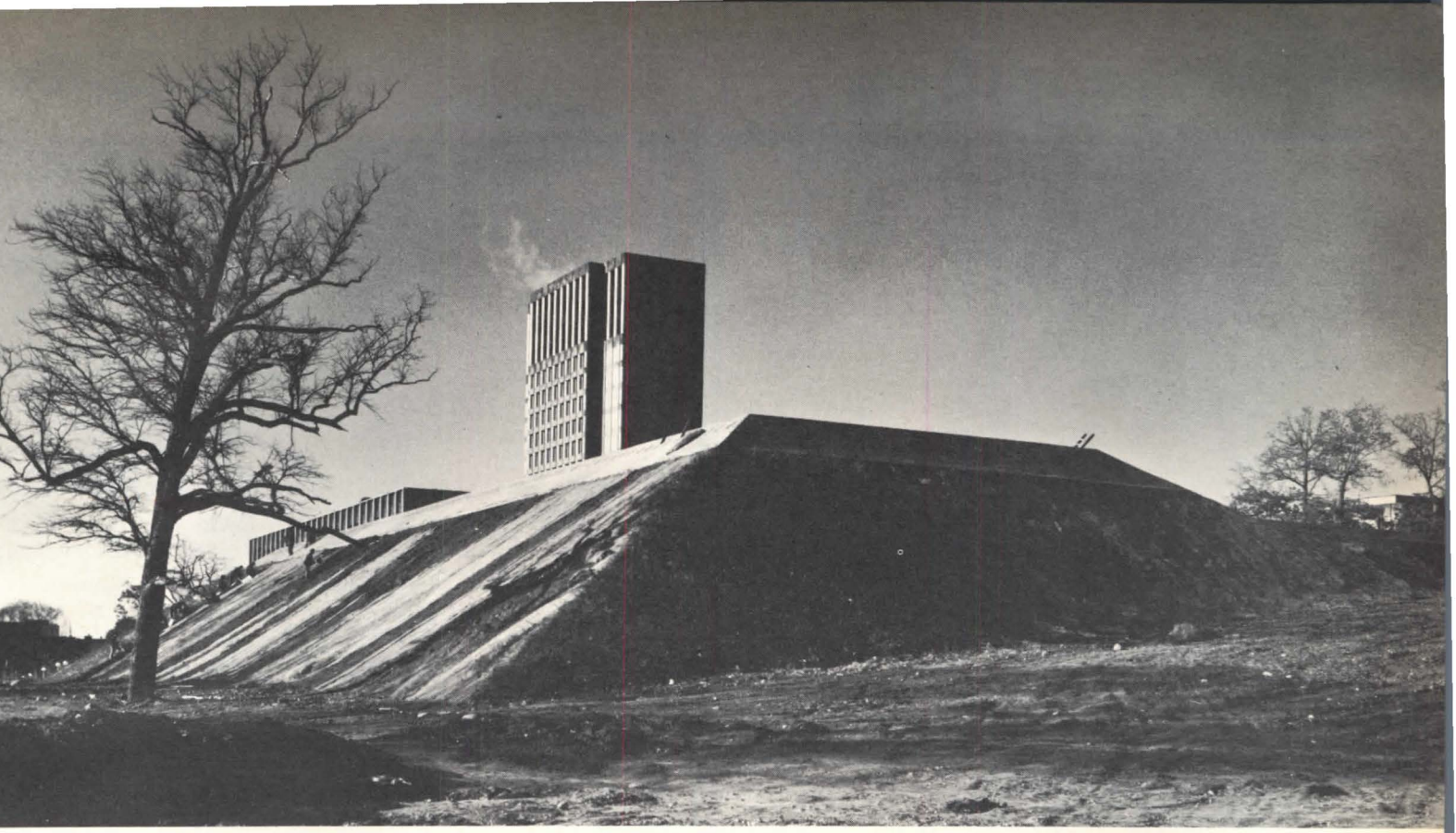
"What do you do if you don't have some kind of donor-monument?" Carlin continued. "Have some hack come in and just give you cubage? There must be an answer in between. As for Kline, I think once you have decided to do the formal, sculptural sort of thing, this is very well done. It's a handsome and — from the donor-monument point of view — immoral thing."

"I still find the tower unsympathetic on close view," concluded Scully. "But the whole space is noble. In the larger quality of fulfilling its own function and in regard to the rest of the neighborhood, the Center does a great job."

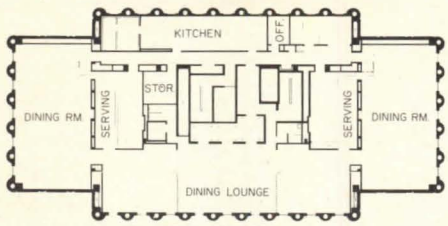
"I am terribly impressed," said Moore, "that Johnson, after supporting the work of so many 'mad young architects,' has designed a scheme that in site plan is one of the maddest I have seen. The enormous tower on the edge of Hillhouse Square looks lunatic in quite the best sense of the word. It's very elegant in a crazy kind of way."



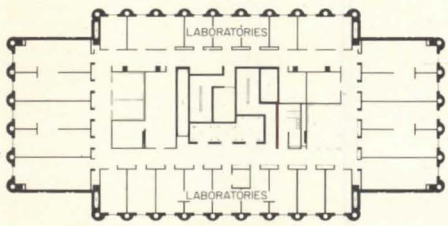
***Turn page for a discussion of Kline Biology Tower's structural and mechanical systems.***



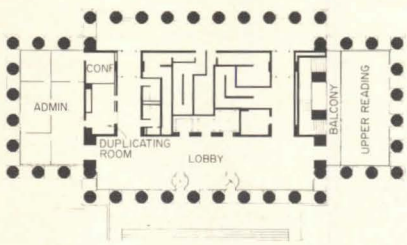




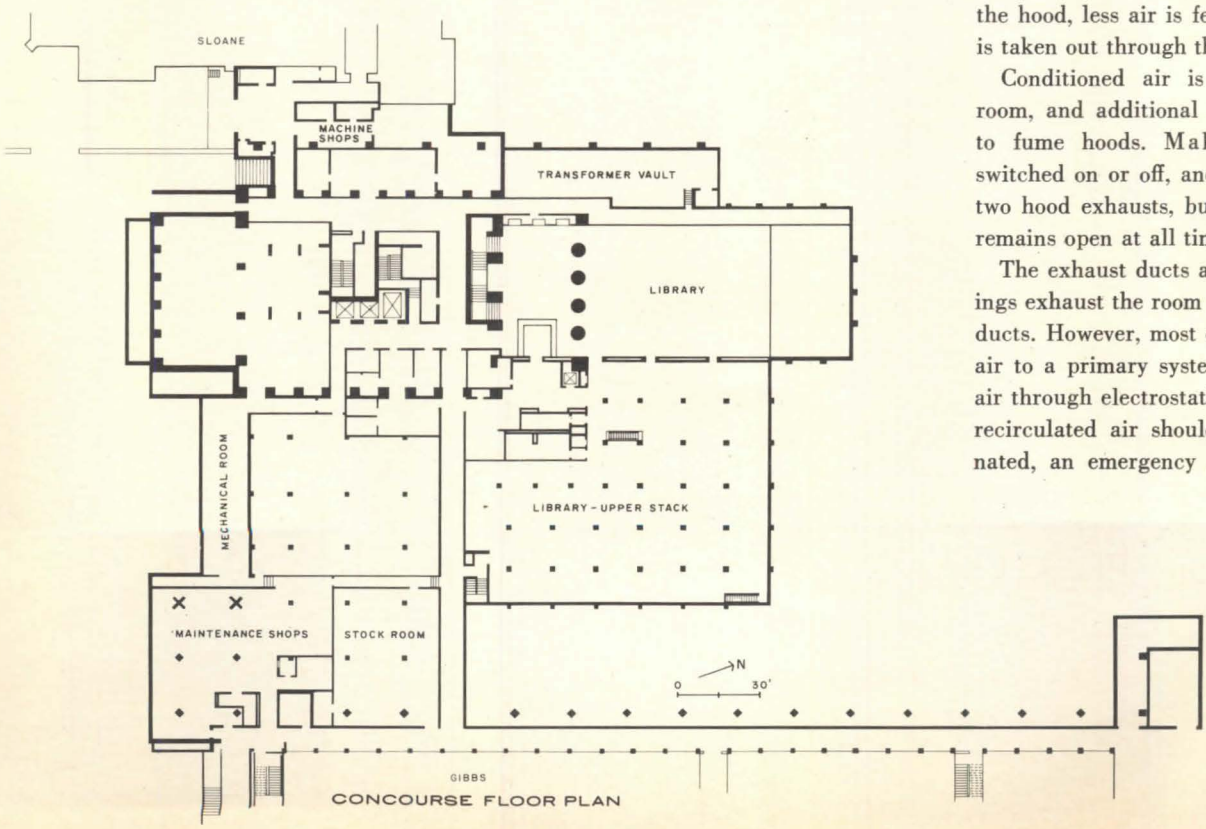
TWELFTH FLOOR PLAN



LABORATORY FLOOR PLAN



FIRST FLOOR PLAN



CONCOURSE FLOOR PLAN

## Tower: Mechanical System

The 32 perimeter columns serve double duty: They support the structure and they form vertical flues for the laboratory exhaust system. This is achieved by installing a 20-in.-dia cement-asbestos pipe inside each concrete column, and feeding it from ducts above the ceilings of the 10 laboratory floors.

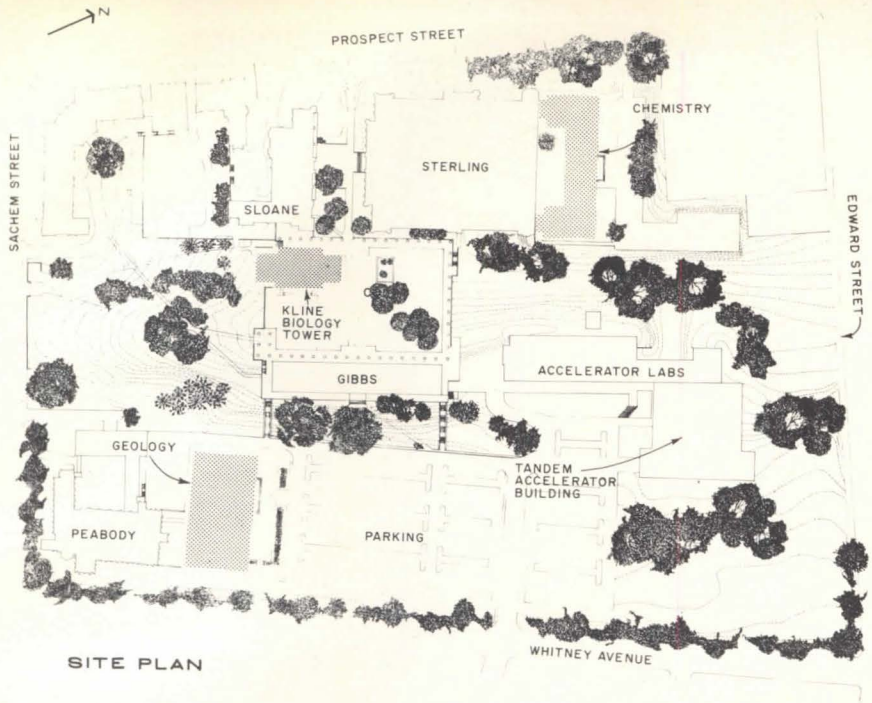
Even where no exhaust hoods are required at present, a horizontal duct connection is available at the inside face of the wall at every column at each floor.

An exhaust system for a large multistory building is a little more complex than a building with exhausts extending directly through walls or roof. The exhaust hoods in the Kline Tower feed into the 32 vertical pipes, which are collected in a horizontal duct encircling the mechanical room at the thirteenth floor. At this floor, the exhaust air enters a plenum that is exhausted through the roof stack by two 50,000-cfm fans. If either fan should fail, the other is large enough to exhaust the whole system. There are no fans at individual fume hoods.

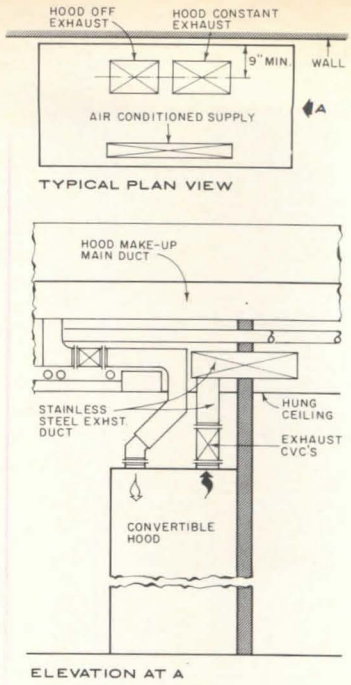
The major point of engineering this exhaust system is to insure that the exhaust air rises constantly. For this, the mechanical engineering consultant, Meyer, Strong & Jones, called for individual static pressure regulators at each hood to maintain a constant volume of exhaust air leaving the hood at all times. Also, to keep the air traveling in the right direction through the hood, less air is fed into a room than is taken out through the hood.

Conditioned air is supplied to each room, and additional make-up air is fed to fume hoods. Make-up air can be switched on or off, and so can one of the two hood exhausts, but the main exhaust remains open at all times.

The exhaust ducts above some lab ceilings exhaust the room air into the column ducts. However, most of the rooms return air to a primary system that recirculates air through electrostatic air filters. If this recirculated air should become contaminated, an emergency switch quickly ex-




SITE PLAN




*Air and exhaust ducts at typical fume hood.*

hausts all the air and draws in fresh air from outside.

## Tower: Structural System

The structural design of the biology tower requires a system that permits lots of openings through the floors. For this reason, Lev Zetlin & Associates selected 20-in.-wide concrete pan-joist slabs so that duct openings could be conveniently made between ribs.

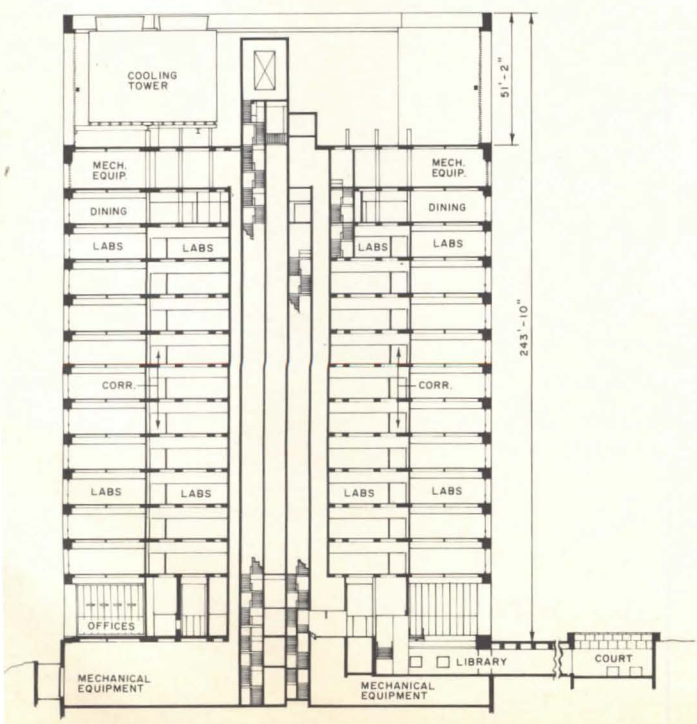
But at interior columns, floor openings became more complicated because mechanical requirements called for openings extending between pairs of columns. This makes it difficult to transfer shear from the slab into a column, so the designer added stirrup-type reinforcement through the perpendicular axis of each column and into the slab.

Above the lobby, transfer girders support two rows of eight interior columns eccentrically located over columns extending through the lobby. These upper columns, off-center in both axes, impose large torsional moments that are resisted by horizontal stirrups in the girders.

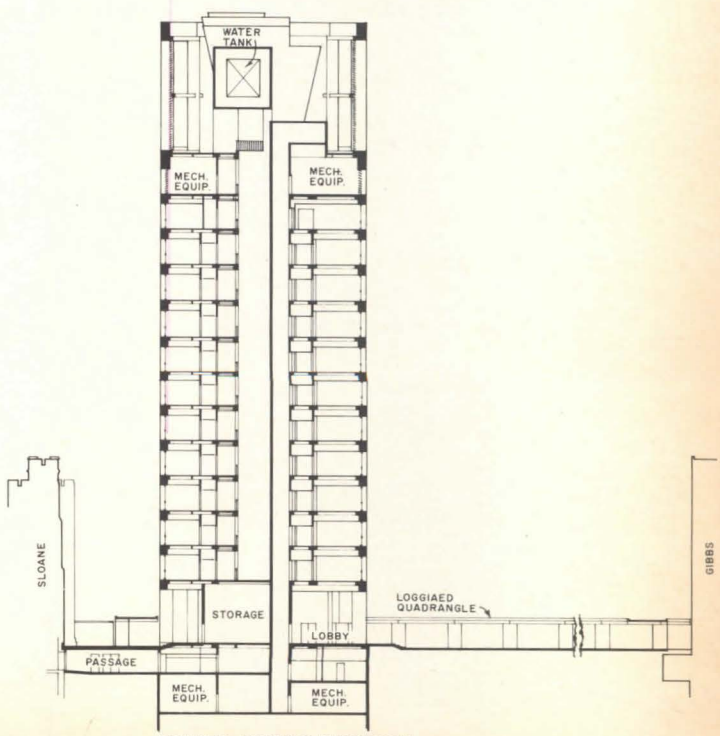
Both girders are hidden from view in walls separating the entrance lobby from the library or business offices. This camouflage enabled the engineer to lower the top of the 6-ft-deep girders 10 ft below the second-floor slab so that conduits from the upper columns could be radiused into the lower members.

Columns throughout the building take only 20 per cent of the lateral loads on the structure: The core takes most of the horizontal forces.

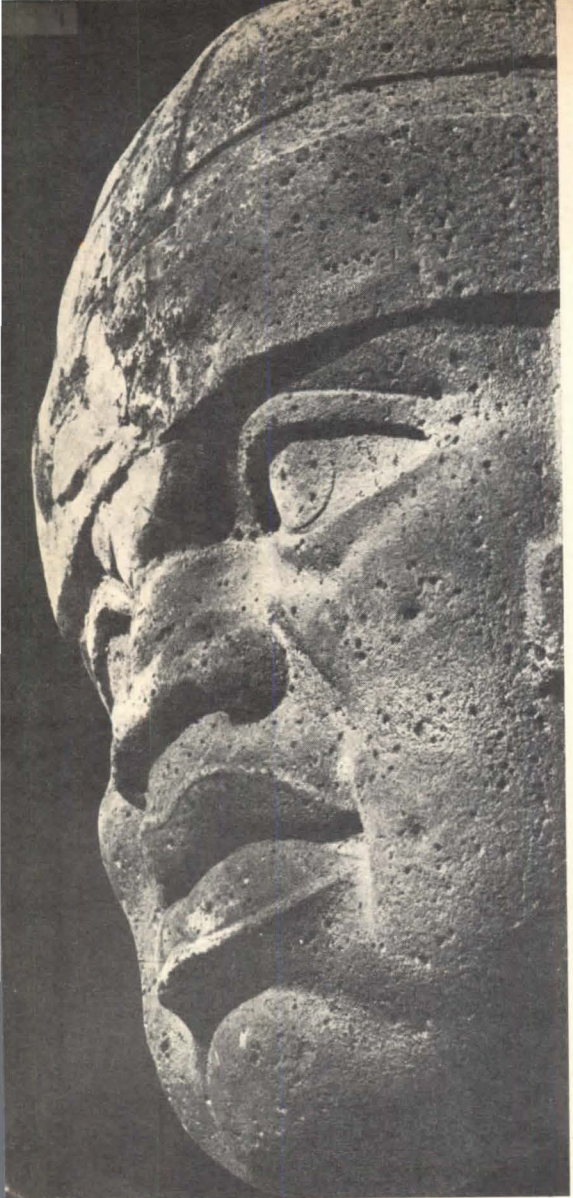
Above the roof, however, the perimeter columns soar 51 ft to screen the cooling towers from below. These slender cantilevers are tied with beams at the top and at midheight to brace them against New Haven's required 30-psf wind loading.




TOWER LONGITUDINAL SECTION




TOWER CROSS SECTION



# What Makes "The best museum in the world"?

***Constructed area:*** *44,000 sq meters; exhibit area: 30,000 sq meters; ancillary facilities: 6000 sq meters. Open paved area: 37,000 sq meters. Parking: 13,000 sq meters. Landscaping: 33,600 sq meters.* ***Equipment:*** *Smoke-detection devices in perforated ceiling pans; burglar alarms; sound systems and electronic guides.* ***Ancillary facilities:*** *350-seat auditorium, workshops, laboratories, research offices, 250,000-volume library, restaurant and accommodation for the National School of Anthropology.* ***Materials:*** *On exterior, black and rose volcanic rock from Queretara; inside, white Italian marble, rough Santo Toma de Puebla marble, gray-and-yellow marble from Oaxaca, black Tepeaca marble. Floors of walnut and mesquite.*

For two years now, visitors from Mexico and abroad have streamed into Mexico City's National Museum of Anthropology at a rate of 125,000 per month; on holidays, attendance has been as high as 20,000. Architects — even architects of museums — and critics have been universally impressed with the functional and environmental aspects of the museum, even if some of its other effects have been found questionable.

Sociologically, for example, the cost of the opulent building has seemed disproportionate to the general wealth of the country's population; aesthetically, its industrialized metalwork has been found to jar with its adjacent handcrafted masonry; and the governmental "monumentality" of its new murals and sculptures is, by consensus, less than distinguished. Conversely, however, a Mayan temple sheltered in a eucalyptus grove and a giant Olmec head sited on a natural grassy mound are such vividly realistic displays that every visitor acclaims the tangible sense of pre-Hispanic culture that is evoked. In this way, architects Pedro Ramırez Vázquez, Rafael Mijares A., and Jorge Campuzano F., with a team of 40 consultants, have fulfilled the principal goal of Mexico's Ministry of Public Education, for whom the museum was built.

Philip Johnson comments, "It is the best museum in the world."

Harvard anthropology professor Evon Z. Vogt has said, "This museum is without doubt the best museum of anthropology in all the world."

Dr. Rene Millon of the University of Rochester notes, "There are few countries in the world with an archeological and ethnological heritage equal to that of Mexico; fewer still have ever attempted to house that heritage in so imposing a fashion. None has succeeded more magnificently."

Author-architect Paul Damaz points out, "Most museums of archeology are dead places, as dead as the mummies they contain. But Ramirez Vázquez' museum is alive."

"In museography," wrote Sir Philip Hendy, Director of England's National Gallery in the London *Times*, "Mexico is now ahead of the United States perhaps by a generation, of the United Kingdom perhaps by a century."

Director Pott of the Netherlands' National Museum of Ethnology at Leyden has stated, "The museum specialist, who in the future is entrusted with drawing up the plans of a modern anthropology and history museum, should visit and study the construction and installations of the excellent National Museum of Anthropology."

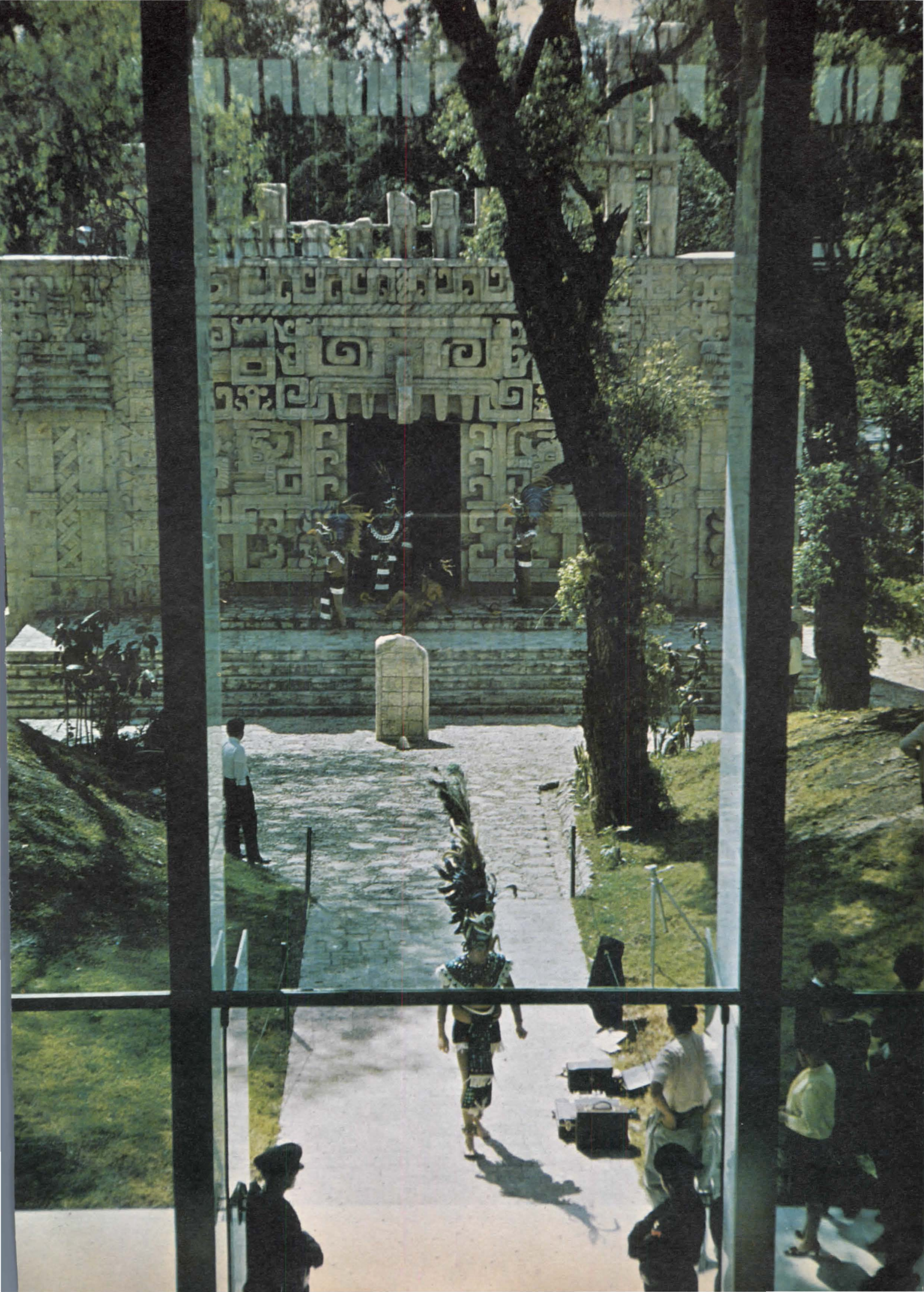
The crowds that have flocked to see it, therefore, are not unexpected.

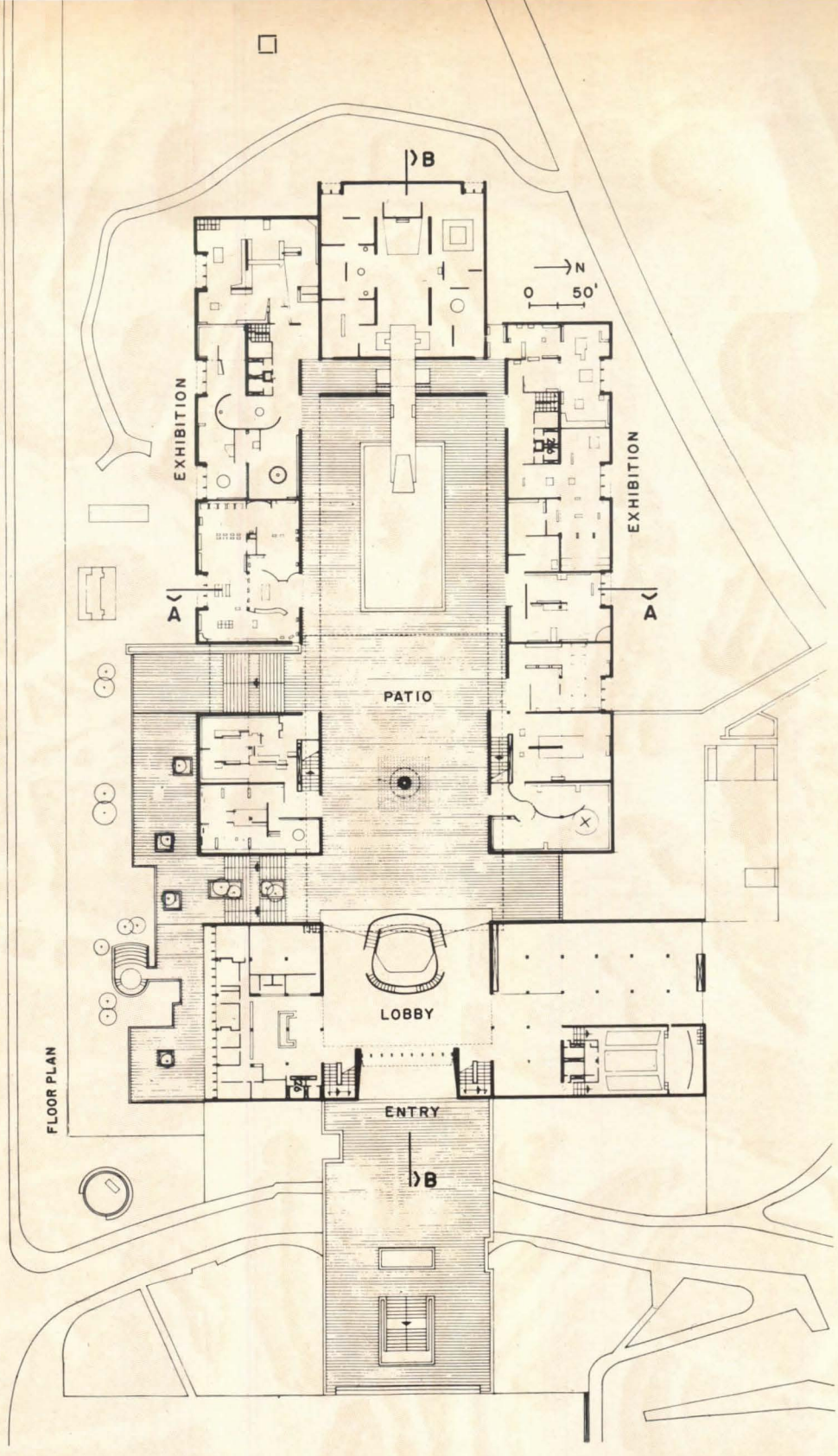
Set in the much-frequented Chapultapec Park, near several major arteries, the new museum is planned as a rectangle around a monumental inner courtyard — itself the size of a small park.

Entrance to the rectangular plan is through one of the short sides, which serves as a two-story administration, orientation, and lobby area; it leads into the patio, which is a central circulation space. There, a huge, industrial-looking umbrella supported on a single sculpted-bronze column shelters the visitor from the fury of Tlaloc the rain god or from the scorching Mexican sun, till he reaches the main exhibition areas in the two long sides of the rectangle.

These exhibition wings are divided into areas for each of the original pre-Hispanic nations that formed Mexican civilization. On the main floor are archeological finds, and, on the upper floor, ethnological exhibits corresponding to the cultures di-

Photo: Jean Hatton Duffy

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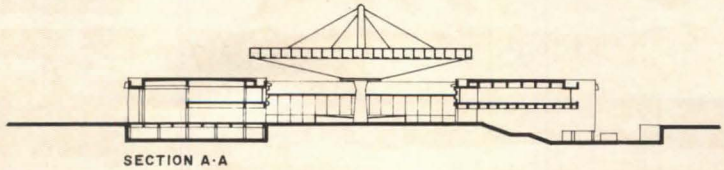
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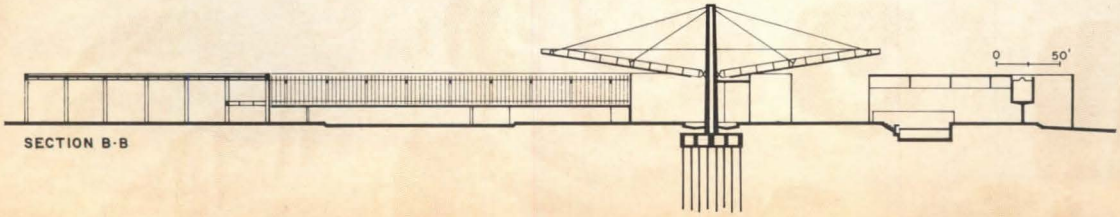
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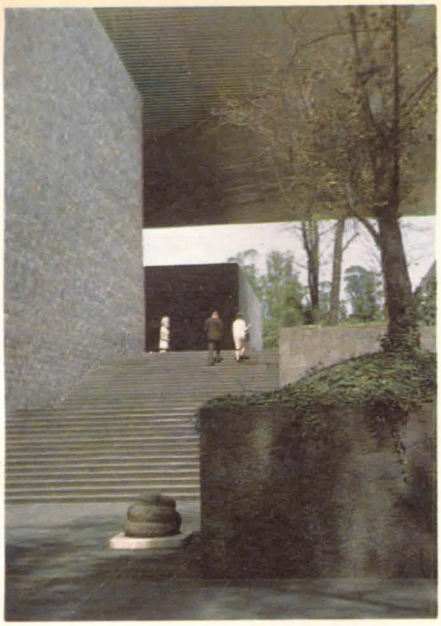


Photo: Courtesy, Pedro Ramírez Vázquez


Courtesy, Pedro Ramírez Vázquez

rectly below. A chronological order is maintained to emphasize the fact that the museum is one devoted to the science of anthropology rather than to art. Together, the 25 galleries preserve a unity without losing the individuality of their different cultures.

To control circulation, spectators are obliged to pass into the central patio after every two rooms visited. This planning not only maintains a continuous flow of visitors, but also produces a kind of environmental intermission that revitalizes the spectator by its regulated change. Further varying the spatial experience from the balconied two-story rooms on the long sides is a single two-story hall on the side of the plan opposite the entry.

The motif of this circulation pattern — weaving back and forth between inside and outside, between dark and light, between past and present — is the major effect of the museum experience, and, however visually inconsistent the building may sometimes seem, the ultimate aesthetic sensation is one of satisfaction with an experience of interrelationships.

The spatial interweaving is reiterated in the interpenetration of exhibits into the exterior park area. There, massive relics of a rich sculptural heritage — in addition to the Mayan temple and Olmec

Photo: David Hirsch

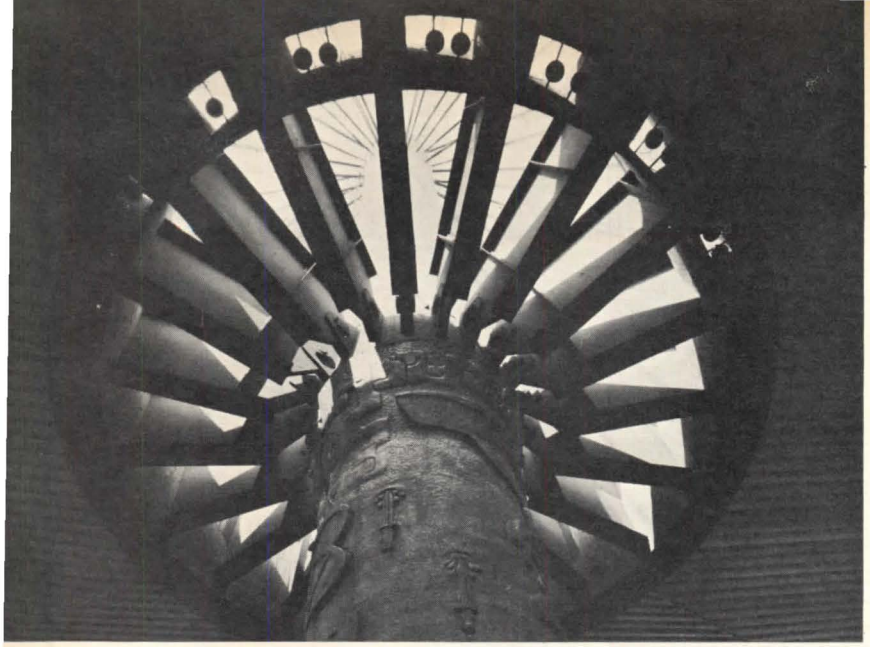
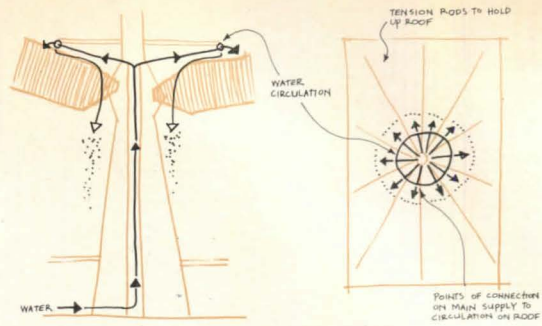


Photo: Courtesy, Pedro Ramírez Vázquez



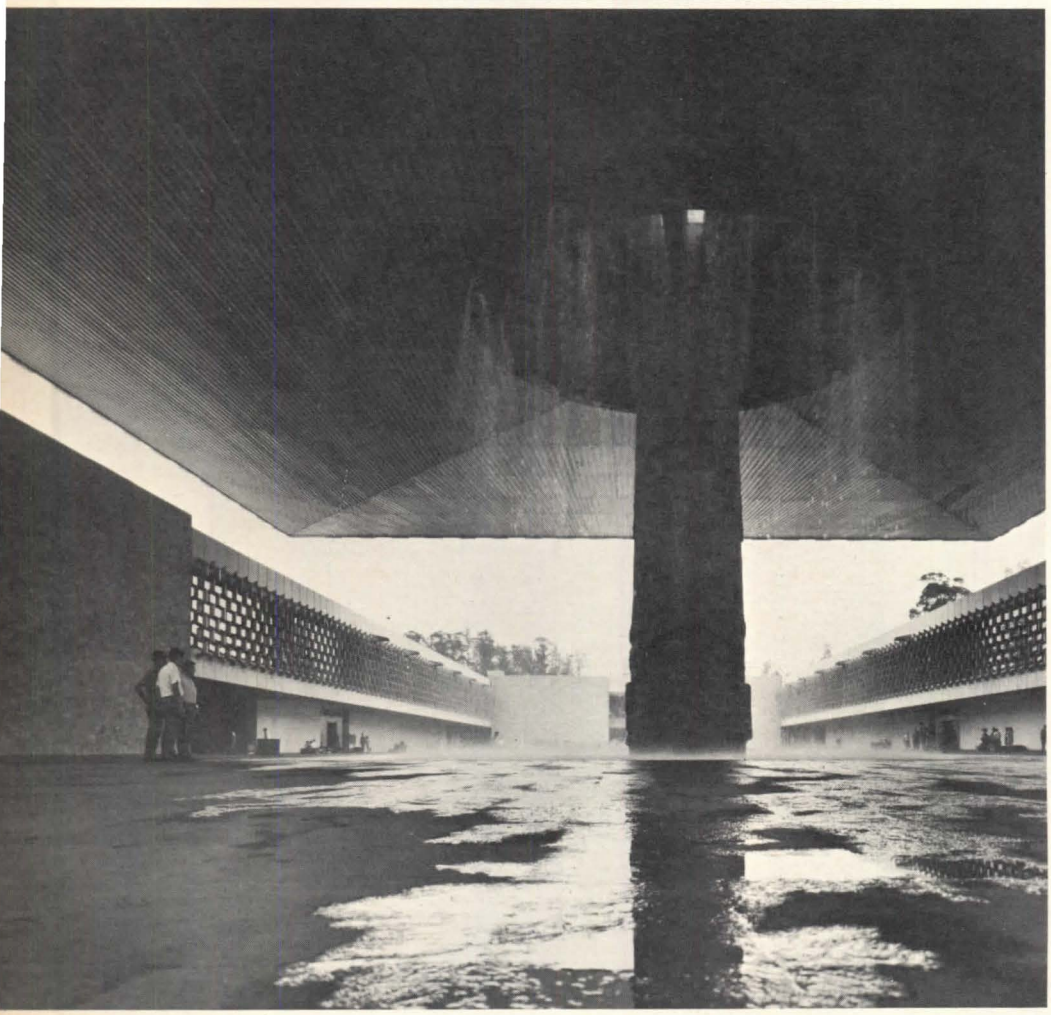



Photo: David Hirsch

*The vast umbrella that shelters more than half the patio is a cable-hung structure of steel and aluminum standing on a single support. For that column, sculptor Chavez Morado produced a bronze facing that depicts the development of Mexico and its culture. The architects' intention was to provide a link between sculpture and architecture. The ribbed aluminum umbrella covers an area 82 x 54 meters, or 4428 square meters; it is 27 meters high. This clumsy if spectacular construction presented some problems as far as cleaning and drainage were concerned, but the architects installed a continuous washing and drainage system that became a dramatic waterfall surrounding the bronze column. Pavers in the immediate vicinity are perforated to permit runoff, but no other basin or demarcation for the spill is made. Philip Johnson considers the fountain "a great work of decoration." Ludwig Glaeser, Associate Curator of Architecture at New York's Museum of Modern Art says, "It has lost its structural character as a sail floating from a mast; covered with sculptural decor, the column has turned into a totem pole that almost spoils one's pleasure in the free-falling water."*

head — are sited as if in their original natural outdoor settings: on the grass beneath ancient trees. From the dark, glass-walled interiors, they seem the most believeable stage presentations possible — like doors into the past.

From the exterior, the new low walls of Queretara Volcanic rock sit unobtrusively among the eucalyptus and pine trees of surrounding Chapultapec Park. Such wide expanses of glass wall as let natural light into the exhibition areas are deeply recessed between masonry masses.

Inside, the collections comprise 110,000 objects, which, in the words of the museum's director, Ignacio Bernal, "run the gamut from this country's origins to those great architectural structures that mark the apogee of indigenous civilizations." Of these, 20,000 objects from Mayan, Aztec, Toltec, Zapotec, Teothuacan, and Golfo cultures are exhibited. Many of them are recent acquisitions from special expeditions sponsored in connection with the opening of the new building.

"What makes the museum great," Philip Johnson says, "is the amplitude of it, and the collections that are shown. There is a wealth of cultures that no other country could muster except Egypt, and some genius was around when it was decided that those cultures would be shown as separate museums — each its own entity. That is the great thing: the splitting up into separate cultures; and the enforced return to the great courtyard. It achieves the avoidance of fatigue, which is the death of every museum, and the avoidance of boredom. The other great thing is the clarity of it: You don't get lost."

Edward *Durrell Stone* comments, "I just thought it was one of the most tremendously beautiful buildings I have ever seen. Unlike the Guggenheim, it does not employ great architectural gymnastics. It is simple, with large scale and good proportions and with a marvelous exhibit area. And the exhibits are just as well arranged as the building itself. The col-

umn is really the one note of audacity that lends drama to it."

Paul Damaz writes, "Like other museum architects, Ramirez Vázquez could have built an ostentatious building designed to attract attention to himself rather than to the works of art. Instead, he has preferred a very simple plan, straight walls, and one single decorative element. The exhibition spaces are underdesigned, rectangular rooms where the interior designers, despite the presence of a few doubtful murals, were able to display the pre-Columbian sculptures without competition from architectural forms. The lesson of the museum is one of modesty."

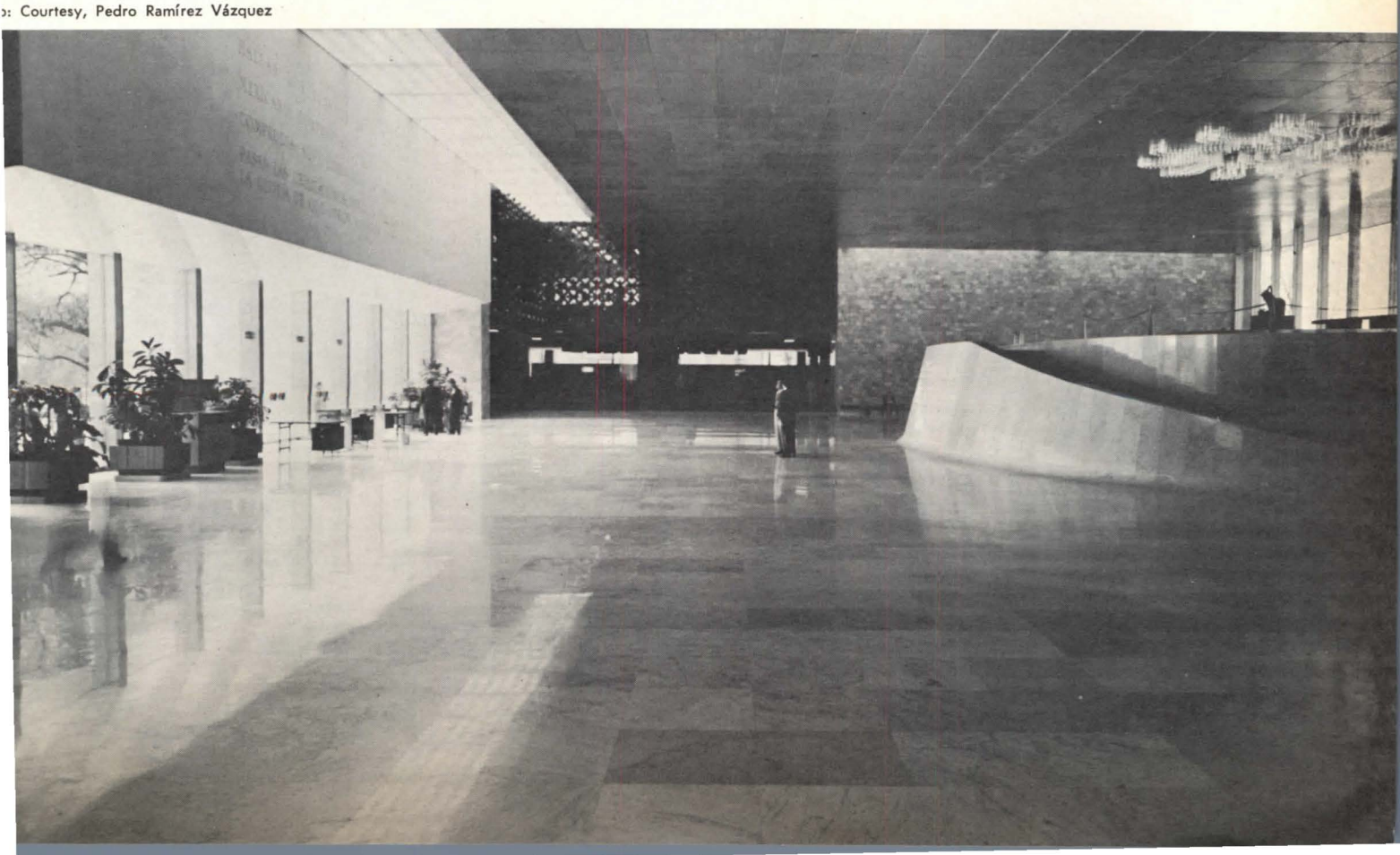
Dr. A. E. Parr, senior scientist at the American Museum of Natural History, says, "It is a terrific emotional experience to see that overwhelming museum. You feel that you are walking into the age in which the exhibits belong. But I became uneasy about whether the impact of the museum itself might reduce the experience of its contents. Both the exhibits and the building are magnificent; but do the two great things compete with each other? In comparison with the general architectural treatment, the display furniture is conservative and does not have the impact of brilliant innovation that the total design has. There is something in the dimensions that gives you the slightly somber feeling that the old Mexican ruins have — some of the witchery about it. Even the fountain has something of the same looming spirit."

Ludwig Glaeser, Associate Curator of Architecture at New York's Museum of Modern Art, comments, "It is not only a museum but also a monument erected to link the extinct cultures on Mexican soil with its present population. The architect sought and achieved monumentality: The cubic volumes and their placement around the court echo the architectural heritage of the old and close relationship between temple and market place. But the grand scale, axial order, and formal simplicity did not prevent the creation of some of the most pleasant open spaces that exist in a museum today. However, the present gallery installations are questionable: Objects are often overwhelmed by the dimensions and materials of the installation elements, which are, in general, too visibly designed for their subordinate function."

Philip Johnson concludes, "I am sorry that the architecture does not please me: The entry is poor; the entry hall is lacking in space feeling; the bad murals were quickly done; the lighting is poor. But it has a grandeur that no public building in our pinched Calvinist society would build. It must have cost a state fortune. It is on a grand scale." Architect Ramirez Vázquez proudly reports, "$13 million."

*To complete the architects' synthesis of Mexican architectural history expressed in modern materials and methods, the expansive entry lobby (below), which serves as an assembly place with adjacent sales area and administrative offices, is envisioned as a reinterpretation of Mexico's baroque era. The patio (facing page) reiterates the proportions of Mayan plazas and, inconsistent visually as it may at first seem, its façades reinterpret early sculptured façades in aluminum. In addition, the museum exterior is designed to express the simplicity and severity of Teotihuacan building. Similarly, the curvilinear elements of the lobby's orientation auditorium (right in photo), the treatment of its carved woods, and its glossy marble are intended to be reminiscent of the baroque.*

Courtesy, Pedro Ramírez Vázquez



*Perforated metal ceiling panels are embossed with a thin decorative version of an Aztec stone, which even dark brown paint cannot amply diminish. Yet the motif gives the panel some versatility. Its center circle, for example, can be cut out to accommodate downlights and spots or loudspeakers; the perforation permits the panels to be used either as an acoustical material (by means of an absorbent backing), or as a luminous ceiling (left). Museum interiors and exhibits, however, are generally underlit by North American standards, and the perennial museum problem of spotlighting getting in spectators' eyes has not been solved.*

*Exhibition techniques are varied: from painted panoramas (which are generally mediocre) and models of villages to actual-size replicas of architectural monuments; from facsimile mud huts and free-standing sculptural displays to raw, constructivist glass cases containing exquisite gold miniatures. The cases are frequently of butted glass sheets held by wood-batten headers (below).*

Photos, this and facing page, except as noted: David Hirsch

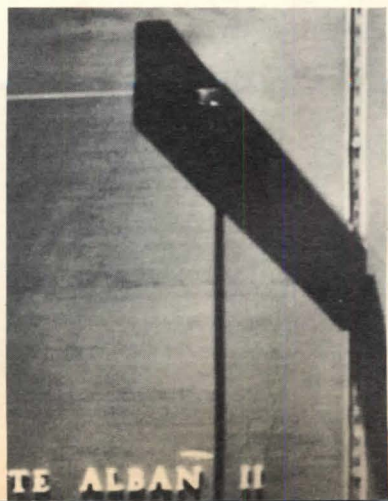
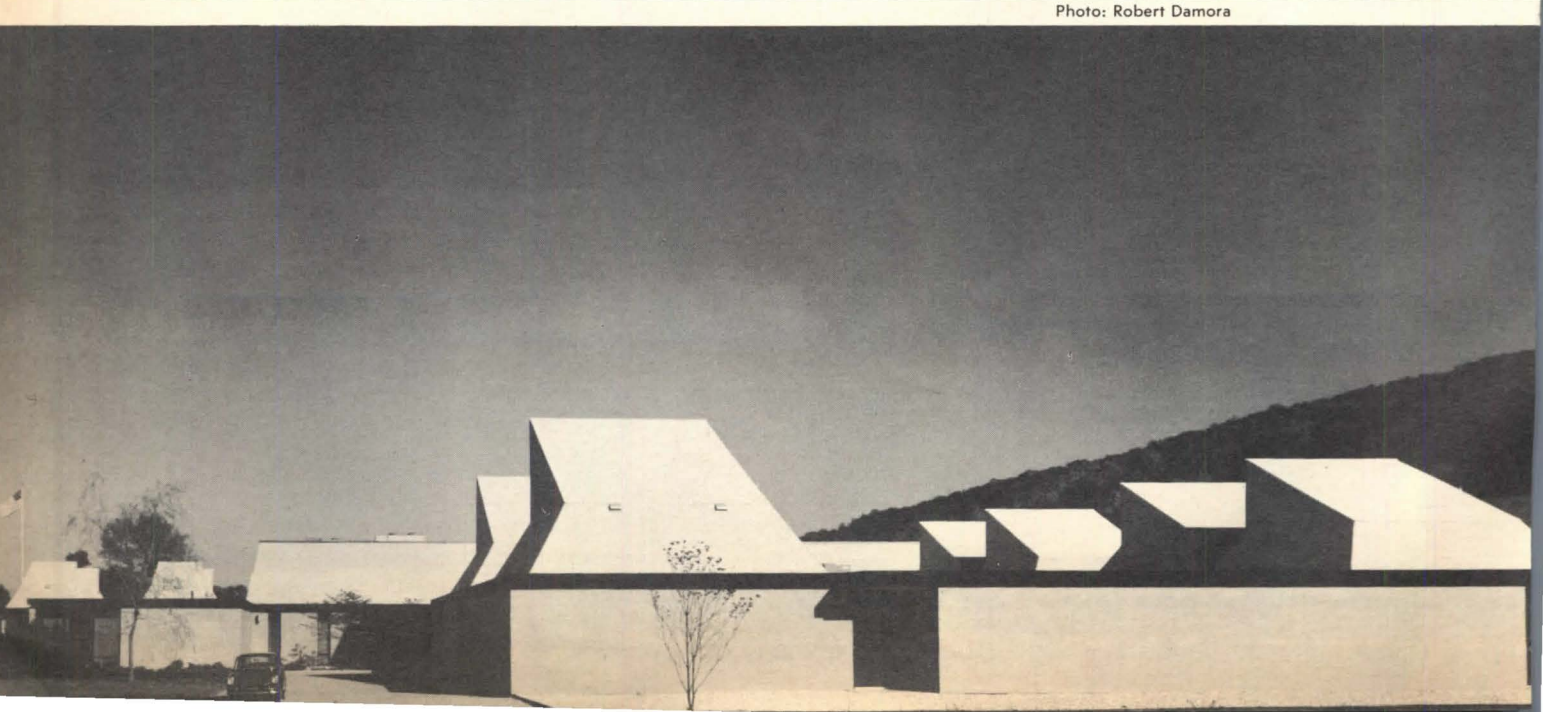


Photo: Courtesy, Braniff International Airways

# It may not be much, but to many it's home

***Architects:*** *Katz Waisman Weber Strauss, Architects and Engineers. Joseph Blumenkranz, Consultant; Sidney L. Katz, Partner-in-Charge.* ***Site:*** *40 acres of flat land, formerly the Orangeburg State Fair grounds, adjacent to farm and woodland.* ***Program:*** *Provide headquarters for World-Wide Volkswagen, the marketing agency for Volkswagen in Connecticut, New York, and New Jersey.* ***Structural System:*** *Steel frame, brick, and concrete block infill. Roof: Steel deck and concrete plank.* ***Mechanical System:*** *Forced hot water and air-cooled condensing system.* ***Major Materials:*** *Steel, concrete block, brick.* ***Cost:*** *Average $11 per sq ft, including furnishings (office space, $25 per sq ft; warehouse, $7 per sq ft).* ***Consultants:*** *Designs for Business, Inc., Interior Design Consultants; M. Paul Friedberg, Landscape Architect; Abner B. Green Associates, Materials Handling Consultants; Di Stasio & Van Buren, Structural Engineers; Gilbert Meyers, Arthur Locker, Mechanical Engineers.* ***Photography:*** *Robert Galbraith, ex-except as noted.*

Photo: Robert Damora



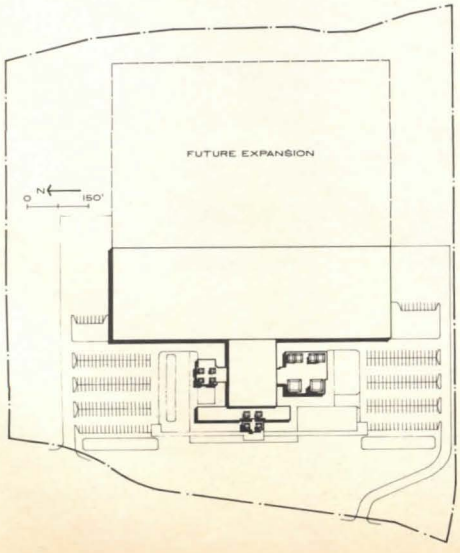
It may not be much,
but to many it's home.

The new headquarters for World-Wide Volkswagen (distributors for the New York, New Jersey, and Connecticut area) resembles, predictably enough, their world-wide car: It is modest, unassuming, not particularly beautiful, but very functional, modular, economical, and democratic. It makes no ostentatious pretences, but candidly claims to do just about everything from storing parts to keeping employees happy.

The Pussycat
King of the jungle

The success of the new headquarters (somewhat like the success of the car) is partially attributable to the client, Arthur Stanton, president of World-Wide. Stanton took an active part in the design and construction of the building, and supervised it as closely as he does other aspects of WWVW operations. In 1954, Stanton founded World-Wide, at a time when 1573 VWs were registered in the tri-state area; today, there are 257,399. Last year, his dealers sold more than 46,291 cars. Stanton is also the man responsible for selecting the Doyle, Dane & Bernbach agency in 1964 and launching one of the most famous ad campaigns of the decade. He chose the firm after screening newspapers and magazines for six months, filing the ads he liked in a box, and tabulating the winning agency at the end of the period.

In order to get the best design for his new headquarters, Stanton decided to hire a team of specialists rather than one diversified architectural firm to do the entire

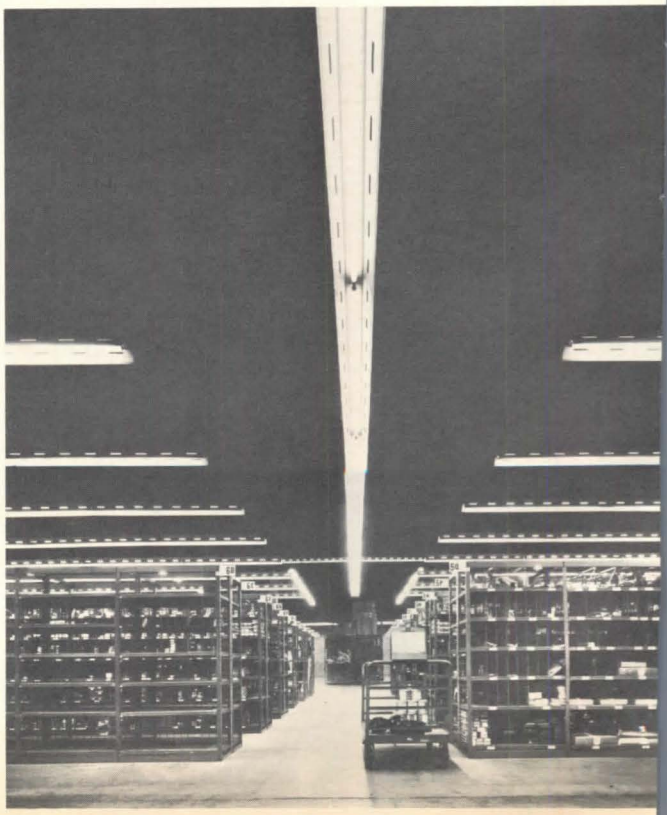



*ecutive office.*

*Lecture room.*

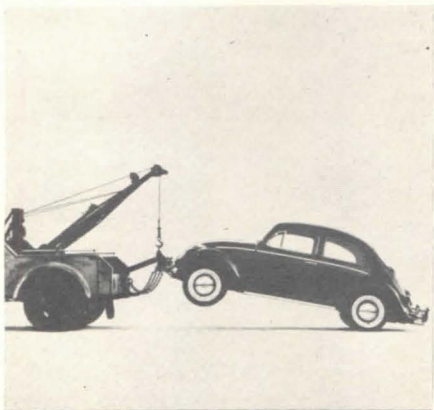
*Mechanic's training room.*

*Warehouse.*



job. "There are bound to be stronger and weaker departments in a large architectural office," explains Stanton, "and architects generally tend to know more about exterior design than highly specialized interior functions." For architectural design and general coordination, Stanton chose Sidney Katz, a long-time friend. For interior design and office layout, he picked Designs for Business; and for the organization of the warehouse, Abner B. Green Associates.

Executive control reached right on down to the selection of the builder. The project was on a strict budget, but Stanton does not believe in bidding: "The lowest bid is not necessarily the best, the cheapest, or the most satisfactory." After investigating industrial builders in the area, he came up with three, and found that Equitable Life was most disposed to give him a mortgage if the job was done by one of these, Milau Associates. This little bit of initiative cut out bidding time and later enabled Stanton and Milau to put in an order for steel nine months before the price went up, at a saving of $5000.



What if it poops out in Paducah?

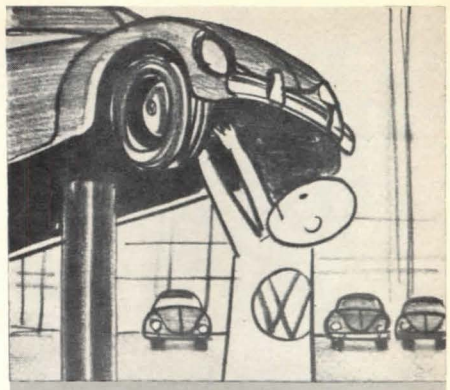
Arthur Stanton also personally picked the new site. "Long Island City, where the company was formerly located, was a cul-de-sac for a tri-state distributor," reports Stanton. "There's a traffic jam beginning at 4 A.M. and lasting right around to about 4 A.M. again." The success of Volkswagen depends very largely on the accessibility of parts, and parts distribution is a major function of World-Wide. (All cars go directly from dockside to dealer-side; none are stored at the headquarters.) Suffolk County, the new location, was ideal for parts transportation: It is at the heart of the tri-state territory — 5 hours away from the furthest dealer, and only 45 minutes away from Manhattan. It is close to all the airports, and to three major parkways. Traffic to and from the city is still relatively light. The region also has good middle-income housing; it is still rural, beautiful, and a pleasant place to be.

A Volkswagen, obviously.

For the design, Arthur Stanton did not want "some oversophisticated marbleized box" but something to fit in with the Volkswagen owners' idea of the company. After years of the economy jag, VW could not exactly go flush and brassy even if they were successful.

We started with a simple plan.

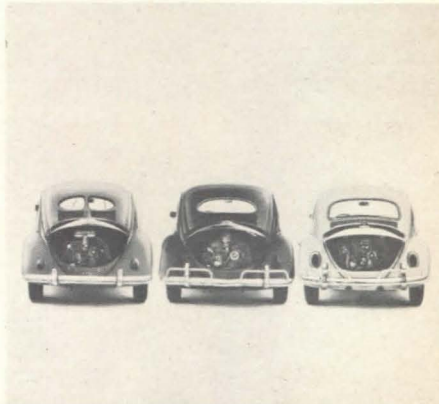
The client's program called for offices for five WWVW executives, conference rooms, offices for sales, accounting, service and parts; classrooms for dealer and service training programs, a computer room, warehouse for Volkswagen parts, and a cafeteria. Katz's initial design, a simple box, was rejected on the grounds that it could not grow gracefully. Instead, a fragmented scheme was developed: The executive offices, which are not likely to be expanded, were grouped in a block with the conference rooms; sales, accounting, and service and parts were placed behind; and the warehouse was located at the rear, where it could be enlarged. The architects had also developed a scheme of lightwells to add interest to the building façade, to admit light into the interior, break up the monotony of the office space, and also to accommodate the 14-ft lifts for the automobiles in the training area.



A jack of all trades, he's not.

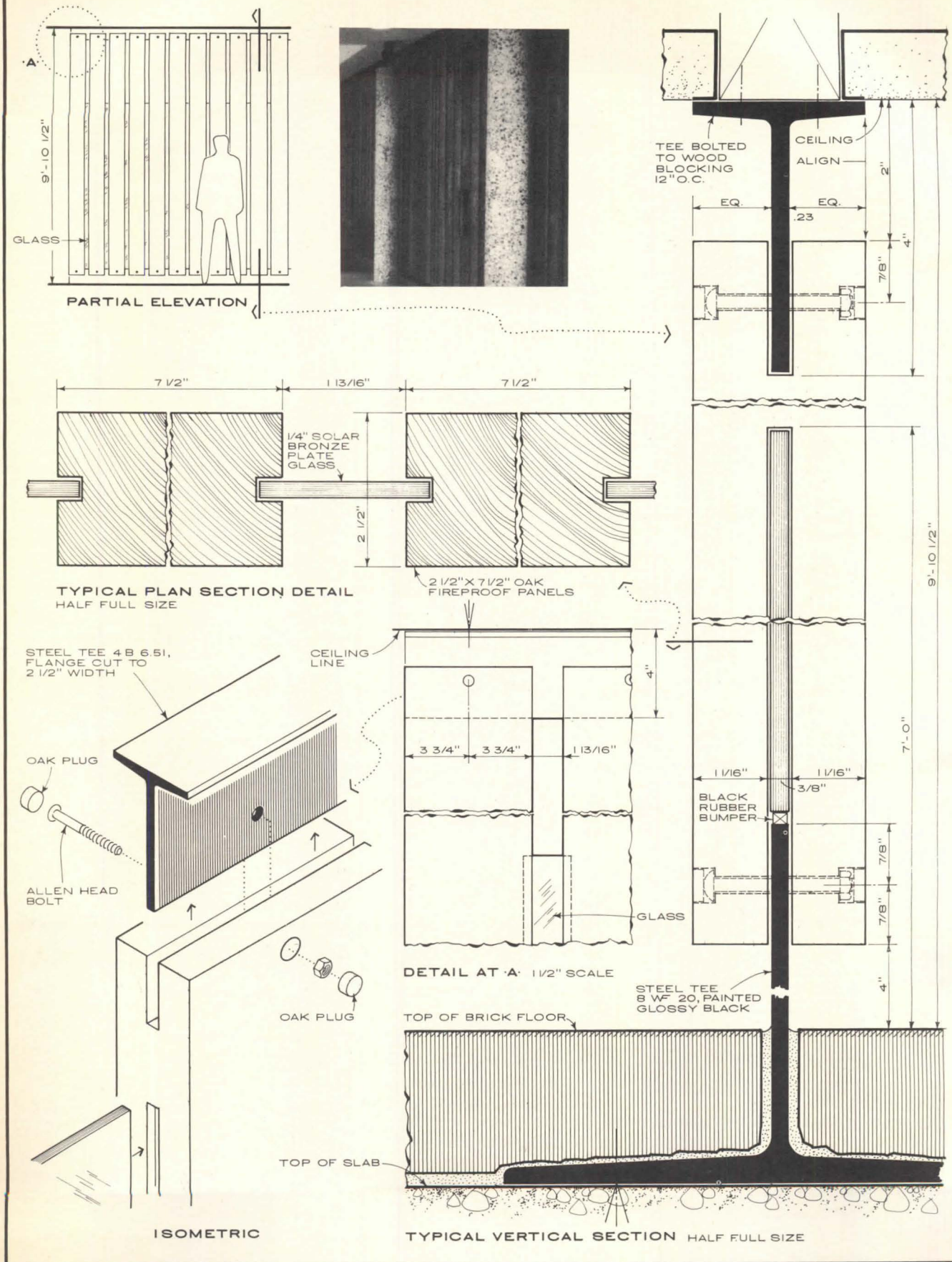
After the architects established the general plan, Designs for Business stepped in. They were asked not only to design the office interiors but to check out the architect's scheme and supervise the construction of the interiors.

After doing their own research on the program, DFB found the outlines of the architect's plan sound. "The major contribution of DFB to the over-all scheme," relates Katz enthusiastically, "was to put the entire plan on a modular basis."



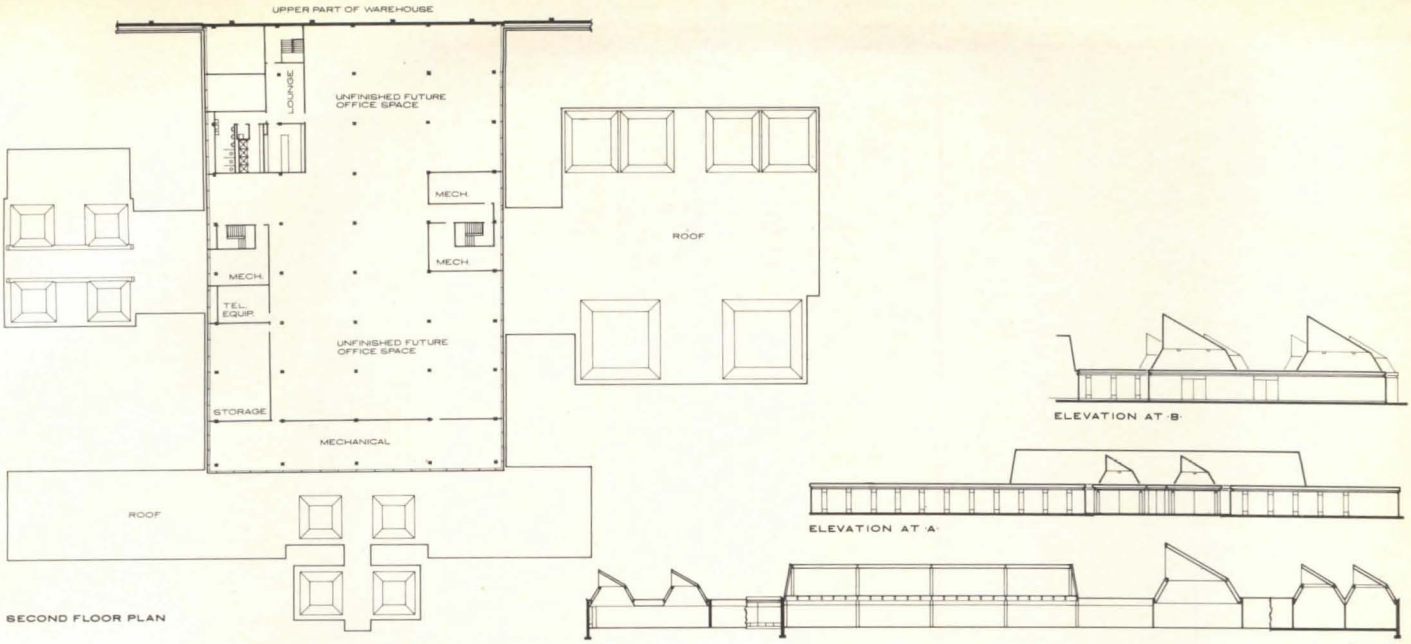
When a mechanic only has one model to worry about, he can worry a lot more efficiently.

"The building's interior," explains Jerry Whiteford of DFB, "had to be designed with the same ingenuity as the Volkswagen itself." Following the example of standardization set by the car, DFB tailored the entire interior to a module — the 4′-8″ panel of the partition system. Columns, ceiling grid, brick floor, bookshelves, overfiles, and desks are all arranged and sized according to the basic module. The offices are all multiples of the standard: Top executives get 12 modules, department heads 6, and the president 15. The entire system is designed for growth and flexibility, and the partition system is engineered with a vertical compression system so that a minimum number of ceiling panels — 2 out of 12 — will be destroyed

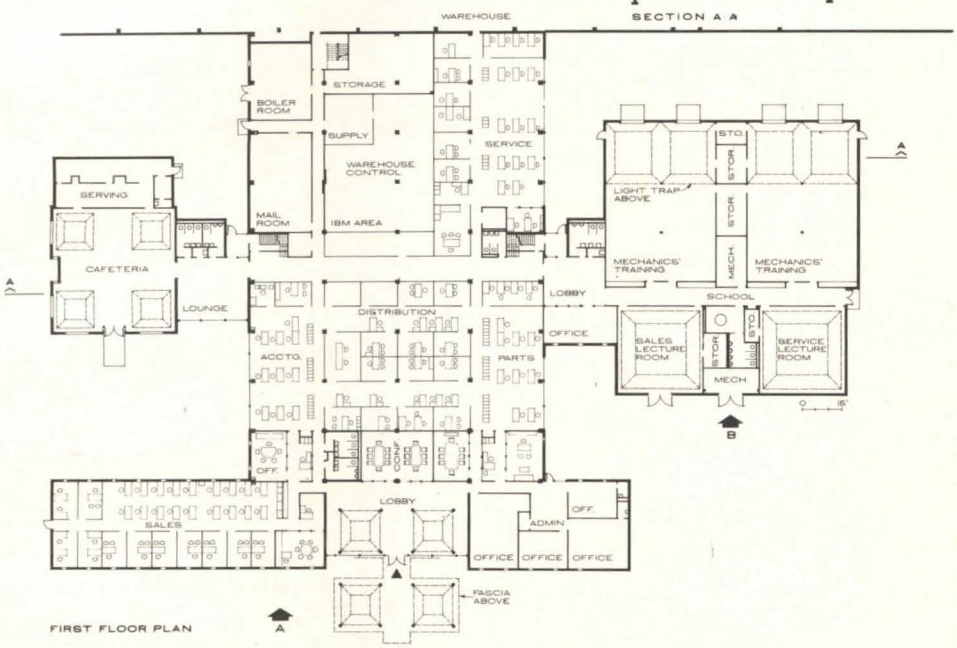



WORLD-WIDE VOLKSWAGEN: Orangeburg, N.Y.
KATZ, WAISMAN, WEBER, STRAUSS: Architects

SELECTED DETAIL
SCREEN



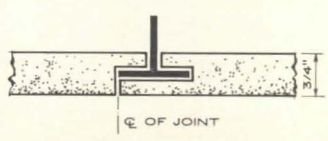

SECOND FLOOR PLAN




FIRST FLOOR PLAN

*Lobby, showing wood screen at right (see detail, facing page).*

*Secretarial pool, with shiplap ceiling (detail below), contains integrated light-and-air-conditioning unit.*


HUNG CEILING DETAIL

if a wall is moved. Several of the lightwells used in the original design were eliminated in favor of future flexibility.

*DFB* spent a good deal of time on the detailing of the ceiling to make it completely accessible for repairs. In cooperation with the manufacturer, they designed a special ship lap panel system that completely hides the suspension grid (see drawing, p. 111). Air-conditioning intake and outlets are ingeniously incorporated into the light fixtures.

The accounting, sales, service and parts sections are all color-coded; directional signs, chairs, and filing cabinets are covered in the "department" color. This helps orient people, adds color to the interior, and disguises the old gray filing cabinets. The latter are ingeniously incorporated into the modern interior: Some are built into the wall with overfiles; others form colorful banks between the executive offices and secretarial pools. Color-coding also prevents chair-snatching between departments. Desks are kept uniformly gray throughout so that they can be swapped.

The circulation systems in the building are carefully planned. For instance, when a visitor to Volkswagen sits in the main lobby, he is separated from the inner offices by a screen of oak and glass (see detail, p. 110). Behind this, the five top executives and other VW personnel can walk about without being seen. With characteristic VW economy, DFB designed the screen with pegs at the rear, so that it serves as a cloakroom (for the conference rooms) as well as a decorative, secretive element.

Every effort was made to pamper the secretaries, give them pleasant surroundings, and an outside view. "After all, they have to sit in one place all day; the department heads can get up and walk around," says Stanton. Consequently, all the secretarial pools are arranged along the windows facing courtyard or a view. Private secretaries occupy transverse corridors with windows at either end.

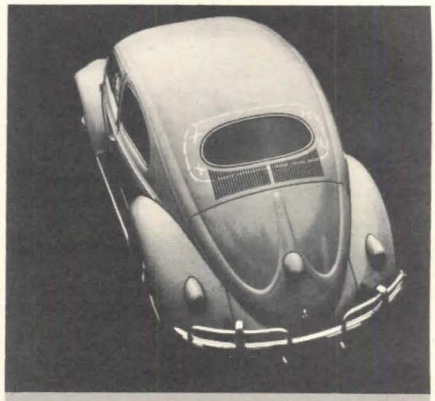
On the outside of the building there is a curious phenomenon: A paved roadway runs out like a VIP carpet from the parking lot to the porte-cochère. It is used only for the Baron von Nordhoff, chief of Volkswagens. Cars are parked in a lot screened by earth berms to the east of the building. The service training areas, located in the central section, are accessible via a circular driveway. At the rear of the building, the computer area is directly connected to the warehouse.

If our mechanic thinks he's through learning about your Volkswagen, he's through period.

Complete confidence in VW servicing is a vital asset of the company, and training of mechanics and sales personnel is a major role of WWVW. Classrooms, lecture halls, and repair shops for instructing dealers, salesmen, and mechanics occupy an entire wing of the building. Every effort is made to treat all personnel equally, and maintain the same level of design and finish throughout. There is no grubby "backstage" at Volkswagen. The interiors — from the executive offices on through the repair shops — are completed with the same degree of care and polish. There is no executive dining room; everyone eats in the cafeteria, which has spontaneously acquired the name of Arthur II, after its swinging predecessor, Sybil Burton's discotheque, and Arthur Stanton.

You never know when you'll have to take an elephant someplace.

Consultants Abner Green & Associates had full say in the design of the interior of the warehouse. They analyzed the entire inventory of Volkswagen parts — from bolts to fenders, the container shipping methods, and the computerized system already in existence. On the basis of size, shape, and volume of parts, plus projected needs, they came up with an unusual request: for a 50'-6" bay, instead of the standard 50-ft size. With this amount of space between columns, they would have maximum flexibility in storing the odd-shaped parts. Green then divided the warehouse into stations, each under the supervision of one man who specializes in that area, fills orders, and takes inventory. The storage bins were developed in Europe. An important factor in the warehouse was expansion. An initial 150,000 sq ft was built, with provision for a 300,000 sq ft addition.



The famous Italian designer suggested one change.

From all reports and post-mortems, the collaborative effort between consultants and architects was very successful. Once Abner Green had established the basic dimensions and organization of the warehouse, Katz stepped in to refine the design. In order to scale down the huge block and to prevent it from overshadowing the office wing, the architect capped it with a mansard roof, which cuts the vertical height in half and makes it look more like a house than a warehouse. He then decided to carry the roof around the entire complex and persuaded the president that the "attic" over the one-story office space was exactly what was needed for future expansion. Aesthetically, the roof ties the complex together; functionally, Katz was right: 10 months after completion of the project, 6000 sq ft of attic space was being finished for immediate occupancy. Economically, the mansard roof turned out to be cheaper than the standard warehouse construction. The final cost of the building was just 1 per cent over the original budget, a feat that architect, client, and consultants find extraordinary and pleasing.

According to Stanton, the building has attracted a high-caliber of employees, and instilled great company loyalty. From the exterior, the design fits into the landscape: The pitched roof recalls the near-by barns, and it has been well received by the local community. Taken as a whole, the project is a modest and complete success — as befits the reputation of The VW Bug.

# COLGATE
## Creative Arts Center

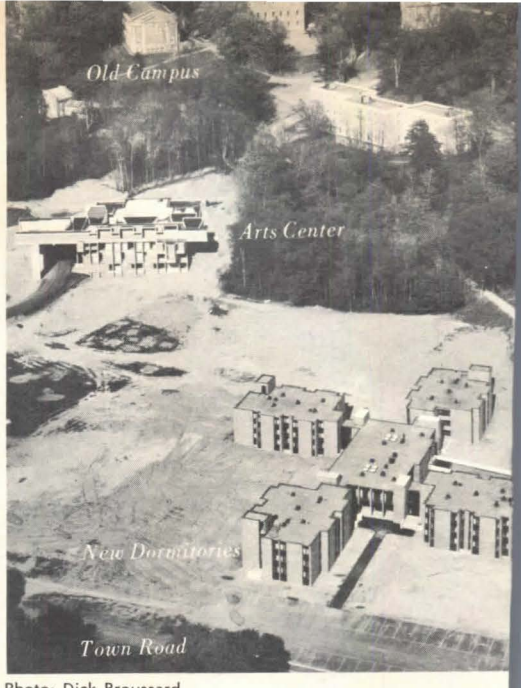


Photo: Dick Broussard

***Architect**: Paul Rudolph. **Site**: Below hill, between main university buildings and the town's main road. **Program**: The original program called for a building that was to create a focal point for the fine arts, make them as important as other activities on campus, and establish a creative environment for a rural college that had no museum, theaters galleries, etc. The preliminary specifications were ambitious: The faculty wanted complete facilities for graphics, painting, music, and drama courses and space for an art collection. In addition, the University wanted to promote an integrated study of the arts, which required classrooms with special audio-visual equipment, and small rooms with special computer equipment to encourage individual experiment and creativity. **Solution**: The initial program was obviously over-ambitious for the budget of $1,200,000, and was cut severely. The concert hall, graphics, sculpture, and painting facilities are all to be located in a "second" section of the project, which the administration does not foresee building until "a couple of generations of students have gone by." Meanwhile, the auditorium doubles with some difficulty for both music and drama; schedules frequently overlap. Gallery space and the classroom requirements for the special studies were fulfilled, but the experimental studios were eliminated. Acoustically, the building works very well: The padded ceilings and carpeted floors effectively deaden the sound. The irregular walls of the small music rooms prevent undesirable reverberations. The only complaint is that the organ room cannot be used at the same time as the auditorium, because sound travels through the ventilating system. **Structural System**: Concrete frame with precast concrete block infill. Roof over auditorium is post-tensioned steel supported by a 34-ft. angled beam also serving as exterior wall. **Mechanical System**: A zoned air system for heating and ventilating is supplemented by perimeter fin hot-water radiation. Heat is applied to conversion units from a university steam system. There is no cooling system **Major Materials**: Cast-in-place concrete with 3 in. board texture; concrete block is fabricated in pairs then split, creating a rough "corduroy" texture. Original structure was to have been entirely cast in place. Concrete block was used to cut cost. **Cost**: Budget, $1,200,000; final cost, $1,500,000; $26.50 per sq ft. **Consultants**: Edward C. Cole, Theater Equipment; Harvey K. Smith, Theater Lighting; Cambridge Acoustical Consultants, Theater Acoustics; Milo S. Ketchum & Partners, Structural Engineers; Van Zelm, Heywood & Shadford, Mechanical and Electrical Engineers. **Photography**, except as noted: Joseph W. Molitor.*

**"It went completely against my ideas of a building and the traditional college campus. But as time went on, and I travelled through it over and over again, I felt there was something I was missing. Each entrance into the concrete monster made me more and more aware of my lack of appreciation for it. Then, one day, a professor mentioned the idea of spatial surprise and that was the key: the way the building is laid out to keep the senses alive as you walk through it. Each new passage, stairway, or turn brings the unexpected: a quick upward rise to the sky or a rapid drop to the pavement below, a cramped pass that breaks out into great light, or the feeling of being drawn into the many nooks and crannies with a sort of suction as you turn the corner. It still doesn't fit on campus, but of all the college buildings, it's the only one that makes me feel alive when I enter it."**
**Colgate student comment**

Colgate's new Creative Arts Center is not the most practical building for the practice of the arts, but it has served as a catalyst for revolutionizing Colgate's idea of what modern art and architecture are all about. Ever since the Center went up, it has created a storm of controversy. Its critics point out that the stage is limited by shallow audience sightlines, that there is no stage house, and that painting and sculpture courses are crowded into too-small rooms. Although the program admittedly overestimated the capacities of an academically-oriented curriculum and budgetary limits, nevertheless, for $1,500,000, these critics feel, they could have had more workable paint-slinging space. Instead, at $26.50 per sq ft, they got a spectacular display of Rudolphian architectonics.

Those favoring the Center — the larger group — point out that Rudolph may have fulfilled a more rudimentary function: His pyrotechnics have challenged the traditional college predilection for small-scale-and-fieldstone architecture, and set every conservative to reconsidering his prejudice against brutalism, against big scale, and against concrete. Finally, he even takes them a step beyond the "International Style" (of which there are several isolated examples on campus), and shows them the delight and surprise of unpredictable spaces — spaces tailored to favor movement rather than a preconceived "packaging" of space.

Since the theater was presented in its project form in the October 1965 P/A, the subject matter of this article concerns the effect of the architecture on the campus and visiting critics. Drawing on comments from students, faculty, and architects, some of the more mystical lingo of modern architecture is clarified: What is the meaning of the current preoccupation with scale, concrete, organic, and "moving" space?

### Scale: Subhuman, Inhuman, and Heroic

**"We think too much of the building as an entity within itself. The Parthenon depends on its sitting atop the Acropolis; on the sequence of spaces revealed as one approaches; on its mysterious relationships to the**

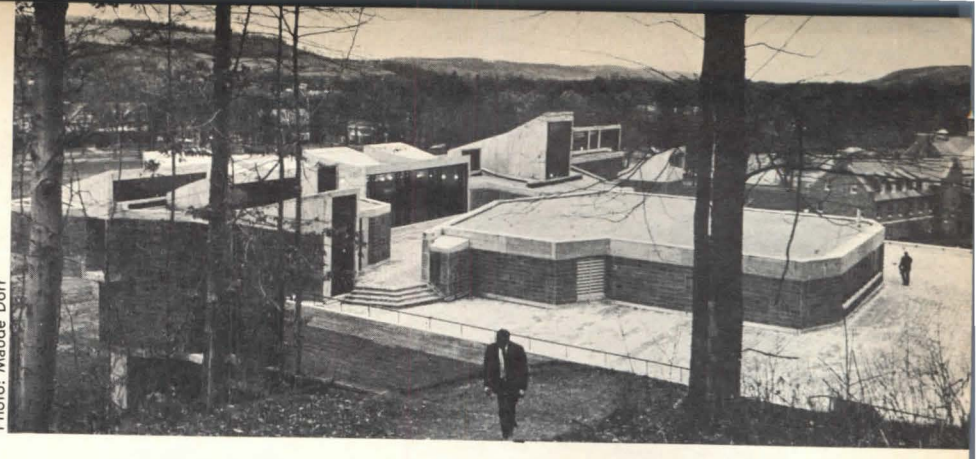
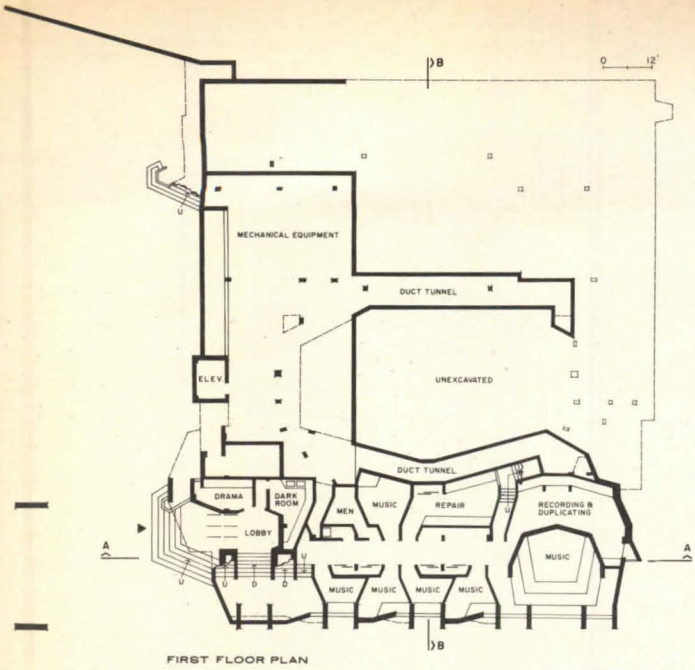
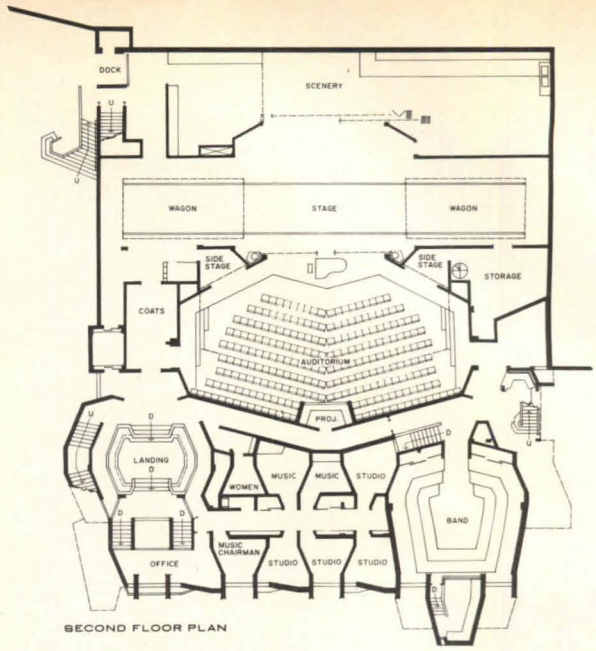


Photo: Maude Dorr




FIRST FLOOR PLAN




SECOND FLOOR PLAN

**form of the mountains beyond; and on the eternal and incomparable clarity of sunlight. All of these elements blend and interact so that finally the ensemble becomes the symbol for an age."**

**Paul Rudolph**

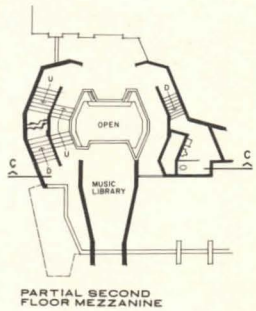
The external design provokes the most discussion. Does it fit into the campus and the landscape, or not? Is it brutal and oversized, or does it have scale? To many students, the material and dimensions are startling, if not offensive:

**"One cannot escape being impressed by the largeness of the structure. It looks by far the largest building on campus and has been variously described as a fort, or an ICBM silo."**

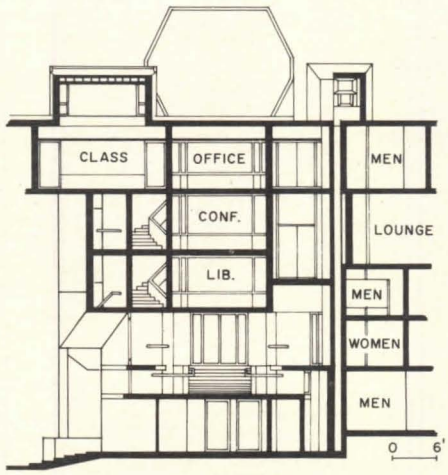
**"It has put a blemish on the campus."**

To one faculty member it is a harsh, unnatural statement:

**"I would have preferred Aalto as an architect. The rolling hills and woods need a softer touch and material."**




PARTIAL SECOND FLOOR MEZZANINE




*Section C·C*

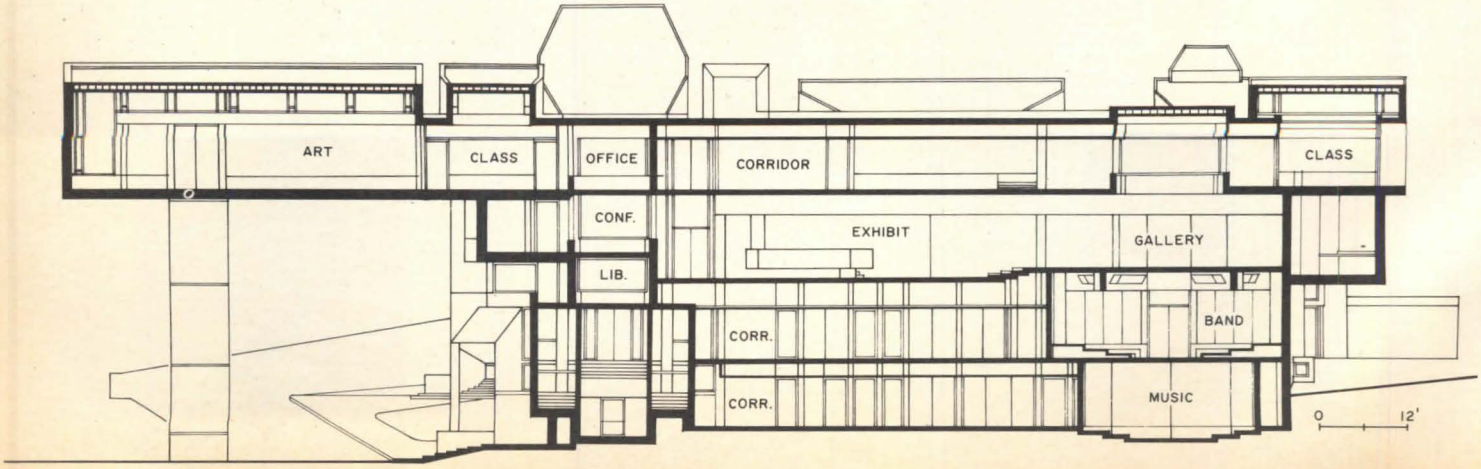
Many students, however, find it very human, and heroic. Instead of being overpowered by it, they are inspired:

**"One look across the lawns at the hard gray lines and you read *man*. It doesn't just sit there on the side of a hill, but stands there proudly—and thus challenges me."**

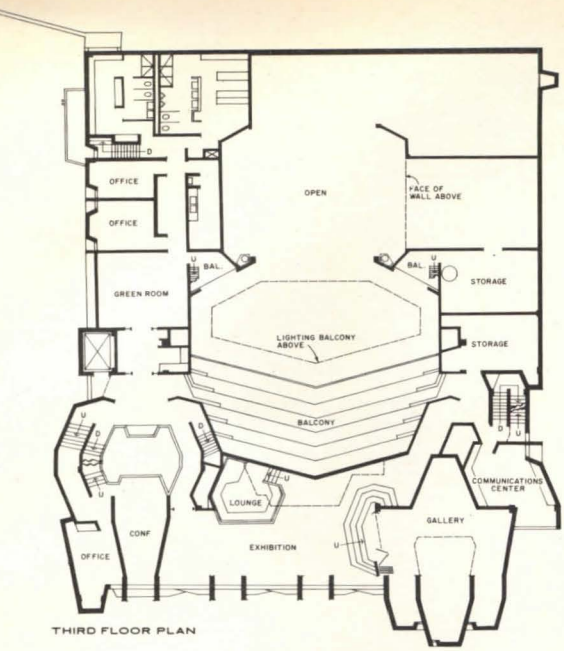
**"It is a formidable structure with a coarseness and strength which many see as part of that nebulous person — the Colgate man."**

The architect is frankly concerned with monumentality, but a monumentality that reads at several different scales.

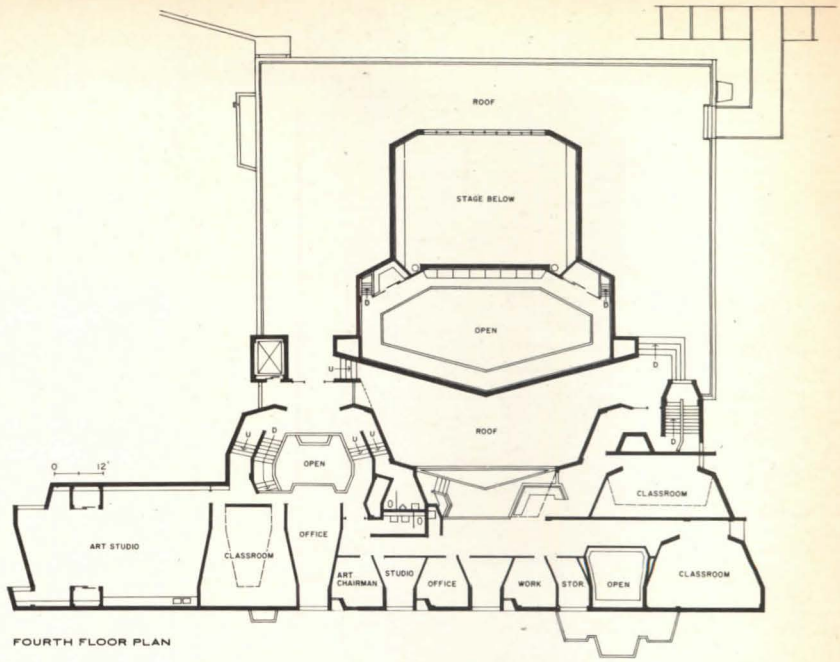
**"The first and largest scale is that of the broad outlines of the structure, which relate the building to the landscape, tie it to the campus behind, and the town beyond. From the main road, the structure appears to be a giant one-story building with huge columns. The roof matches the sweep of the playing field in front, the archway is a grand**




*Section A·A*




THIRD FLOOR PLAN




FOURTH FLOOR PLAN

**porte-cochère to the campus and frames the cupola of the old chapel beyond. As the visitor approaches the building, a smaller scale becomes apparent: The individual floors and rooms are articulated, the human dimension expressed. The next order down is the concrete block—hand size; then the corrugated texture—fabric size."**

The meaning of *scale* has been brought home to Colgate more clearly in the last few months, when a series of dormitories were constructed next to the Arts Center. Since these lack a hierarchy of sizes in the various elements of their façades, their scale remains undefined and they consequently appear small in the over-all landscape.

## Style: Classic vs. Organic

From the exterior, the building projects a puzzling image:

**"My first reaction was to explore it."**

**"It is fascinating and forbidding. Its daring and imagination breed a marvelous curiosity, while the sharp edges and unpredictable shape make it seem alien and uninviting."**

Although the students fail to explain the reason for their puzzlement, a faculty member is more shrewd:

**"It's an excellent building to teach the history of architecture in; it has everything. I can find examples for all sorts of styles."**

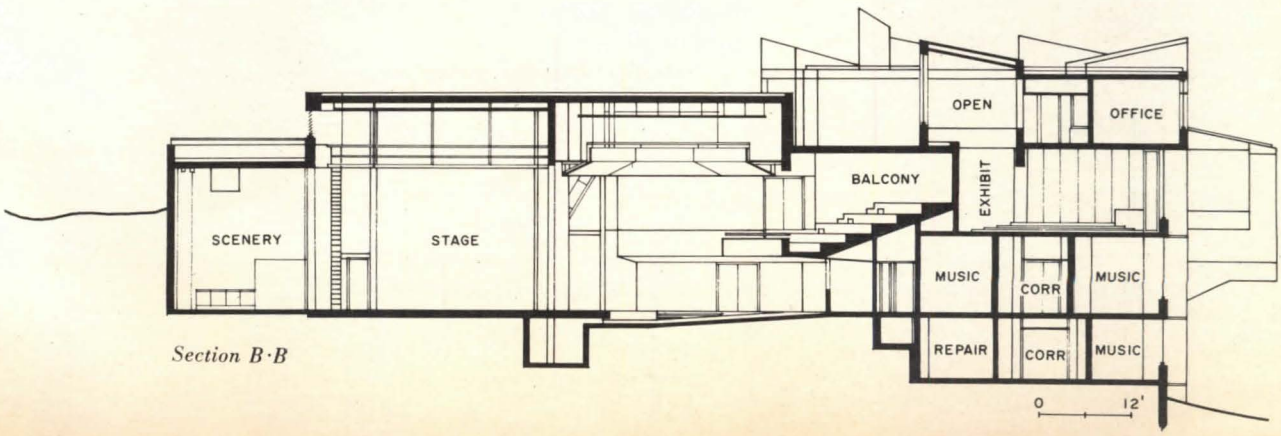
The Dana Arts Center is a strange hybrid of the classic and organic: the principal lines of the structure — columns and architrave — hold onto classical forms while bulging at the sides with the irregular shapes dictated by modern acoustics and the whim of the architect. (Rudolph is frankly intrigued by spaces that are not square.)

## Space: Packaged or Spirited?

**"Quickly, everyone grows tired of the package. The principal alternate to package architecture grows out of Frank Lloyd Wright's and Le Corbusier's concepts that man's spirit and infinite modes of expression need to be made manifest, celebrated, and encouraged."**

**Paul Rudolph**

In spite of the static appearance of the exterior, Rudolph's Center has the effect of a perpetual motion machine. Students constantly speak of it as a building to walk through, travel through. In the original plan, the Center was linked to the landscape by two bridges that connected the rooftop to the campus above. Students were to enter the structure from two levels, top and bottom, and the circulation pattern is more vertical than horizontal, with one of the main features of the building being a circular stairway at the northern end. The roof, then, is an important "façade" of the building, and landscaped with architectural protuberances: skylights, dormers, and a village of abstract shapes. Although the bridges were eliminated due to cost, one edge of the structure runs into the hillside, and the stu-




*Section B·B*

dents naturally use this corner for access. Following the logic of the circulation patterns, with students coming from above and townspeople from the main road and entry below, classrooms were placed at the top of the building, and more public theater functions below.

The interior itself is an exuberant exercise in circulation. The small, narrow corridors, winding staircases, multiple levels, and flowing forms all contrive to keep the student moving. As one student puts it:

**"It tempts you to use the stairs instead of the elevator."**

They are quite perceptive as to the methods Rudolph uses to achieve this effect.

**"There is no feeling of ground or second-floorness because of the integration of levels with semilevels. There is no tiring from climbing stairs because of this."**

**"He has reworked the redundant regularity of a thousand rooms and consistent horizontals and verticals. The rooms and hallways are not placed at right angles but only and exactly where they are needed. This results in a continual break-up of consistency."**

**"Rudolph has devised a follow-the-dots game in which every stop holds some sort of architectural surprise: the multishaped windows, unique room shapes, and the various studios are so well conceived that, after two years in the building, I still find something new every day."**

In describing the plan of the building, the architect drew the following diagram: a spiral, with tangents and views arresting motion at various intervals, and at the same time leading you on.

The spaces Rudolph creates are small, mysterious, and intimate, like a maze. Passageways are narrow, enclosed, so that, in an area like the staircase, you may be aware of people moving on the other side and yet not be able to see them. The building exudes such a spirit of secrecy that one student compares it — with youthful enthusiasm — to a dungeon. Rudolph, it seems, has managed to trigger the student imagination:

**"Every hallway, staircase, classroom, listening room—from the theater to the john—has some fascinating innovation for the imagination to play with."**

**"Everyone has a favorite area: a certain window, or ceiling, hallway, wall, or corner. Rudolph said that the balcony over the main entrance was where boiling oil could be poured on the enemy."**

## "Hard" and "Soft" Concrete

Part of the excitement of the building comes from Rudolph's frank treatment of concrete inside and out. Although many were initially offended by the material — one professor never knows when to take his hat off because he never knows when he has arrived "inside" — most are completely intrigued with the material, and surprised.

**"The somewhat stark, foreboding exterior suddenly becomes quite comfortable inside. The concrete has nothing of the harshness you would anticipate, and you feel almost compelled to touch it to be sure."**

**"This building challenges you to walk through it without being forced to run your hands across the sandpaper walls, the cotton (acoustical) ceiling, or the stone floors, not to feel some reaction to the building. It is because of this that the Art Center is organic: It makes you come and observe it—both mentally and physically. This separates it from most buildings: You are aware of the structure you are in and take notice of it; you don't walk up and down stairs with your feet; you pass from floor to floor with your eyes, hands, and mind as well."**

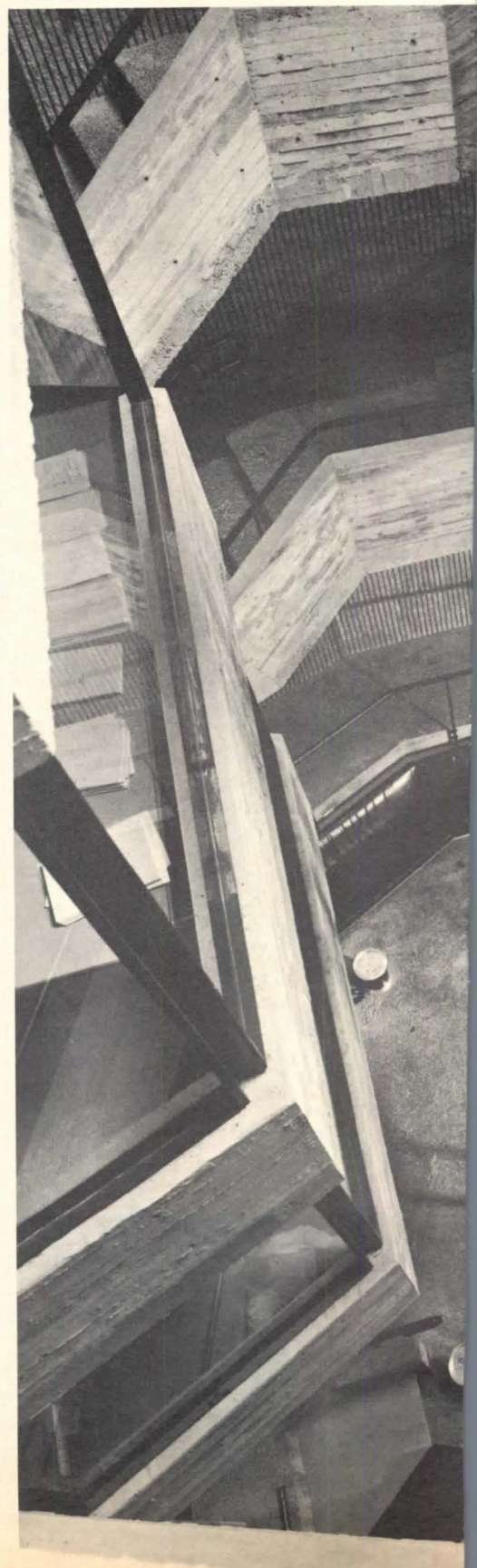
Colgate has a problem maintaining the soft acoustical ceiling material; students wear it out, pluck it off, for the pure fun of the feel of it.

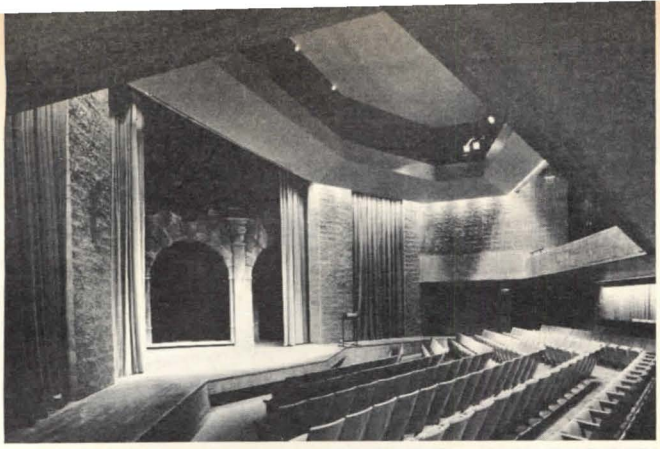
The exposed beams and concrete block seem to lend a dramatic excitement to the Center, and put the student in direct contact with the workings of the building and the art and craft of architecture.

**"The building asks you, 'How did he approach making it. Why did he use this materal, in this unusual way?' "**

**"Many buildings, while still locked in the molds and braces of construction, are more surprising and certainly more exciting than the cut-and-carpeted end products. Not so here. This stands as a resilient experiment in soft concrete, a no-holds-barred writhing of highly textured planes that beckon the passing hand."**

*Stairwell.*





*Auditorium.*

Exposing the dynamics of architecture seems to stimulate a fresh view of the other arts.

**"I have often felt that being in this building is like being backstage when you are able to see the open spotlights and fixtures. You feel a new proximity to the performers and the artists. I think it is the Center itself which puts you in this frame of mind."**

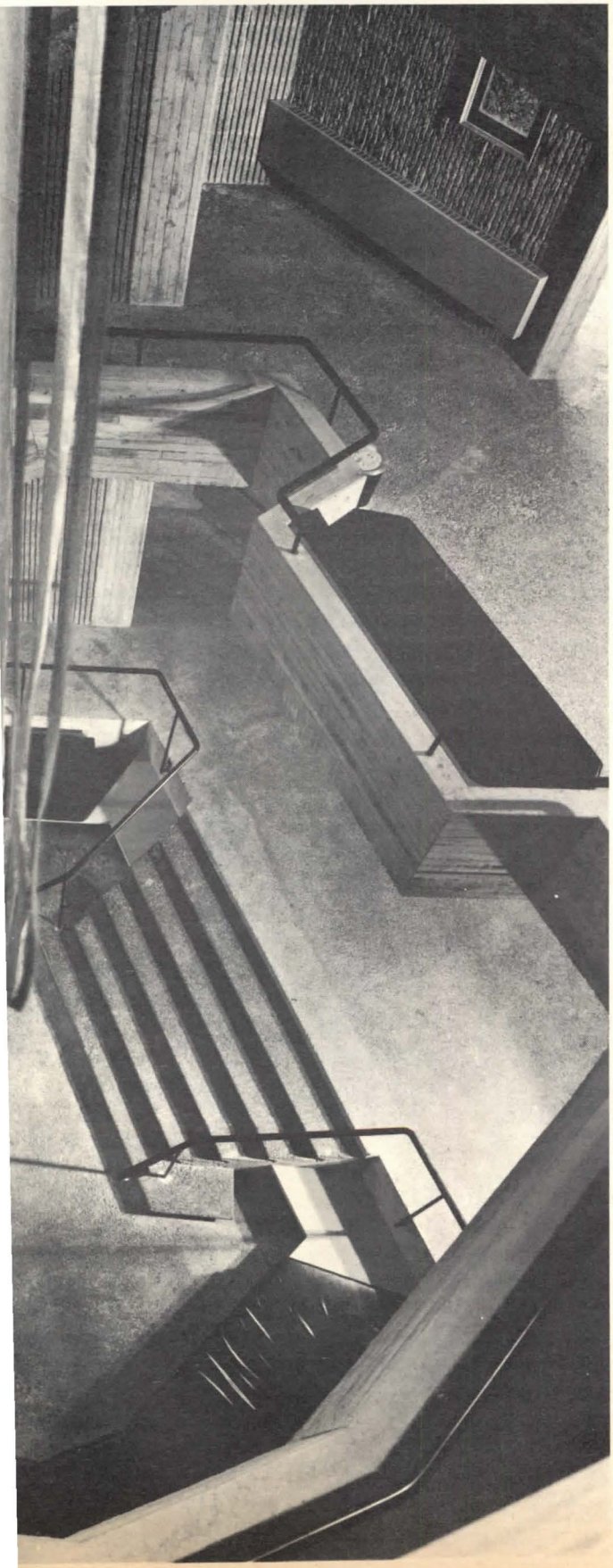
## Rudolph: Architect or Sculptor?

On a more sophisticated level, the debate over the Center goes beyond simple matters of concrete and medieval crannies. Many students comment that the building itself is a work of art. Some critics question whether it is a work of sculpture or of architecture.

It may be that the Arts Center approaches something very close to what Rudolph expressed in his own speech at Colgate:

**"The American genius for building throughways, bridges, intersections, rendered almost voluptuous as a Rubens painting, are deep in the American tradition of going on, on, on."**

This occurs partly because of his preoccupation with the effects of moving through space, partly because the balance between sculpture and space is never really settled in favor of the latter. Even those spaces that should be static — the lounges, green room, and auditorium — even these move: In this sense, they more frequently resemble corridors than complete and satisfactory volumes. This compression of space is part of the dynamics of



*Art Gallery and Lounge.*

Rudolph's architecture: One of his main concerns is making you feel the presence of the adjacent room, and the volume of the next room consistently impinges on the space you are in. This has led one student to observe that, after a while, it is apparent that all the spaces are actually the same: The offices force themselves into the main stairwell (which should be a major space), the auditorium pushes into the lounge, and the stage into the audience.

A visiting architect remarked that although the small studios, practice rooms, and classrooms were excellent, there is no hierarchy of spaces on the interior as there is of forms on the exterior. There is no release from the small, the medium-size; from the pressure of moving on. During the daytime, this is less obvious, since the interiors gain volume from the outside. At night, it is closed in.

It is questionable whether Rudolph has devoted more space to the display of his own art rather than to the arts he is to house. The cost of the building is relatively high; the amount of space devoted to circulation is also high. Some users would have preferred more plain space at that price. A new professor of painting at the university nostalgically remembers the old tobacco factory where he used to teach — with "reams and reams of usable space." This criticism, however, may almost be irrelevant at this stage in the cultural game. As one student pointed out:

**"Initial suspicion and dislike of the unfamiliar or spontaneous approval are finally irrelevant in view of the active awareness that such a structure generates."**

On the practical side of the ledger, the Center has had quite a solid success. The annual budget for drama — an extra-curricular sport — has gone up from $2000 to $10,000; a local theater group organized itself and used the facility during the summer, enjoying bigger audiences and unexpected success. As the theater director comments:

**"It is an event just to come here. Cars park in the playing field, banners fly; the building itself is an adventure."**

Finally, enrollment in the courses on the history of the arts has skyrocketed, exceeding the capacity of both classrooms and teachers. Many students are on a waiting list.

Rudolph's Center has done a fine public relations job for the arts, and, unlike many architects of culture, he has created his architecture in an idiom that is fresh and relevant to the contemporary spirit. As one student summarizes it:

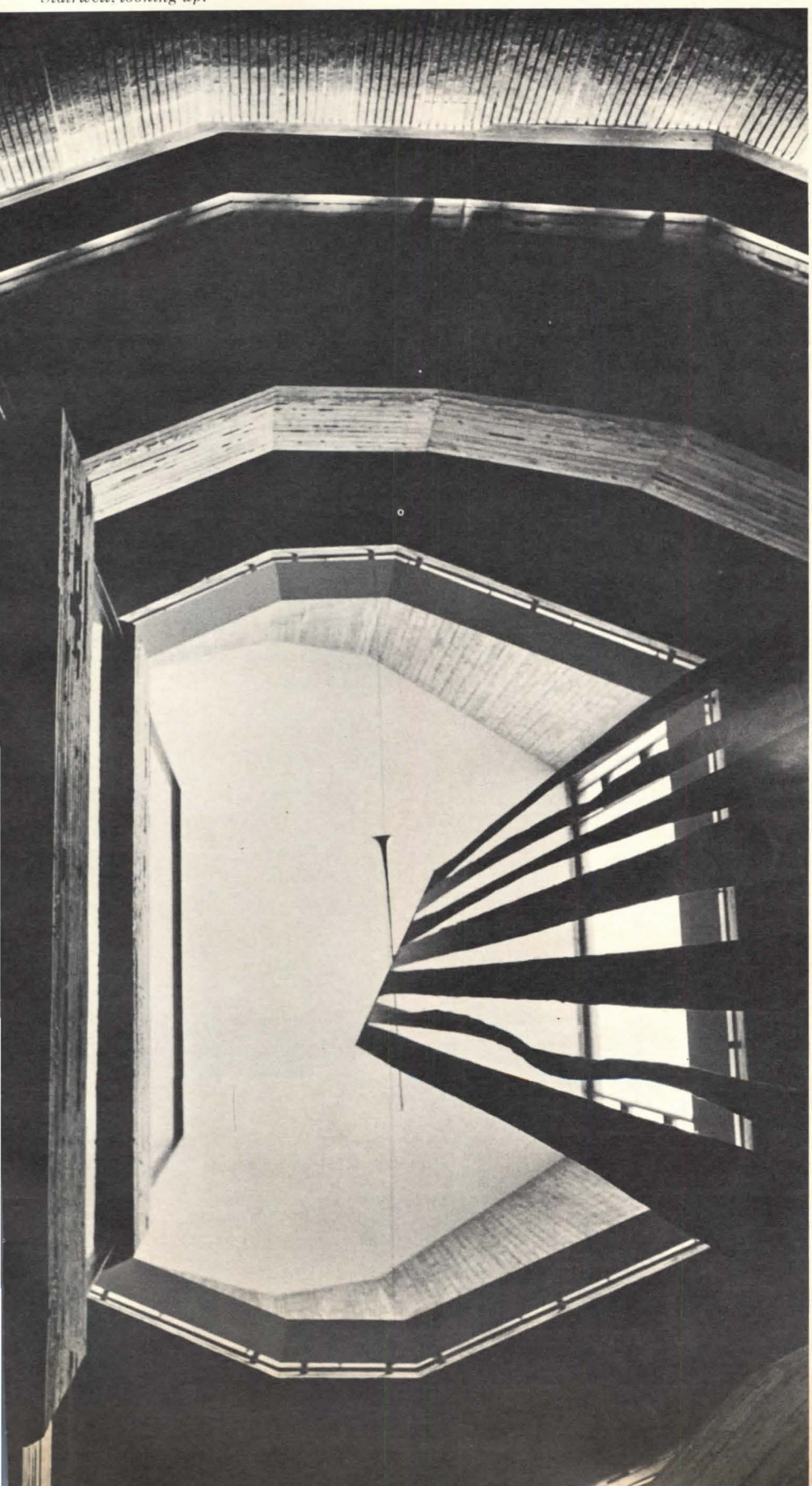
**"It makes every performance a little more spectacular, keeps the show going even during intermission, and involves audiences in the performances. The spirit of the building is very flexible—not that it provides an anonymous background suitable to any kind of activity, but an active environment for various kinds of activities. It challenges everybody; enjoys a round of Cowboys and Indians with local children; causes students to be more critical of the exhibits; helps us relax, and forces us to create. The Arts Center provides a new perspective at Colgate—mentally and physically."**

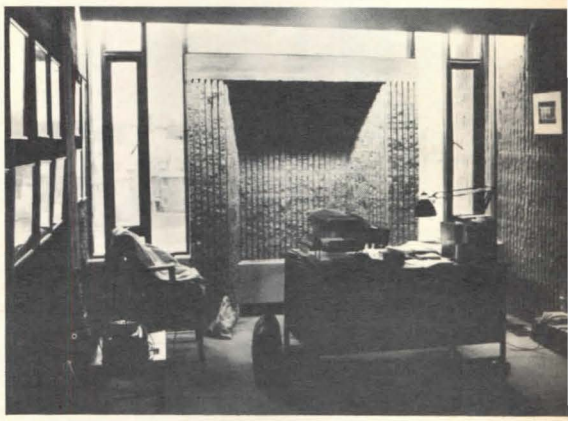
Photos, this and facing page: Maude Dorr

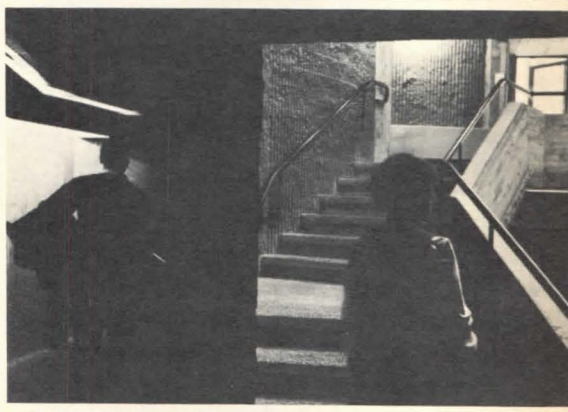
*Stairway window.*

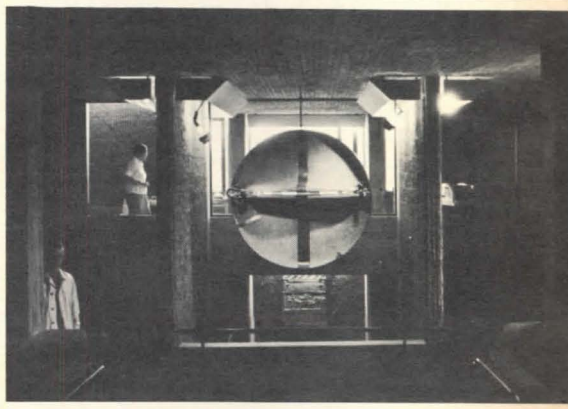
*Photos, right:*
*Sitting place.*
*Faculty office.*
*Stairwell passageways.*
*Multilevel entry.*
*Exit to roof.*

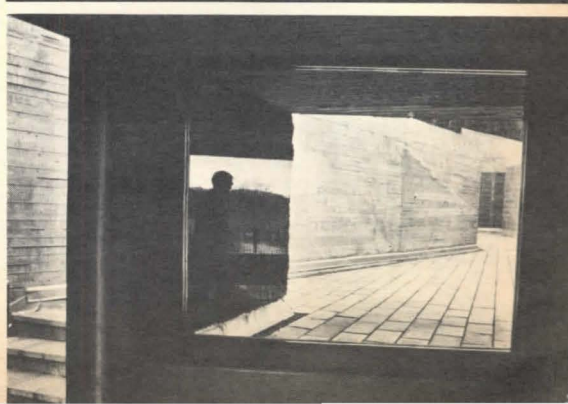
*Stairwell, looking up.*











# How many details do you need for an office design?

## In this day of exhibitionist, sculptural design, a guy can have a ball by just working it. But the question is: Is it worth doing in the first place?

One steps off the elevator on the forty-fifth floor of 277 Park Avenue into a monochromatic, wood, buff tile, and white plaster space, but it does not take long to notice, "Hey, something's going on here."

There is a conglomeration of circles and ovals, squiggles and projections, coves and peep holes. It is half IBM card and half jig-saw puzzle. There are cut-throughs and cut-offs. There is also a sense of interrelationships and interpenetrations that produce a degree of the cross-over ambiguities that appeal today.

And it is almost all done in wood. That is appropriate to Brown Company, tenants of the floor, not only because the firm is a wood and wood products company (producing plywood veneers and panels, wood pulp and paper, and many types of paper products), but also because they have been engaged in some very enterprising corporate activities in the past two years — doubling their demand for space, acquiring new and extensive holdings, and improving personnel and profits under the leadership of their new president, Frank T. Peterson.

Charles Winecoff of Planned Office Interiors, who designed the Manhattan offices, might not equate the extensive wood working of the design with the extensive activity of his client.

"On a tour of the company," Winecoff says, "I was influenced by the power and strength, the sheer magnitude of the pulp vats, paper mills, and plywood plants, by the ruggedness of the timberlands and the logging camps."

As a result of this inspiration, he sees "a massiveness and an almost brutal handling of the details." The entry doors, for example, give an unexpected effect of size as one opens them to reveal wide projecting fins on each side, and, as Winecoff's favorite example, there is no buck detail on the first pair of doors, which are flush with the walls and of a different wood, horizontally grooved. "There is almost an absence of detail here," he comments.

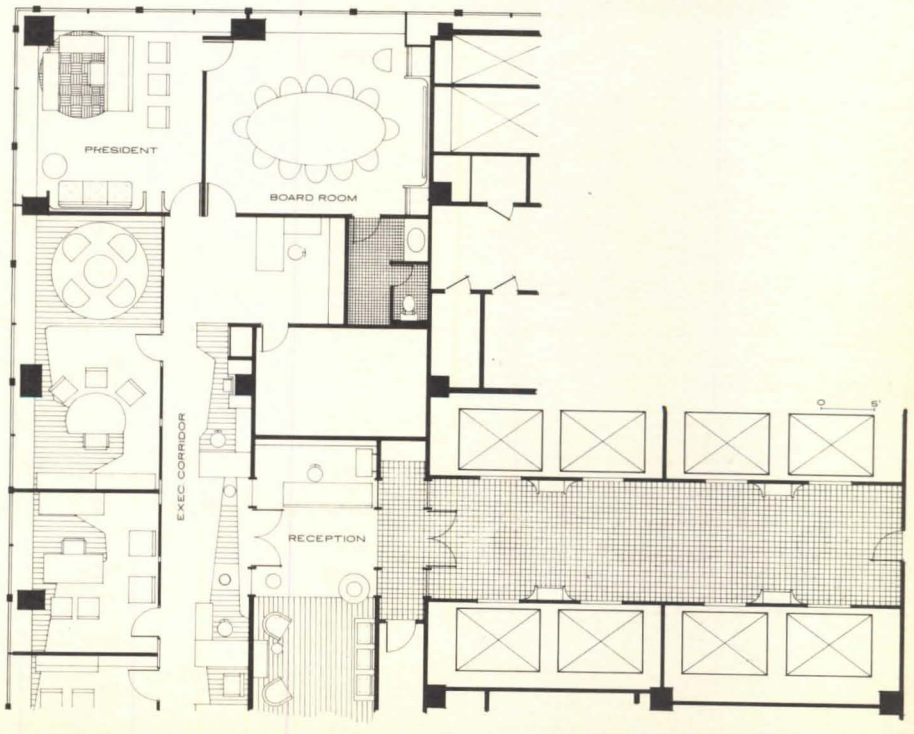
Yet the total effect is hardly that.

The elevator lobby has an elaborately lighted birch ceiling with an irregular cove and stalactitic walnut tub. It has differently surfaced long walls: one of plaster sprayer with Arcoat vinyl finish (since to have all the walls of wood would have seemed excessive); the other paneled in bird's-eye burgundy maple. Projections swoop out from both walls.

The reception room beyond is a two-area space (p. 129): one, a white plaster passageway and desk area with vaulted ceiling and blue speckled carpeting; the other, a visitor seating area in an oak, tubular structure. Winecoff denies any intention of creating an effect like driving through the tunneled-out redwood trees out West, as Brown Company visitors have suggested. Simply, his reasoning was abstract — to surround the seating area with wood.

Unfortunately, the wood pulp mural he conceived for the rear wall was replaced by a rather ordinary, representational story in black linoleum designed by Robert Hughes.

Projections from the oak ceiling (for light) and from the wall (for display) are reiterated in the cantilevered wood seating unit. Occasional tables planned by the designers are log sections from the company's timberlands.



In the office areas, the planning is current standard approach: perimeter executive spaces partitioned from a secretarial corridor are laid out around a core of conference and storage rooms. The facilities are functionally efficient and achieve the required "corporate image."

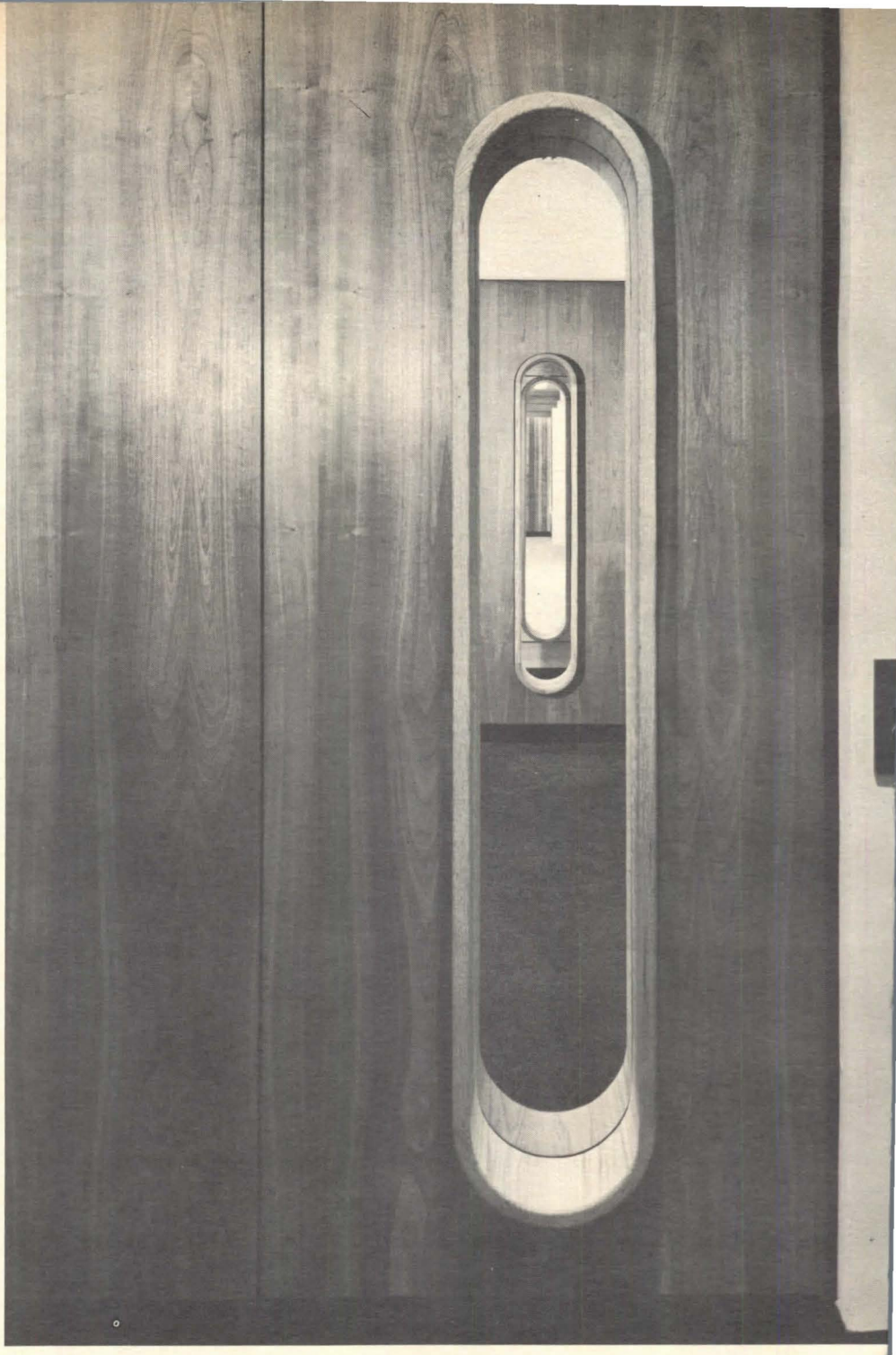
That image is not entirely a unified one. Instead, emphasized by the single-floor arrangement, a hierarchical two-status scheme, which results in some visual inconsistency, has been adopted to provide advantageously for open-ended growth. The custom look of the wood detailing is limited to upper-echelon executive spaces; lower-echelon spaces have more standard finishes and furnishings. The 20,000 sq ft area was furnished at $13 per sq ft, including construction extras.

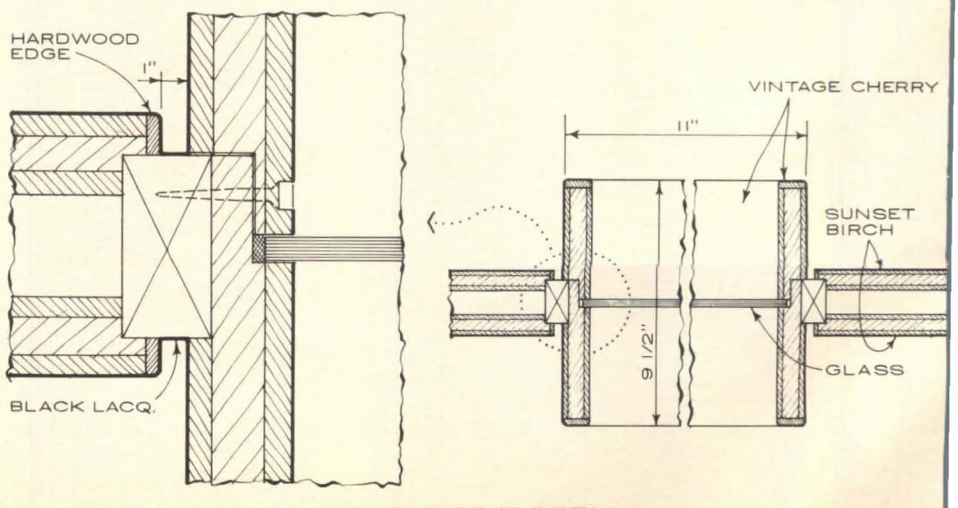
The significance of the Brown Company design, however, is as a work of architectural decorating that shows the stamp of a strong design personality. That work is an aesthetic orchestration of overlayed visual motifs, which include four basic elements: circles, ovals (or elongated ovate forms), irregular trapezoidal shapes with radius corners, and elements projecting from both horizontal and vertical surfaces.

Also, it is well done in terms of interesting wood detailing. All the wood veneers used — walnut, cherry, oak, elm, birch, and maple — were supplied by the client and were laminated, worked, and finished by Ebner Woodwork Corporation. Where dimensions were 8 ft or less, flat plywood panels were grooved on the face with ¼-in. grooves; where longer lengths were required, plywood was cut into planks, mismatched, and joined in random lengths. For the curved corners ¾-in. oak-veneered plywood was cut into planks, scored on the back, then bent and set on forming blocks. The technique is analogous to folding paper — another product of the wood industry.

However well done the wood working is, a nagging question remains: Was it worth doing in the first place? Instead of broad strokes for a brutal effect, there seems to be a plethora of worried details.

What one critic has questioned is the validity of making an aesthetic statement entirely dependent on an overlay of visual details that are not intimately interrelated with the practical functioning of the design. Unlike a scheme energized by an effect incorporated in the planning or the



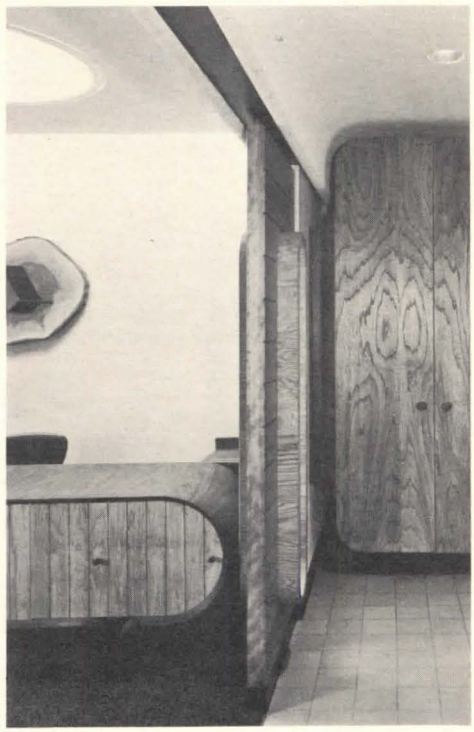


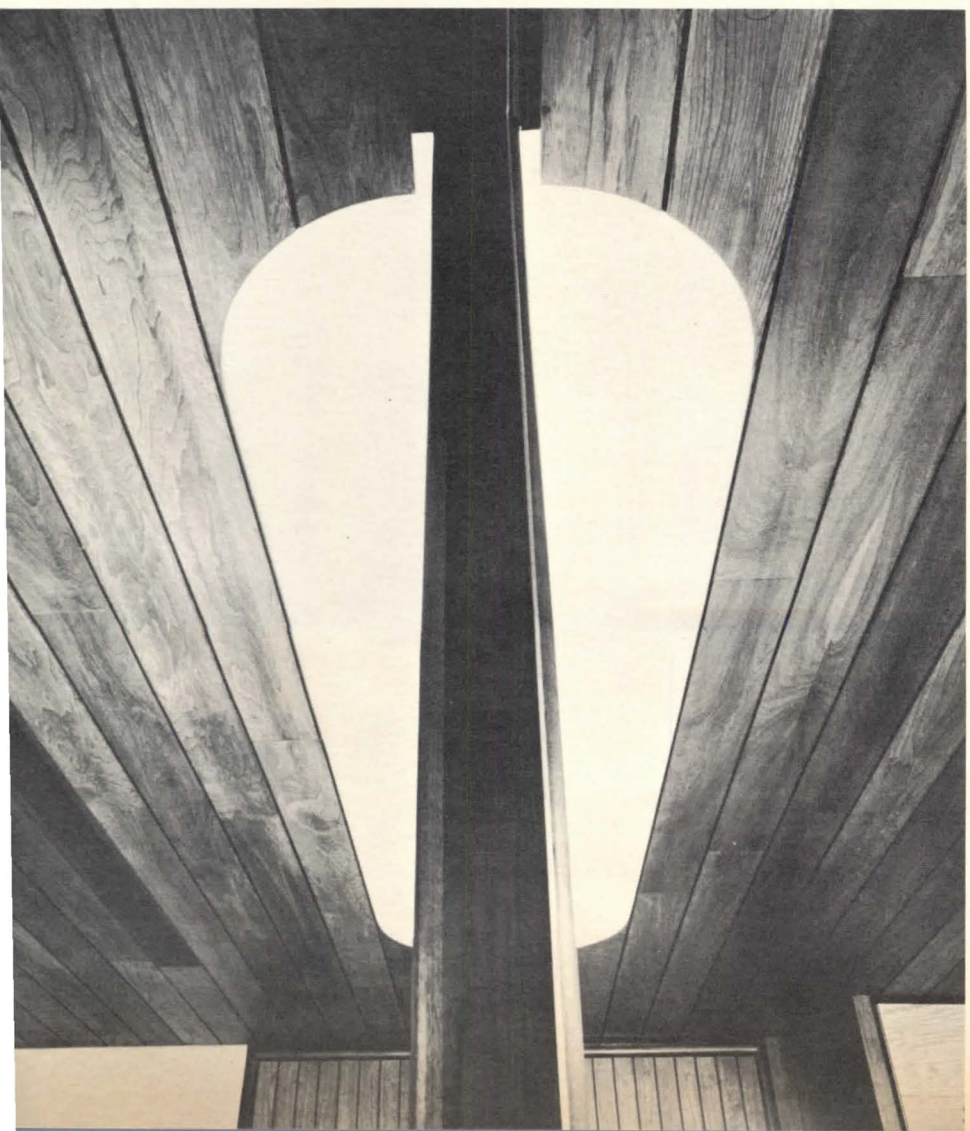

DOOR SLEEVE DETAIL

structure, one based on visual effects alone can easily be diluted by subtractions or additions — by a client's "improvements." In such schemes, the omission of a decorative detail or the tasteless addition of an element can destroy both the scheme and the temper of a young designer. Conversely, the preclusion of significant intrusions is one frequent advantage of the principle of aesthetic economy.

Winecoff answers, "I consider this design very simple and very obvious — and what design is all about. Absolute simplicity is doing nothing. I enjoy designing, and I enjoy working. I admire Mies, but could never work that way myself. What we are doing is something warmer, richer."

Certainly the geometric wood play that Winecoff has produced is good imagery for a firm concerned with the process from tree trunk to paper roll, and it cannot harm Brown Company to have found a designer so attuned to the potentials of its products. — CRS





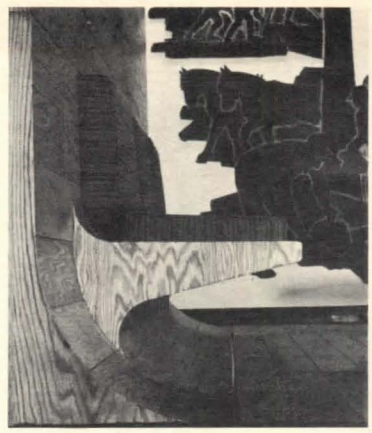
# OVALS

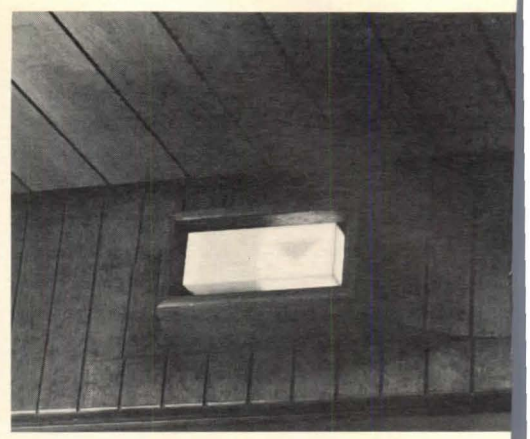
*A long ovate form within rectangles and squares has developed as a Planned Office Interiors trademark, because it is thought an easier and more economical cut to make with a wood saw. At Brown Company, this motif (one of three) is used in cove lights (seen divided by the wall separating board room from president's office; left), in door pulls and reception desk (above, left) and in entry doors (facing page), which are the aesthetic climax of the scheme. Lights of the ovate shape allow views through to executive spaces, but have cherry "sleeves" that act as blinders to restrict vision. Cherry door panels curve out 4½ in. from the end to produce projecting pulls that run door height; they also act as "blinders" for a long ovate of unframed glass centered on the door closing. (No astrigal is necessary because of glass center and because two base cylinder locks are used.) The pull-blinders, which occur on both sides of each panel, give the doors a feeling of massiveness when they are opened and seen from the sides (above).*

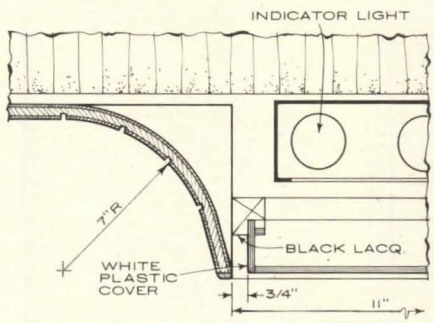
# PROJECTIONS

*As in designer Winecoff's previous work (p. 142, June 1963 P/A), plywood is used as a sheet material — in this case, to make projecting housings for elevator buttons, indicators, lighting fixtures, and display cases. Plywood is scored on the reverse side and curved out to form the sides; end pieces are flat "fillers." As Winecoff explains, "They are designed as a more economical solution than attempting a sculptural look all around. The projections are economical means of giving the elevator buttons and indicators a custom look. Existing boxes — both of buttons and lights — were simply pulled forward and, for the buttons, a new, larger face plate (of black anodized aluminum) was installed, whereas, for the indicators, a plexiglass box (with black plastic arrows mounted inside) was used over the existing lights."*

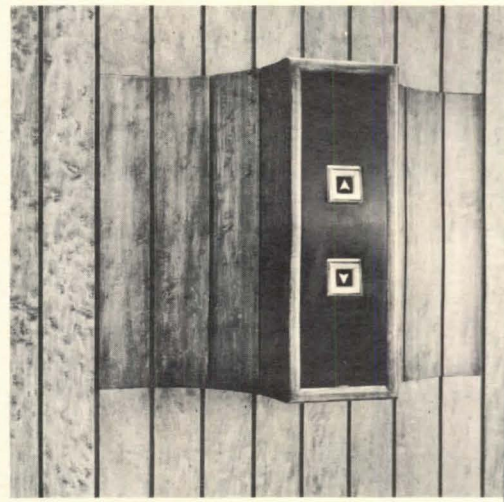
*The "projection" motif is also used for display cases on the white, sprayed-vinyl plaster wall of the elevator lobby. "Here, too," Winecoff explains, "the curvature is simple rather than compound, to be consistent with the wood detailing." However, he confesses that "the contractors refused to attempt the indicator in plaster because of the small scale; this forced the shape to be formed of wood and finished with white lacquer, with a ¾ in. black reveal to signify the interruption. Normally, I am opposed to this treatment," he emphasizes, "but it seemed important to carry through the design regardless of the compromise."*

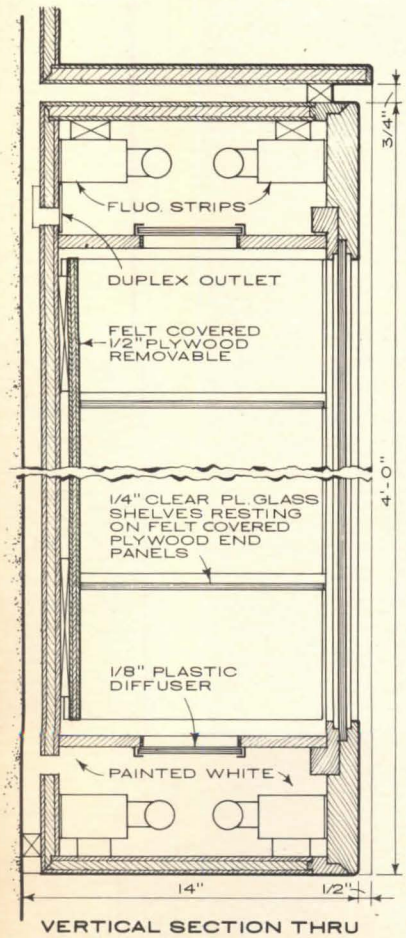




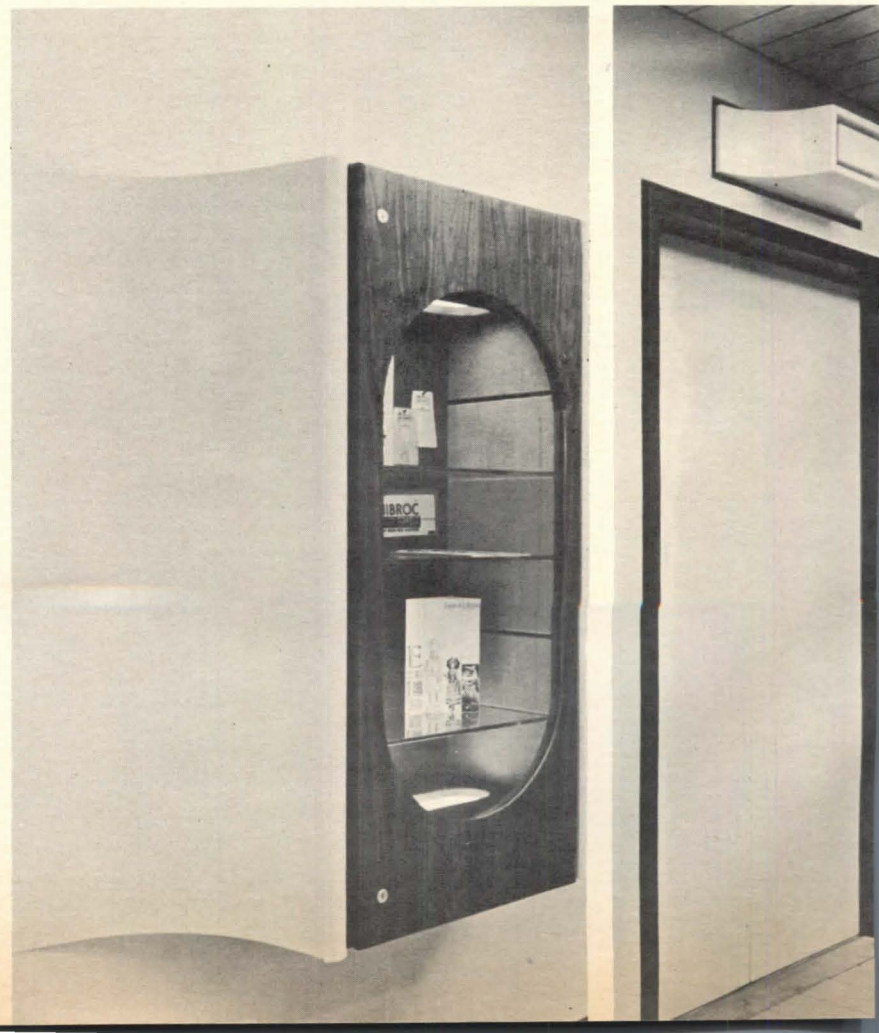



PLAN SECTION THRU INDICATOR



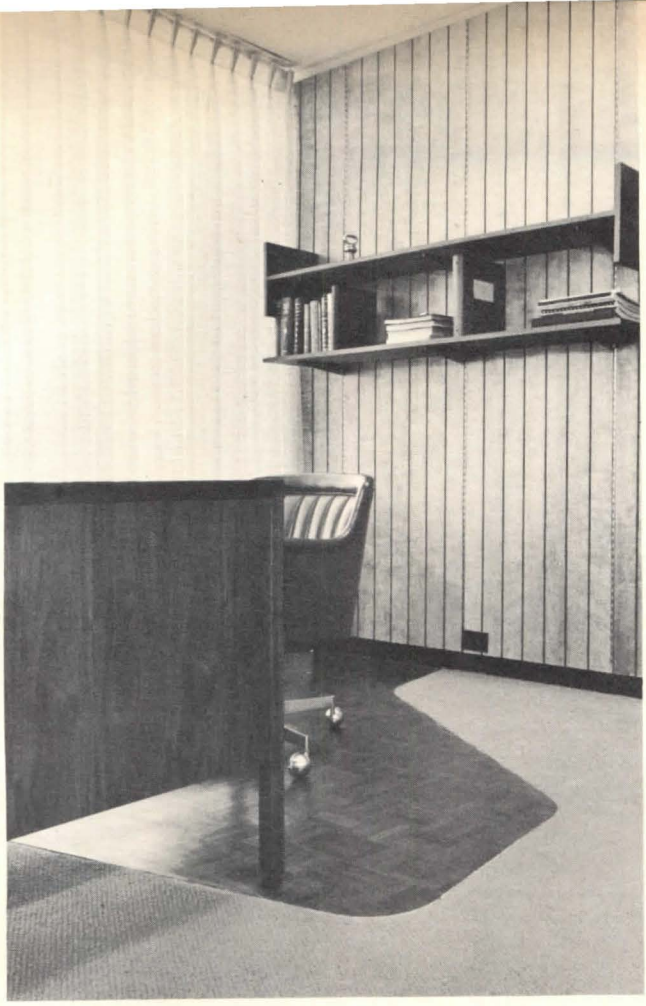


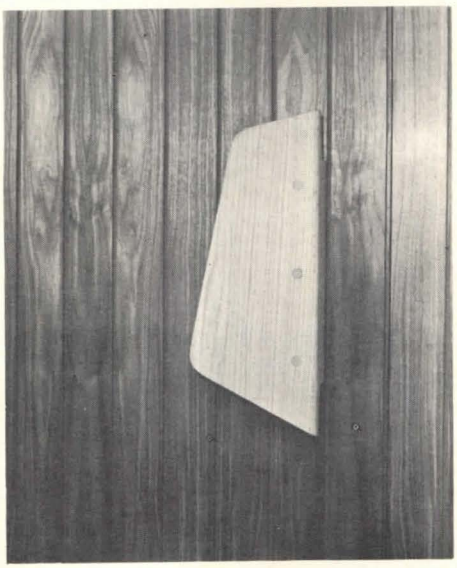

VERTICAL SECTION THRU DISPLAY BOX

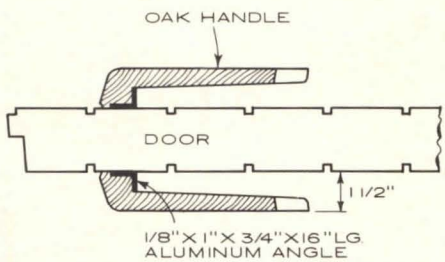


# GEOMETRICS

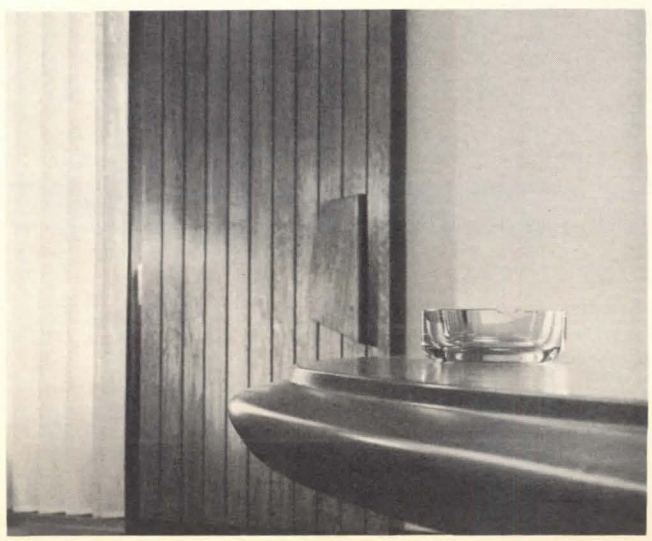
*The irregular shape of the ceiling cove in the elevator lobby, which Winecoff considers different from "free-form" kidney shapes, was the "mother" of other design elements: under-desk wood flooring pattern, door pulls, and conference table edge. The lobby ceiling cove is constructed with six different radii connected by straight lines; the wood flooring for desk-chair mobility in the secretarial corridor and executive offices (left) is patterned with two circles (12" and 18" diameters) joined by tangents. The pattern flows through the areas, expanding to accommodate different activities; visually, it provides a bridge between the curvilinear entrance areas and the straight-line office layout. (Winecoff advises that curved aluminum carpet strips be factory bent.) Oak door pulls used on custom wood doors (middle) repeat a segment of the ceiling cove; the designers feel that the tapered side makes the oak pull more natural to the hand than a vertical pull. Edge of the conference table (below) was inspired by Winecoff's finding that a comfortable shape for a writing arm was his parallel straight-edge resting on his drafting table. This shape also has an affinity to the lobby cove motif.*





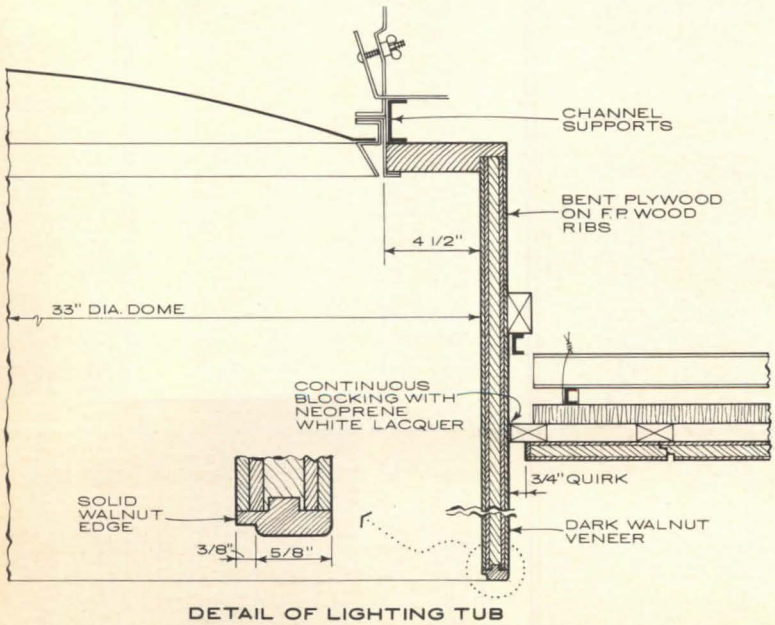



SECTION THRU DOOR HANDLE

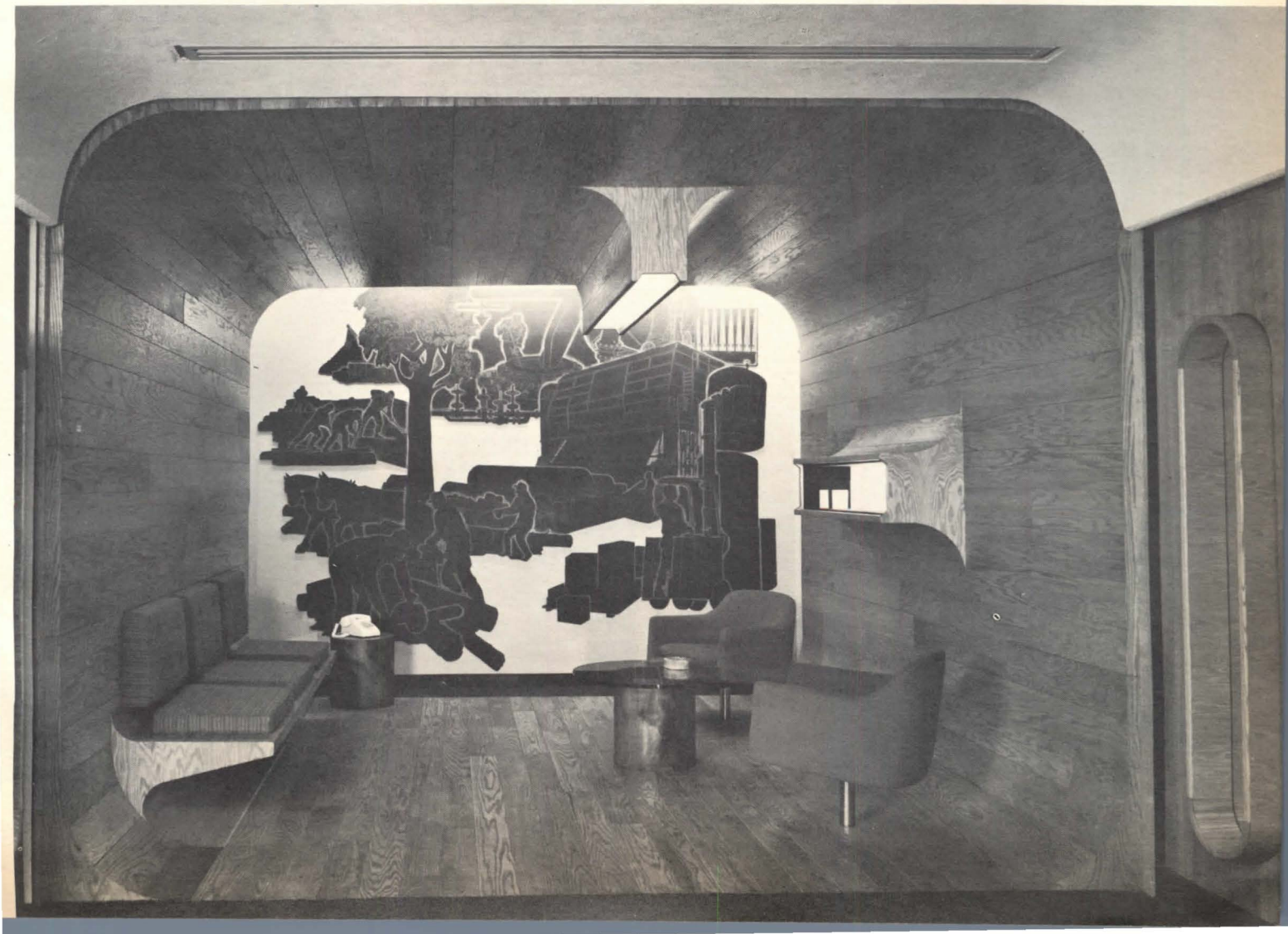


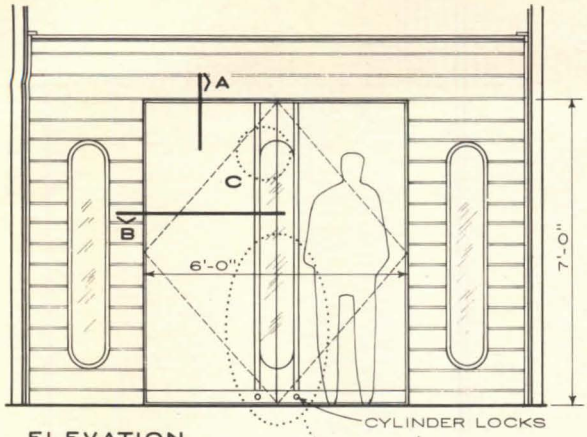
*The Board Room (bottom) connects with the president's office (below) to form an executive suite; therefore, a ceiling of random length, 6-in. elm planks (Brown Company's veneer on fireproof plywood cores) is carried through both rooms. Great circular walnut tubs pour light down from the ceiling onto both conference table and a secretarial-telephone area adjacent to the windows. The tubs serve as light wells, since their white-lacquered insides project above the 8'-6" ceiling and lead the eye on. The presentation wall has a center of blackboard behind a pair of birch bifold doors, which have chartrails for door pulls; on either side is a storage area behind horizontally grooved maple doors. The oval table is of burgundy maple, 12'-6" x 7'. The president's office has a spectacular view of Manhattan from a corner of the glass-walled forty-fifth floor; vertical, natural color, cotton blinds (vinyl impregnated from Lozano-Fisher) take maximum advantage of the view and also permit a textured enclosure harmonious with the elm-plank ceiling. A 6-ft diameter aperture in the ceiling admits reflected light from a plaster cove over the desk. On the floor, the circle motif is reiterated by an area of Rhodesian teak, which permits easy mobility of the desk chair. Otherwise, the floor is covered by gray velvet carpet. Light mustard vinyl (Souveran) on visitors' chairs picks up the wood-toned scheme.*

SYNTHESIS

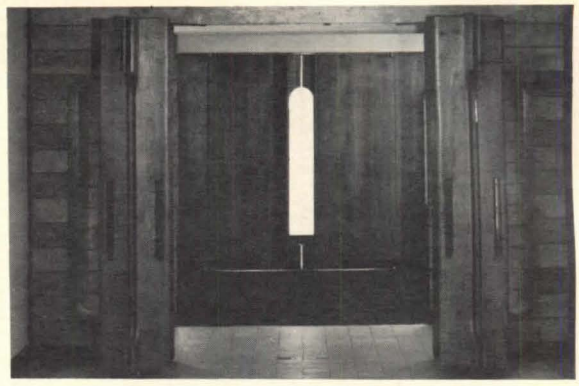


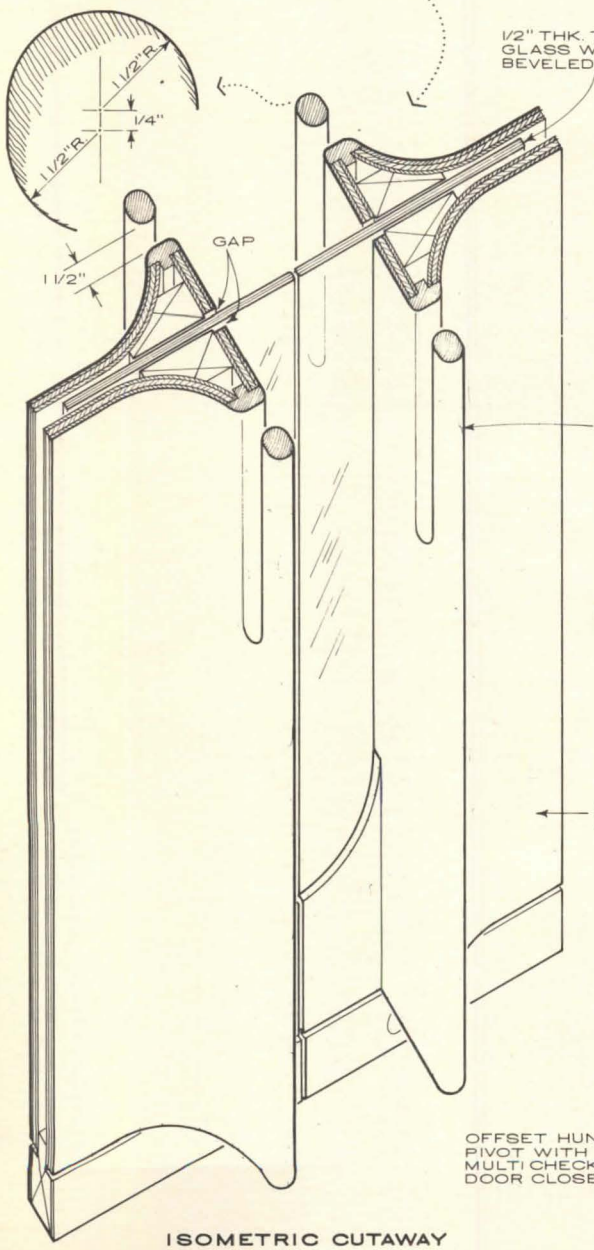

DETAIL OF LIGHTING TUB



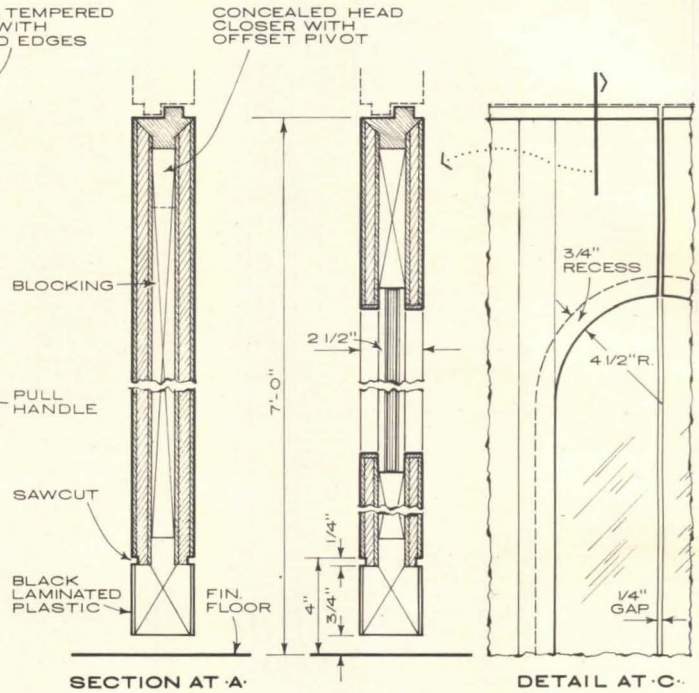



ELEVATION



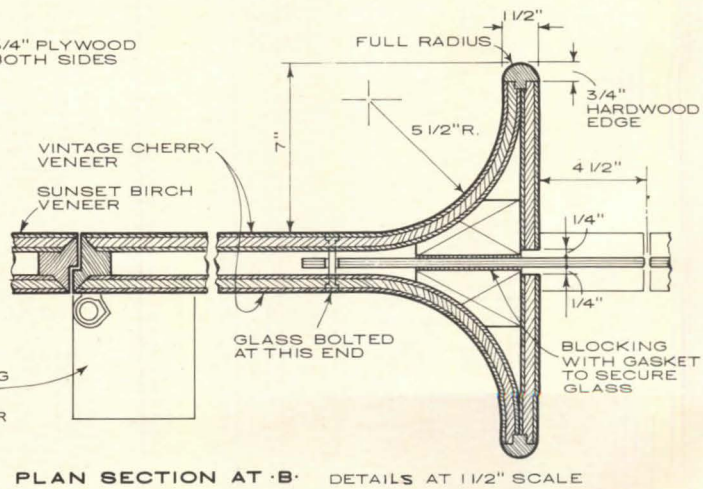



ISOMETRIC CUTAWAY




SECTION AT A

DETAIL AT C

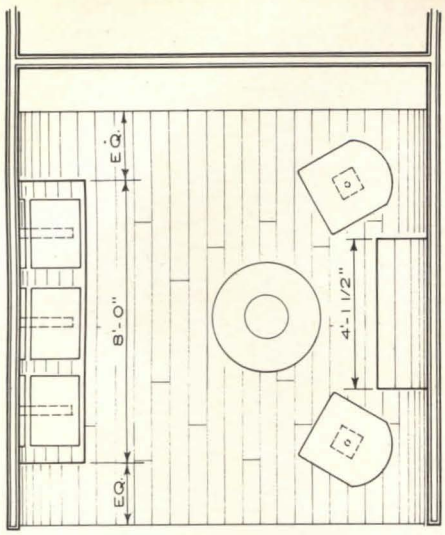



PLAN SECTION AT B

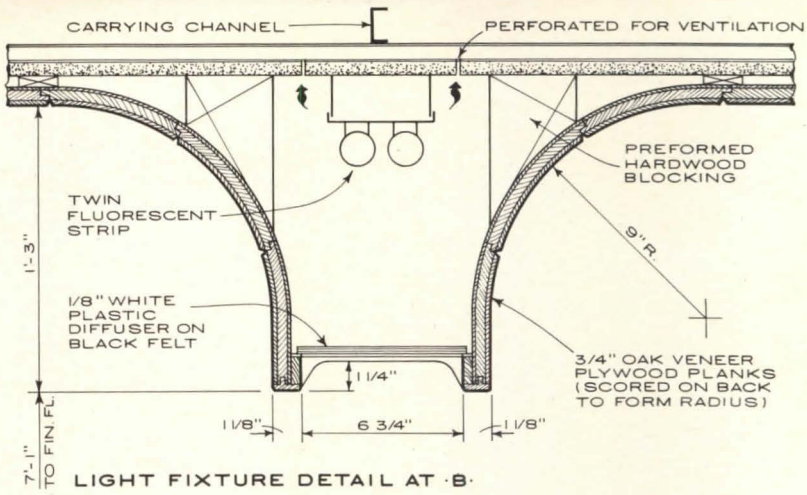
DETAILS AT 1 1/2" SCALE

OFFICES FOR BROWN COMPANY: New York, N.Y.
PLANNED OFFICE INTERIORS: Designers

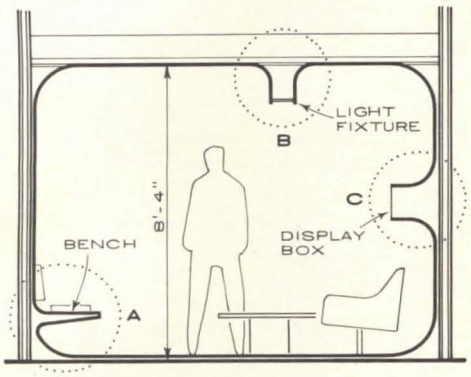
SELECTED DETAIL
DOOR



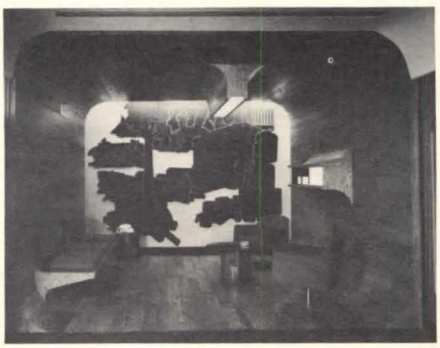

PLAN




LIGHT FIXTURE DETAIL AT ·B·




SECTION






DISPLAY BOX DETAIL AT ·C·

(DETAILS AT 1 1/2" SCALE)

BENCH DETAIL AT ·A·

OFFICES FOR BROWN COMPANY: New York, N.Y.

PLANNED OFFICE INTERIORS: Designers

SELECTED DETAIL

RECEPTION ROOM

# Don't Get Burned On Fireproof-Wood Detailing

Why does a wall of fire-retardant wood paneling cost as much per square foot as an average school house? One very good reason is the skill required and the labor expended by the woodworkers on its fabrication, as we intend to show.

## Decoding the Codes

The code requirements that set the standards for fire-retardant, fireproofed, and fire-treated wood vary in different cities, different townships, different villages, and sometimes within the same municipal department. However, they can be grouped into three general categories: rated construction, "fireproofed" material, and flame spread. Rated construction deals only with the ability of the wood to withstand a specified fire test, and, as Clifford Stephens of U.S. Plywood says, "It could be built of green cheese if it could pass the test." Since this type of construction does not usually involve complicated detailing, we will consider the other two classifications.

Fire-retarded or "fireproofed" wood is usually specified for architectural woodwork not classified as wall covering, such as doors, trim, and attached cabinetwork. Here, nontreated wood is allowed in the construction, with a stipulated square inch cross-sectional area permitted. This dispensation taxes the ingenuity of designer and woodworker alike, for it allows them to use exposed natural wood unblemished by the fire-retardant treatment.

The flame spread rating known as the Fire Hazard Classification is stated in terms of fuel contributed, smoke developed, and flame spread, which are numerical comparisons to the standards of cement asbestos (0) and red oak lumber (100). It is divided into three general classifications: Class I (or A) 0–25 flame spread; Class II (or B) 26–75 flame spread; and Class III (or C) 76–200 flame spread. Lower spreads are required in more hazardous occupancies.

The administrative building code of New York City does not at present recognize this Fire Hazard Classification but uses in its stead the Crib, Timber, and Shavings Tests to qualify treated wood as fireproofed. Flame spread varies with the density of the face veneer, and therefore directly affects the flame spread test. Untreated cross banding cannot be used, since it contributes to flame spread.

## Do's & Don'ts: Treatment

Fire-retardant chemicals are injected into the wood fibers in a water solution by pressure processes. Cells are treated to refusal for full impregnation. The manufacturers warn that the water solution will cause discoloration and grain raising, and that drying after treatment may cause surface checking. Sticker marks will occur where the layers of the material have been separated during the treating and kiln drying operations.

The Department of Agriculture's excellent *Wood Handbook* states that the fire-retarding effect of impregnation is related to the quantity of chemical injected into the wood, as well as to the chemical used. It is necessary to use much more chemical impregnation for fire retardation than for preservation. For a high degree of effectiveness, it recommends 5–6 lb of the more effective chemicals per cubic foot of wood in thicknesses of less than 2 in.; this amounts to 400–500 lb per 1000 board feet. Lumber in thicknesses greater than 2 in. requires proportionately less material.

Effectively treated wood can be charred

or disintegrated by continuous exposure to intense heat, but when the heat is discontinued, the burning ceases. The principal effect of fire-retardant impregnation treatments is to retard the normal increase in temperature under fire conditions, to decrease the rate of flame spread, to lessen the rate of flame penetration or destruction of wood in contact with fire, and to make fires more easily extinguishable.

Species of wood that are recommended and readily treated are butternut, white birch, soft maple, cativo, catahua, corissa, virola, Southern pine, hemlock, white fir, redwood, sugar, Idaho and Ponderosa pine, according to the Koppers Company, which is a major manufacturer of fire-retardant chemicals. It does not recommend the process for oak, cherry, walnut, beech, and Eastern spruce, since these species allow only shallow penetration. Underwriters Laboratories, Inc., will only label Southern pine, Douglas fir, West Coast hemlock, white fir, and redwood, and exterior types of Douglas fir plywood.

## Do's & Don'ts: Handling

Fire-retardant or treated wood must receive special handling at the factory, as well as through the manufacturing and installation processes. U.S. Plywood recommends that treated plywood be factory prefinished, and that, if the finished panel is cut, it should be resealed as quickly as possible. For this purpose, it recommends tung oil, tung oil alkyd, tung oil spar varnish, or shellac. Plywood with cut-outs and perforated plywood must have the edges of the cut-out areas sealed, as well as the edges of the panel itself. In the case of small perforations, either dipping or spraying is required. The surface should be wiped after draining, with all excess removed from areas that are to be refinished.

## Do's & Don'ts: Storage

Panels should be stored in the driest part of the warehouse or of the on-site storage area. Unfinished panels must receive special care to avoid creating a condition that will cause trouble in subsequent finishing or in the manufacturing operation. Prolonged exposure to 85 per cent relative humidity or higher will almost certainly cause dark stains, followed later by efflorescence.

Once the edges and back have been properly sealed, finishing can proceed in the normal manner, using regular finishing materials.

## Do's & Don'ts: Gluing

Gluing procedures for laminating fire-retardant plywood and particle-core plywood are the same as those with regular panels. However, it is possible that a standard glue mix will not give a normal press cycle or clamping time. In the case of liquid ureas or phenolics, an adjustment in the catalyst may be necessary.

## Do's & Don'ts: Finishing

Panels that show a damp or dark stain must be redried before finishing. Wet spots can be dried by infrared lamps, but if the entire panel is damp, it may have to be redried in a kiln or by blowing warm air over it. When the condition is corrected, a light sanding is necessary before sealing and finishing. The redrying process may cause whitish deposits or a whitish cast to appear. If this is very slight, it may be removed by careful sanding. If the condition persists, the panel should be wiped down with a slightly damp sponge and redried. It is not recommended that finish be applied over the whitish deposits as the finish will not cause them to disappear.

## Do's & Don'ts: Working

Treated wood should be worked with tungsten-carbide-tipped tools wherever possible. Some woodworkers are allergic to the dust from cutting and sanding from treated panels, and mill hands report that splinters "burn like hell." But, aside from added weight and brittleness, treated wood works the same as untreated.

## Do's & Don'ts: Installation

Do not install against green plaster or under damp conditions. The moisture content of the wall should be checked prior to installation.

It takes a woodworker well schooled in his trade to meet the foregoing do's and don'ts. However, many of the requirements have made wood less and less competitive, despite the skills of mechanics and detailers. This appears to be changing, however. New York City anticipates a code change that will allow untreated trim. Other codes will probably be similarly revised.

## On the Job

Paneling in a first-quality woodworking job is not manufactured to be either cut or finished in the field. It is manufactured in the shop and completely finished there to field dimension. Cutting on the job is usually confined to scribe strips. In this respect, fireproof paneling handled in the field is therefore not much different from untread.

The most difficult detailing problems arise in the design of the nonfireproof edgings and moldings occurring at jambs, cabinets, and other than flat surfaces, as the accompanying details show.

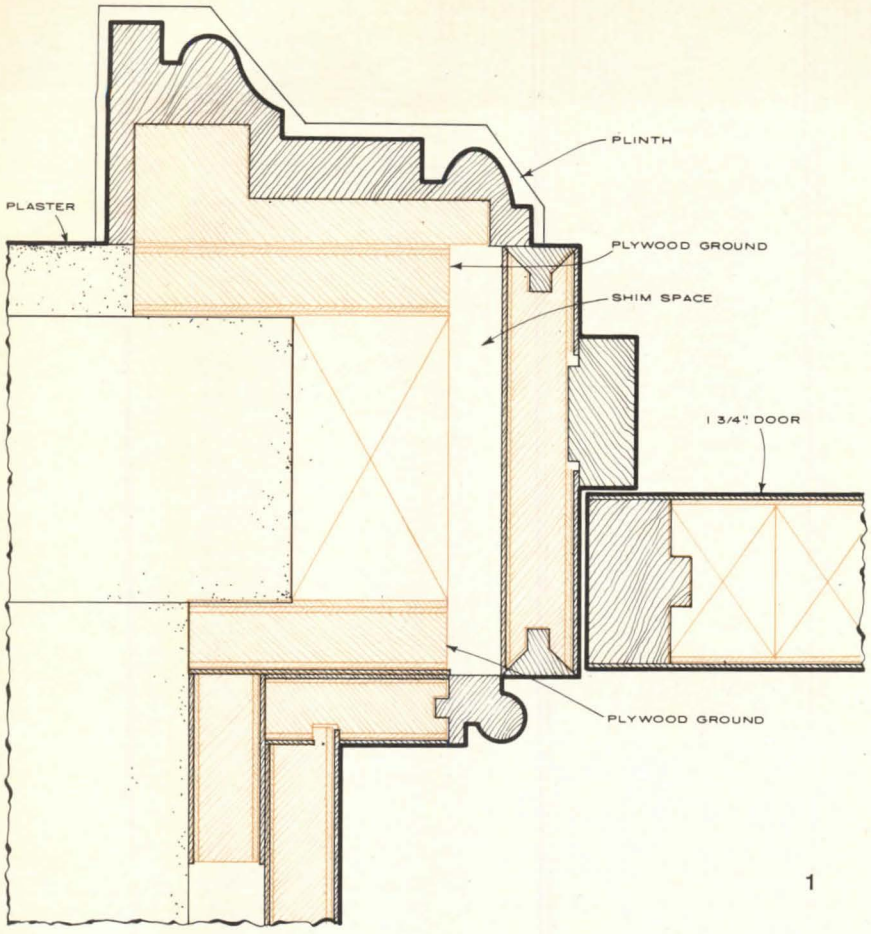
The nightmare of all woodworkers with fire-retardant wood is the danger of the salts being drawn to the surface by moisture. This white efflorescence, which appears on the wood beneath the finished surface, eventually disappears. However, it will usually outlast the client's patience. The alternative of stripping and refinishing the panel on the job is a highly unsatisfactory alternative. Besides the inconvenience caused to both client and finisher, it is virtually impossible to produce a finish in the field that matches controlled shop conditions.

Hydrostatic attraction is the problem. Any person doubting the power of fire-treated wood to attract moisture in a wall has merely to feel fireproof grounds and rough blocking after back plaster has been applied. He will find that they are wet to the touch much longer than untreated wood and often when the wall itself appears dry.

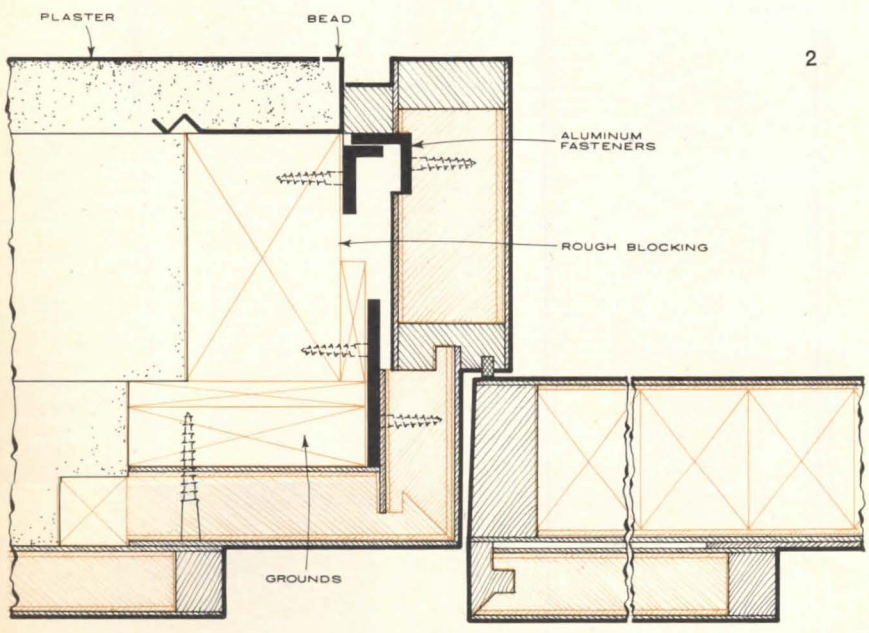
The problem of moisture absorption from the wall is increased by the insistence of building codes that panels be almost flush against the wall. The practice of allowing ¼ in. or more between panel and wall allows a convection space behind the panel, which helps prevent moisture absorption but also provides a fine flue space — as fire inspectors are quick to point out.

The danger of the shakedown of the air-conditioning system is a major hazard that seems impossible to avoid. Even if the walls and surroundings are dry, panels installed under job conditions must adjust to the air-conditioned space when the building is in operation. The extremes of humidity and dryness in adjusting the air-conditioning system sometimes loosen panel wall fastening and buckle panels. One unfortunate fabricator found his entire installation on the floor after such a test. At this writing, the case is still in court.

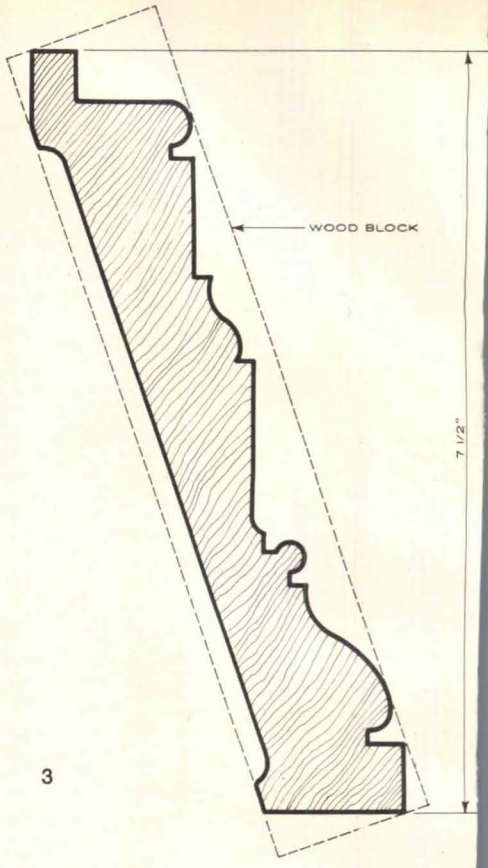
The only insurance against this contingency is to be tolerant of the nature of wood as a live material and provide sufficient tolerances to allow it movement.


PLINTH
PLASTER
PLYWOOD GROUND
SHIM SPACE
1 3/4" DOOR
PLYWOOD GROUND

1

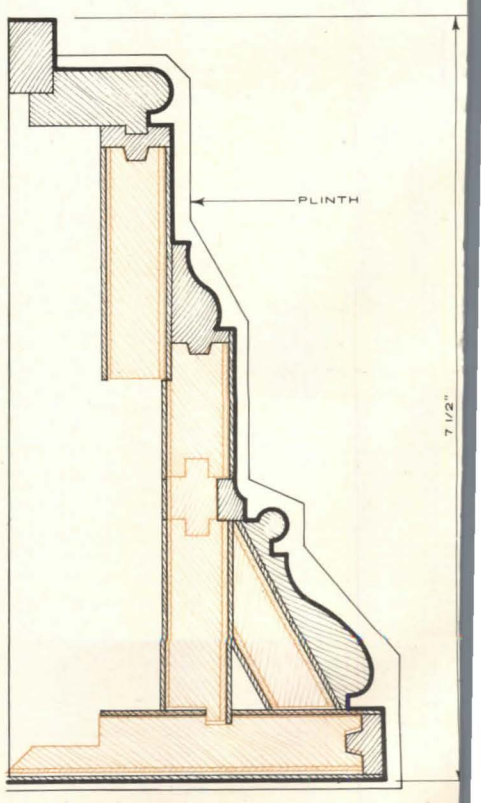

PLASTER
BEAD
ALUMINUM FASTENERS
ROUGH BLOCKING
GROUNDS

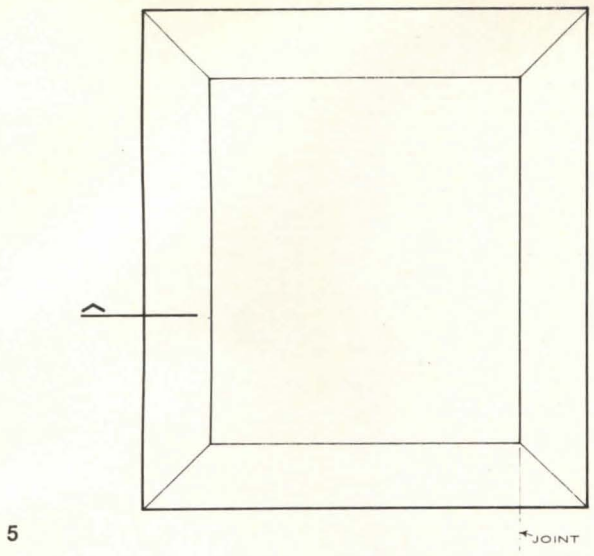
2


WOOD BLOCK
7 1/2"

3

4


PLINTH
7 1/2"

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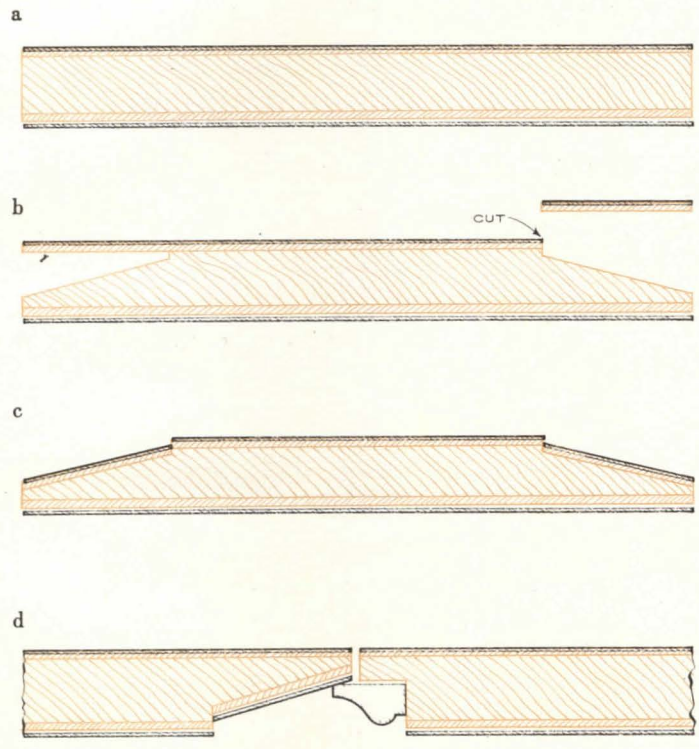
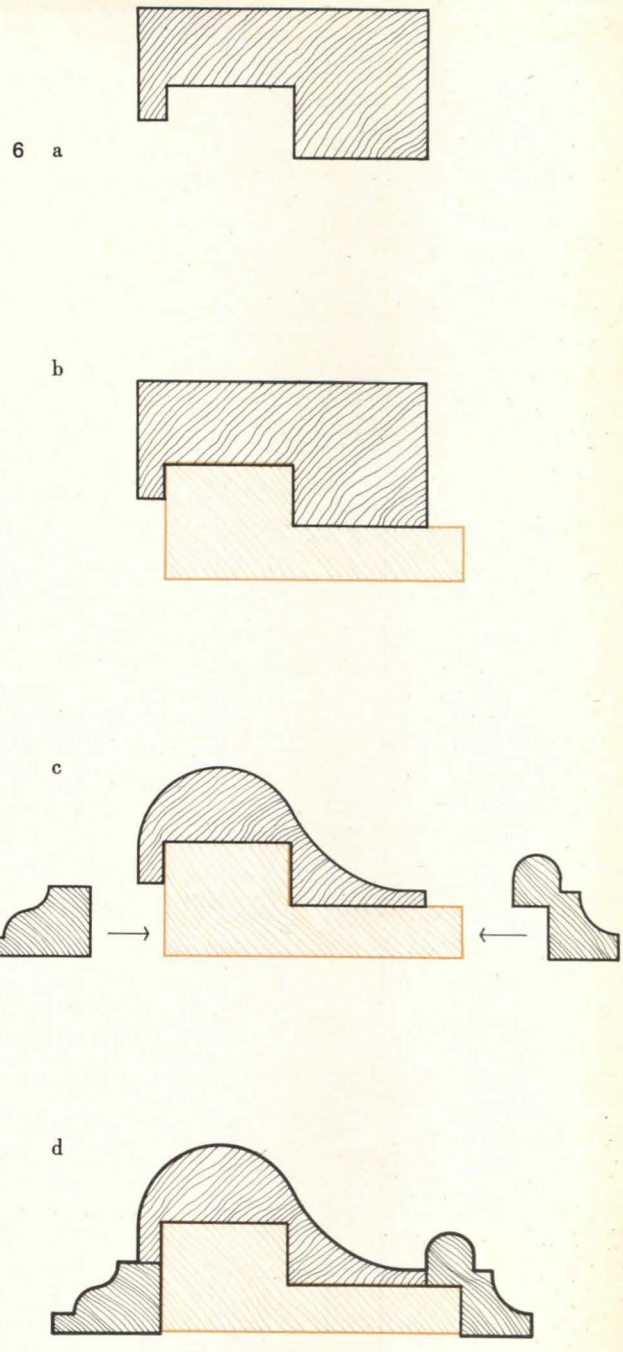



*The advantages in the field of cover moldings, quirks, and reveals for fastening architectural woodwork are paid for in its manufacture, as can be seen by these drawings adapted from shop drawings and stock bills of the John Langenbacher Company of New York City. On the other hand, the simplicity and ease of manufacture of contemporary woodwork is paid for in its installation by exacting tolerances. "The thickness of a matchbook cover is the measuring device," says Harry Boyd, Langenbacher executive vice-president. "It's the 'go, no go' of modern architecture."*

***(1)** Traditional buck of fireproof wood construction.*

***(2)** Contemporary buck of fireproof wood construction.*

***(3)** Form of nonfireproof trim cut from one-piece (back band not shown).*

***(4)** Built-up trim similar to **(3)** of fireproof wood construction.*

*The above details show the detailing necessary to conceal fireproof wood. The exposed, untreated wood here is all less than 2 sq. in. in cross-section, which was a code requirement. Note that cross-banding stops short of door edging.*

***(5)** Steps necessary to produce a fire-retardant raised panels:*

a. *Veneered panel section.*

b. *Panel showing shaper knife cuts; at the right, the veneer has been cut.*

c. *The cut veneer has been glued to the sloping panel edges. At the corners, veneer has been bent at the miter and matched for an invisible vertical grain joint.*

d. *Raised panel fit to stile.*

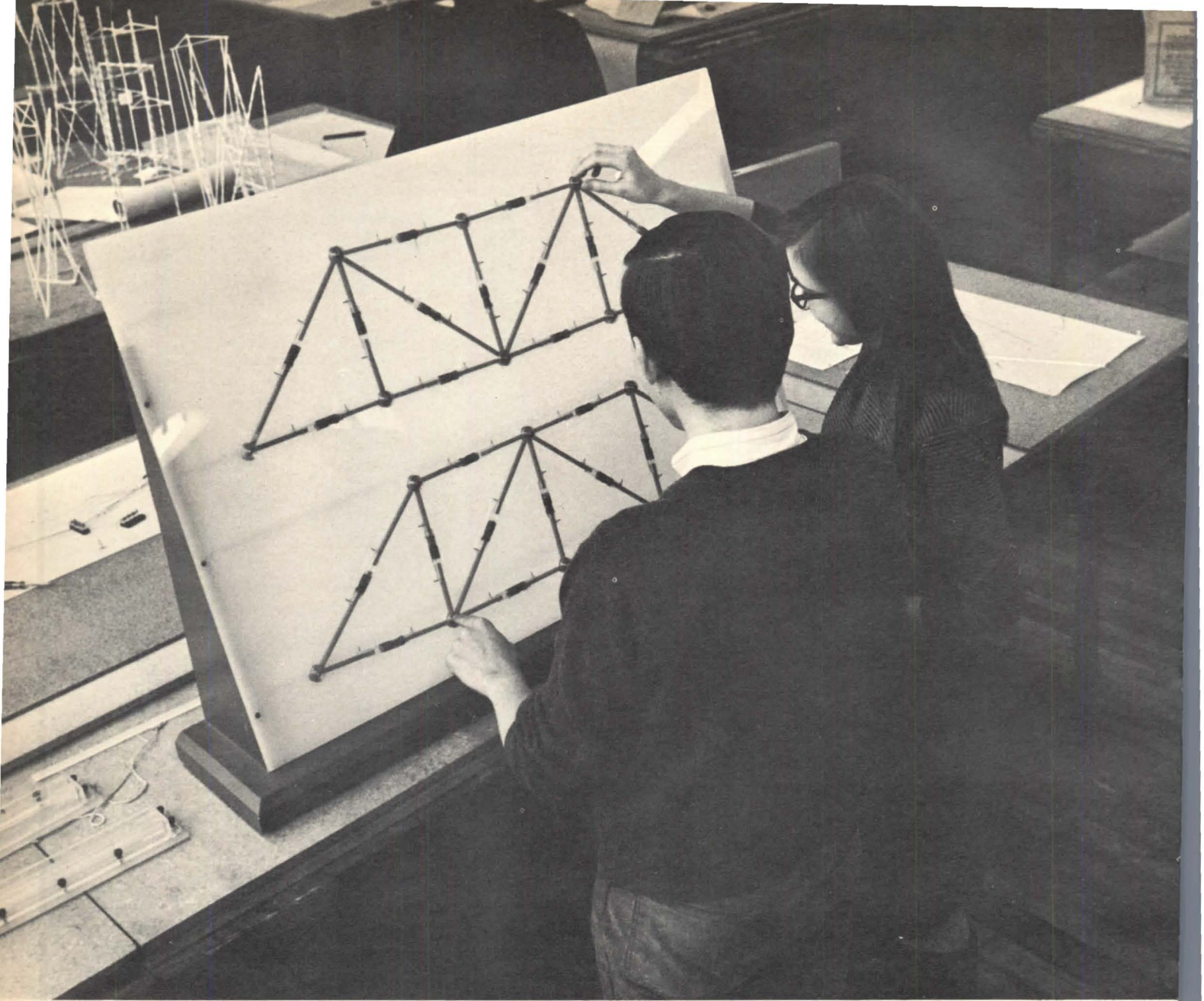
***(6)** Method of manufacturing a typical piece of wood trim with a fire-retardant core.*

a. *Nonfireproof wood dado to receive fire-retardant core.*

b. *Core glued to nonfireproof block.*

c. *Block shaped on core.*

d. *Composite trim assembled on fireproof blocking.*



# AN OLD SCHOOL TRIES A NEW TECHNIQUE

Photos: David Hirsch

***Harvard invigorates its architectural course with a structures workshop that demonstrates technology need not be dull.***

Harvard's own little ugly duckling is growing to be a seductive young swan that may conceivably lay a golden egg. At least, hopes its parent, the Harvard Graduate School of Design, the offspring will persuade its benefactors to help line the nest with nearly $11 million.

The duckling, to stop being coy, is the Structures Workshop, recently renamed the Technology Workshop. During its four-year life, the workshop has gradually acquired a reputation for itself among architectural schools. This growing status tends to counterbalance HGSD's reputation for design, which, according to many observers, has waned. Significantly, the design-oriented school held up the Structures Workshop as its drawing card to raise nearly $11 million in funds.

This event would pass unremarked at many schools, but at Harvard the workshop had been treated with lofty disdain by many members of the design faculty, who found the prominence of structures a little disconcerting. But, like an aristocratic though impoverished family, the school can superficially accept a new relative who can restore its fortunes.

The success of the Structures Workshop caught some of the faculty members by surprise. They had not been aware that it was known outside Cambridge, and, says a workshop teacher, some never knew of it until after outsiders, including foreigners, had praised the workshop.

## A Model Approach

The Structures Workshop is a teaching technique designed to stimulate architectural students to learning about a subject they often wish could be dropped from the curriculum. Harvard tries to put over structural and mechanical concepts with simple models; give a feeling for materials by letting students dirty their hands with them; and involve them with building by visiting construction sites and manufacturing plants. Individually, these elements have been used in most schools, but Harvard's workshop attempts to make them integral to the whole teaching process instead of treating them as appendages to conventional courses.

The department first became known outside the school for its use of models demonstrating such structural concepts as torsion, slenderness ratios, and deflections (see p. 138). These models are now being sold to other schools, but the original credit clings to Cambridge.

The kudos can be shared by teachers and students alike, since, during the first years of the workshop, students assisted in designing and developing the models.

Most models are used for demonstrating structural or mechanical principles, and cannot be used for computations. But one in particular offers a short-cut for finding deflections in a framed structure with varying stiffness in its members. The beauty part is that the model's ac-

curacy is reasonable, and its performance rapid compared with programming a computer for the same variables. This model was developed in conjunction with a class of students, some of whom built their own models for about $20 each.

## The Driving Force

Credit for the success of the Structures Workshop falls on the broad shoulders of Neal Mitchell, a Falstaffian professor who started the workshop, and remains largely responsible for the widespread interest in it. Not surprisingly, the HGSD baits its fund-raising hook with Mitchell, and sends him out to talk about the workshop.

This he delights in doing with almost missionary zeal. Fortunately, he is physically a big man who can exude enthusiasm about the workshop and not be depressed by his colleagues' cool reception to his aims and ambitions.

Cool is what Mitchell is not. He is almost an anachronism in the cool Harvard world because he blows hot and enthusiastic in an attempt to overcome the inertia of students toward structures. His enthusiasm is a byword, but is also put into perspective by a student, "He talks several yards, but only moves inches."

This could be true because Mitchell dashes into more projects than a man could possibly keep going, and because he is constantly changing programs in an effort to improve the curriculum.

These changes are often interpreted as a lack of direction, and there are many critics in and out of Havard who say so. But, basically, Mitchell attempts to introduce fillips in the courses to keep alive the students' interest in structures and mechanical engineering.

He would like to use models and demonstrations more in his courses, but inevitably structural analysis returns to formulas and moment diagrams chalked on a board. Mitchell emphasizes that he wants his workshop to be known for its complete teaching package, not just for its models or audio-visual aids.

The package includes an approach to structures that makes students think about concepts instead of committing formulas to memory. A recent examination set by Mitchell asked students to illustrate and justify the best shape for an axially loaded column; what they considered to be the most important function for an architect to calculate when designing a building; and to estimate the range of short, medium, and long spans for five structural materials.

A preface to the exam in which the above questions appeared ended with: "Understanding will be the key to the value of this course in your future practice as an architect." This gets through to many students, but even Harvard gets its quota of lumpkins who graduate without much notion of how deep a 100-ft-span beam should be.

## Liberated Library

Mitchell has developed a three-step philosophy about the purpose of the workshop: "Define what you are looking for; get the students interested in the parameters that control this, and then give them a technical background so that they can find out what it's all about." To do this, he says, requires a different orientation from the traditional teaching course, and this is why slides, tapes, visits, and models are necessary.

Emphasizing that the workshop is more than a course in structural analysis, he comments, "We are not studying structure, but the interface between structures, mechanical engineering, and materials."

Part of this interface is found in the library established by Mitchell, and, in keeping with his urge to improve, rearranged and reclassified periodically. The library occupies a snug space under Harvard's memorial to the men who died preserving the Union in 1865.

At present, technical books are on the top shelves, books published by manufacturers on the middle shelves, and "stealable stuff" on the lower shelves. This last category includes photocopies of data sheets or reprints of technical talks that workshop staffers believe to be helpful to students.

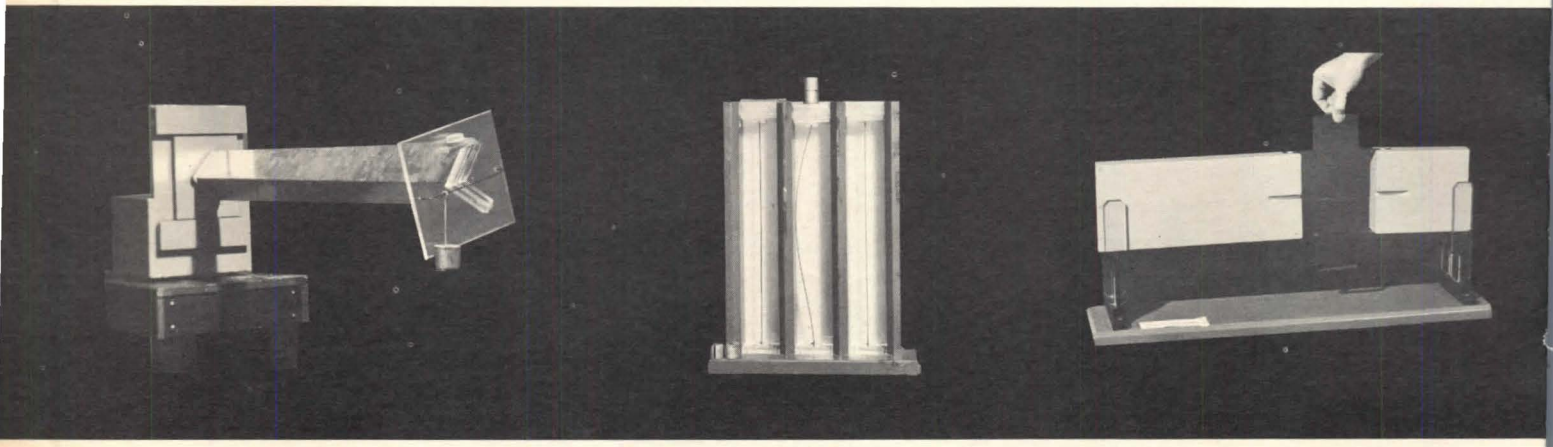
In addition, the library contains an audio-visual room open to students and practicing architects for showing film strips or movies. Some are made as part of the workshop teaching course; others, obtained from industry, are edited, to retain only the useful technical information.

## A Concern for Shapes

Mitchell says that he wants to put over a feeling for stiffnesses in structural members, instead of simply talking about bending moments. "Stiffness," he says, "means shapes, and that's what architects are concerned with."

He is obviously concerned with tailor-

***Models for Demonstrating Structural Principles***



**Shear center:** *Level bubble indicates when movable weight counterbalances twisting in a cantilevered member. The point of balance is the shear center of the member.*

**Column buckling:** *End conditions affect carrying capacity of columns before they buckle. Slots simulate fixed ends; V-shaped grooves enable model columns to rotate.*

**Beam forces:** *External bending forces impose four types of forces upon a beam. Distorted frames show tension, compression, horizontal and vertical shear forces.*

ing the course for architects, but does not shrink from putting a lot of structures into the curriculum. Students tend to disagree whether there is too much engineering for an architectural course, but most agree that Mitchell teaches it well. They also like the projects in which they use their hands — laying bricks, casting concrete, or devising new models.

There is some hoopla in the course, such as building and launching a concrete boat. As Mitchell once said, "I have to be a sort of huckster to get students interested in structures." But he also thinks seriously about educating architectural students beyond an ability to memorize deflection formulas.

"I think architecture in the future is going to be based on performance, not on products. The minute we talk performance, we are talking about man, his environment, the visual aspects, and all sorts of other things come in."

## In Splendid Isolation

The workshop building is a long way from Harvard Yard in both distance and spirit. Its remoteness works to the advantage of the staff, who like to be away from the "country club," as the design department is called, but works to the disadvantage of students without wheels to get there.

Originally, the building was a knitting factory, then a book bindery. It is sturdy, plain, cold, and inadequately equipped with lighting and power. Nearly every facet of the building transgresses acceptable standards for an educational environment, but quite possibly the success of the workshop is partly due to the "charm" or informality of the building.

The Technology Workshop occupies the upper floor and half the lower floor of the two-story building. One classroom and a concrete laboratory are on the ground floor; the second classroom and large laboratory take up the second floor. Cupboard-high partitions separate the two upper areas, but since no one wants to close off the space between the partitions and the pitched roof 20 ft above them, the two areas cannot be used concurrently.

This restricts the model maker and other staff members using the wood and metal machinery in the lab. Both upstairs and downstairs, the two classrooms are minimal by anyone's standards. The main difference between them is that fur-lined boots are not absolutely necessary upstairs, but on the cold, stone floor downstairs, mukluks are not an affectation.

## A Long Gestation

Mitchell moved from Cornell to Harvard in 1961 to teach structures and take a design studio. After one semester of classroom and studio, he realized there was no cross-linkage between the numbers and the graphic design, and from this the workshop concept took seed. "Numbers," said Mitchell, "must be made more exciting, and design more rational."

At first, the newly formed workshop established itself in the basement of an old building owned by Harvard. Because the building was scheduled to be razed, Mitchell got it rent free for two years before moving to the present building. Those first two years cost the school $2500 a year to run the workshop. Then after moving, the school doubled this amount.

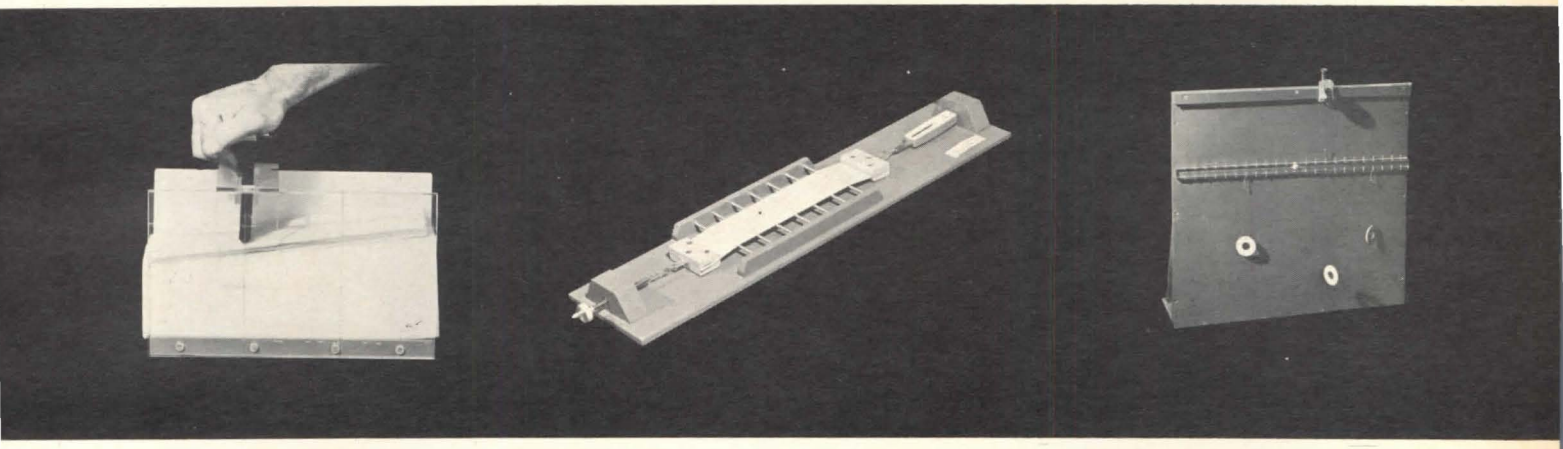
Since the present, two-story building had no lights, Mitchell and some of his students removed the fluorescent fittings from the old basement and installed them in the new quarters. Continuing the policy of self-help, Mitchell, staff, and students served as janitors for two years until the budget allowed them to pay for the service.

At present, the school budgets $4000 a year for rent and janitor, and $2500 for other expenditures. Staff salaries are largely paid from grants. At present, there are six full-time teachers and three part-time teachers.

## The Olive Catalyst

The upsurge in staff and facilities at the workshop started in September 1965, when the United States Steel Corporation awarded it a five-year grant of $50,000 per annum. Like some latter-day fairy tale, this grant originated at a cocktail party. Roger Blough, chairman of the board of U.S. Steel, met and talked with Ben Thompson, chairman of the Department of Architecture, and asked him what he did at Harvard. Thompson explained, Blough listened and wrote his name on the back of an envelope, and Thompson assumed that would be the end of it.

To Thompson's surprise and undoubted great delight, the steel corporation's Eastern Regional Manager showed up at Harvard two days later gathering information for the big boss. Subsequently, Harvard was asked to submit plans for expanding its workshop project, the corporation agreed to the grant, and even



**Center third:** *Applying a load within the center third of a rigid body compresses the base at all points. In model, load outside center third lifts foam rubber base.*

**Stress concentrations:** *Stretching a rubber sheet longitudinally distorts printed lines to illustrate directions of stress deformation that occur in structural materials.*

**Couples:** *Upward and downward forces can be moved along beam to balance it about central pivot. This demonstrates equilibrium of opposing moments, or couples.*

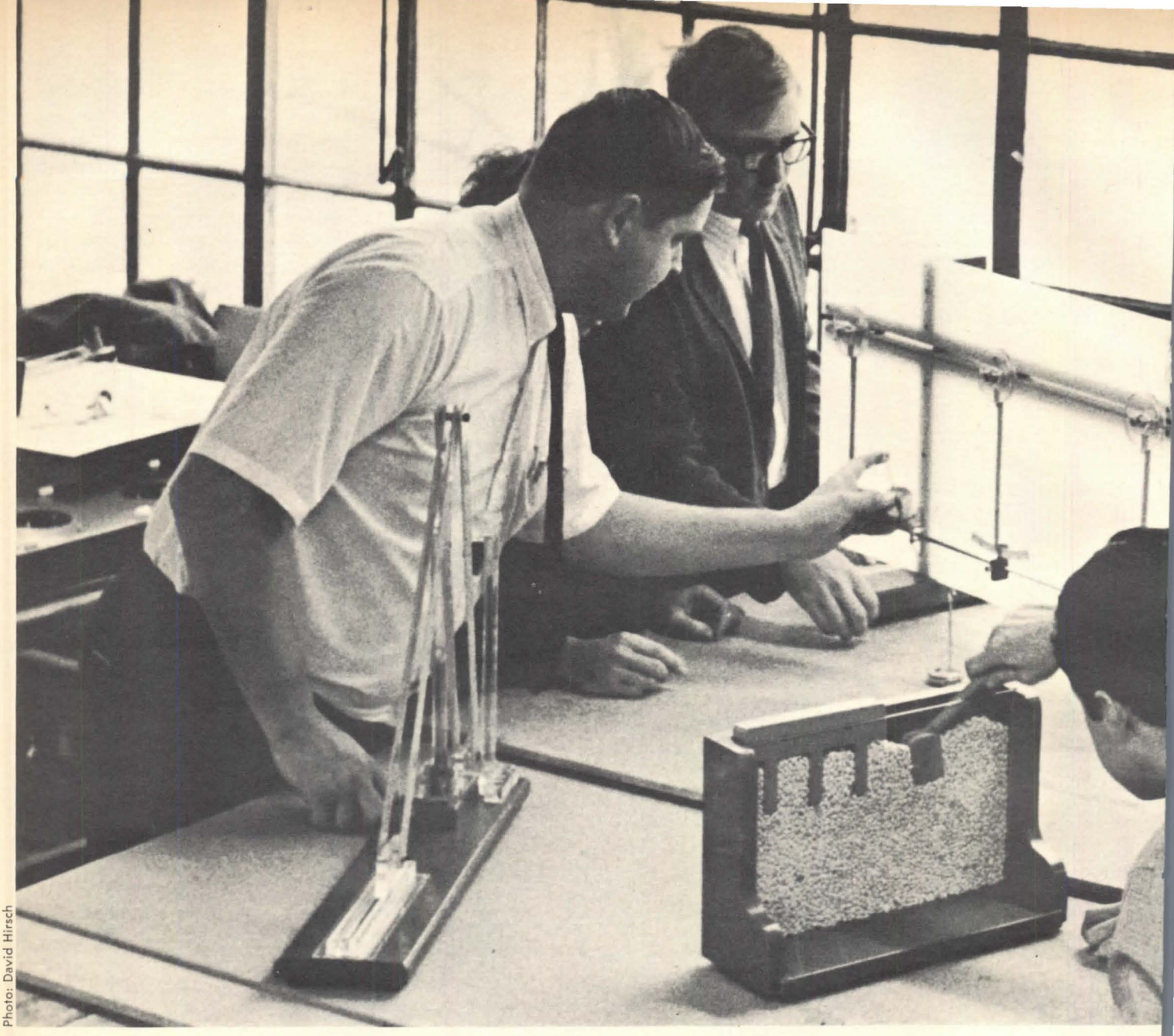


Photo: David Hirsch

kicked in an immediate $5000 to keep the project alive until the grant started in September.

With a commitment of $250,000, the structures workshop program perked up considerably, and not surprisingly the attitude toward it changed. To accept such a large grant from industry was not easy for a conservative institution such as the HGSD, which has been described as "the last of the old school, in every sense of the word." The faculty voted against accepting the money, but was persuaded to change its view because the money would free school funds for other uses. It also happened that, around that time, the school was discussing raising salaries.

Mitchell says he would not have accepted the grant if there had been any strings attached to it. Nor will he accept others if the donors impose conditions. Under the present set-up, there is no commitment by Harvard to research any projects for U.S. Steel or the steel industry, but neither has the company indicated what will happen after 1970 when its grant expires.

## Beyond the Ivy Wall

Mitchell asserts he is not worrying about what will happen on the day the money stops. He optimistically believes that the grant will be renewed, because "it really is seed money, and it would be foolish to wait for the bud and then cut the plant down."

During these fertile years, he hopes to extend education beyond the graduate school. He wants to offer practicing architects and the design faculty staff the opportunity to keep up to date with technology, and he would like students to do applied research for architects in and around Cambridge.

"Traditionally," points out Mitchell, "schools look in on themselves, but I want the school to look out onto the profession and the industry." Thus, for the profession, he is planning a three-part symposium to be held on weekends. Architects will be given the theory and practice of precast concrete, and shown techniques such as bush-hammering and sand-blasting in the concrete lab.

Naturally, students will be invited, and hopefully will learn from the problems and points of view of the professionals.

Where industry is concerned, Mitchell has proposed that U.S. Steel send a man to teach for a year, and is arranging for Lennox Industries to do the same. Lennox has already affirmed its interest in the workshop by donating a grant and equipment, and is now manufacturing copies of the original 30-odd models to sell to other schools.

# INDUSTRIALIZED BUILDING:

## *Quality Demands Participation*

*By Guy B. Rothenstein, a member of the Associated System Planners and Designers, Inc. (ASPAD), New York City.*

If forecasts prove true, and U.S. builders construct multistory apartment houses with industrial methods, the architectural profession should be prepared for its share of the work. At present, houses are frequently built with industrialized methods, but their builders make little or no use of architects. This results in a loss of business to the architectural profession and a loss of quality in community planning and building design.

If the often monotonous appearance of industrially built multifamily housing seen in Europe is not to be repeated in the U.S., architects must participate with industry to provide high-quality design. When organizing this participation, the following points must be considered:

- The scope and nature of architectural service are completely different from conventional building.
- Designers have to understand completely the technology of a system in order to avoid the engineering profession taking over the design.
- After a designer masters the technology of a system, there is a great freedom of design in respect to form, module, scale, proportion, texture, finish, and color.
- Design decisions have to be made at an early stage, and should be final.
- Fee structure should be adjusted: A cost plus contract appears to be the fairest solution.
- Design is the result of close cooperation between the site engineer, structural engineer, mechanical engineer, specifications or material specialist, plant production engineer, and site production engineer and programming of the entire operation.

### Planning for System Building

*The Site:* In addition to the normal criteria and standards of site planning in an industrially-built project, buildings should be located to facilitate the flow of production. Thus the site actually becomes an extension of a factory. For instance, if traveling cranes are used, a continuous track should be laid between buildings because relocating track is expensive and will delay progress unnecessarily. "Open systems" with complete interchangeability of parts made by different manufacturers will generally require modular coordination of the principal dimensions, and so limit design considerably.

However, "closed systems" of precast concrete are based on components coordinated within a particular system, and pro-

vide a great freedom of design, since every project is "custom factory produced" and the machinery used to fabricate component panels permits adjusting to dimensional changes very easily **(1, 2, 3)**. Panel dimension is preferably of the length and height of the room to be enclosed, and doors are best placed in room corners to keep the number of panels to a minimum.

As a general rule, it is practical to standardize panels to the extent that each machine can produce 20 to 30 similar panels in a 10-day run.

Flop-over, or mirror-image, apartment layouts should be avoided because they require left- and right-hand variations of each panel. To avoid this, plan elements should be rotated instead of flopped. Shown **(4)** is a typical apartment plan panelized for industrial production.

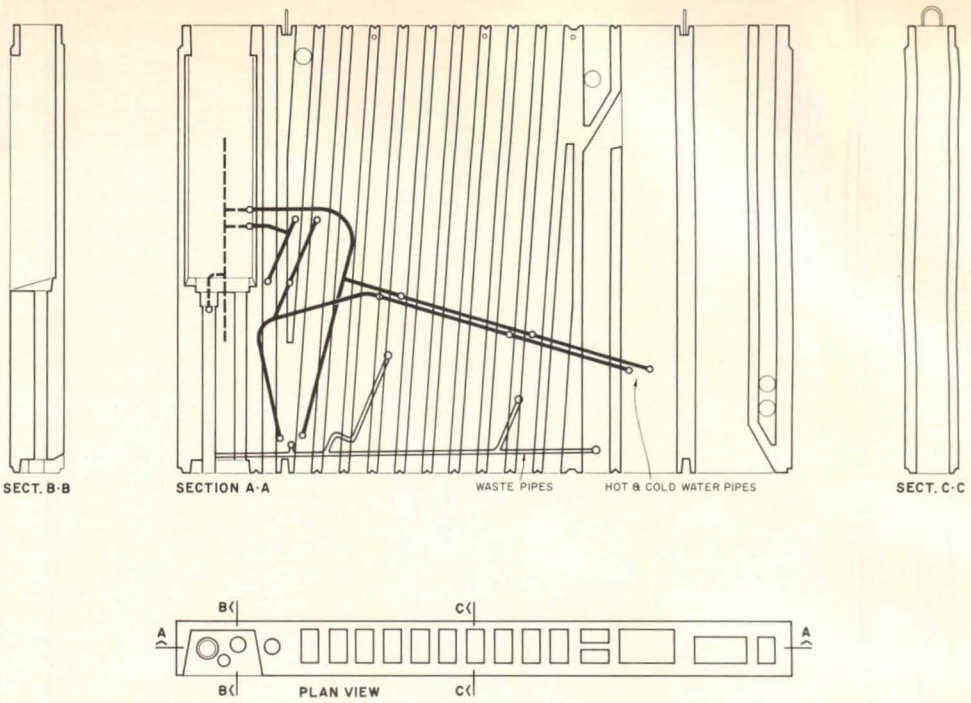
One aspect of industrially built housing always appeals to architects: If a production series is large, it is usually advisable and economically feasible to build a full-size mock-up of a typical unit to study structural, architectural, and mechanical details as well as its proportions, light, color, etc. This technique is fairly standard in industrial design of other consumer products.

Precast assemblies allow much greater design freedom than is the case in conventional masonry construction, e.g., sculptural forms can easily and economically be used; and inclined wall sections and building corners other than 90° present no problem.

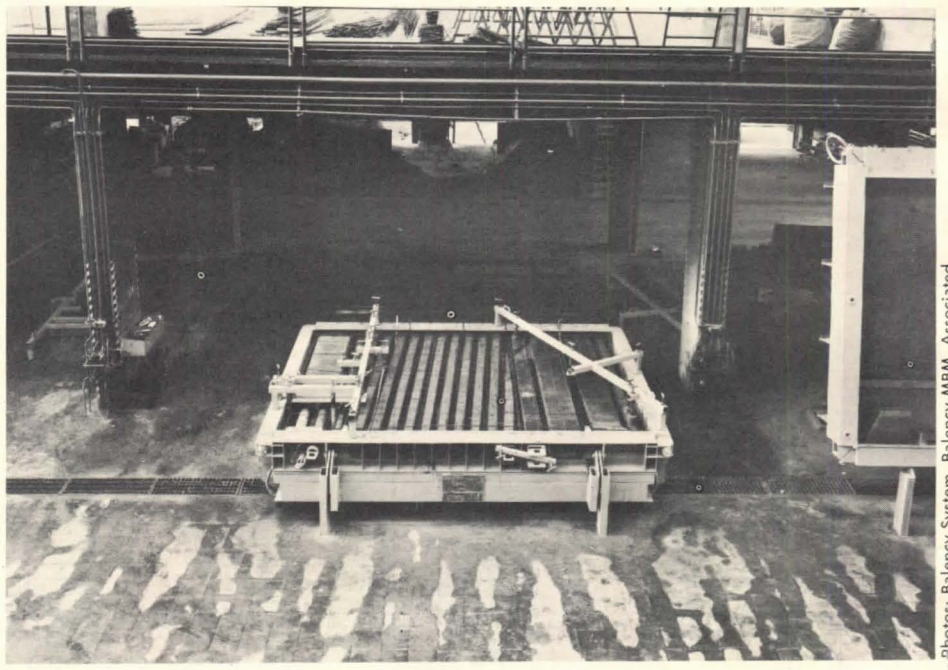
*Components:* Since the plan is composed of component panels **(5)**, detailing these components requires complete knowledge of the production machinery, transportation problems, erection equipment, and programming of the entire operation.

The components are multifunctional, and include structure, finishes, insulation, windows, door bucks, and provisions for electric, plumbing, and heating systems. The closest cooperation of all the specialists concerned in a project is a must during the design phase.

*Mechanical Systems:* Unlike conventional construction where each mechanical system "grows like a tree within the building," industrialized building sections the tree, and portions of it form an integral part of the multifunctional structural components. Although any type of mechanical system can be used, the choice of the best one cannot be made strictly on its own merit, but has to be studied in conjunction with structure, architectural




**(1)** *Fabricator installs conduits and piping for bathroom fixtures before casting wall.*



Photos: Balency System, Balency-MBM, Associated

**(2, 3)** *Wall panels are cast horizontally instead of vertically to accommodate inserts and tiled surface.*

details, production and erection techniques.

*Specifications:* Specifications are an integral part of the design process with emphasis on material performance, since workmanship is no longer a factor. The machine producing components sets uniform standards that are much higher than those used in conventional construction. For instance, corners formed by machine-produced concrete panels are uniformly straight and plumb without variations of workmanship prevalent in corners of plastered walls.

## Drafting the System

There is little difference between working drawings and shop drawings for industrialized buildings. After layout, façade design and panel dimensions are determined, European fabricator-erectors develop detailed drawings of each panel and its connections to adjacent components in addition to over-all plans, sections, and elevations. However, in the U.S., an architect's responsibility as the owner's agent is customarily carried much further than in Europe, and the production of working drawings will still remain in the architect's domain. But the primary purpose of these working drawings is for filing with building departments, lending institutions, or supervising government agencies. These greatly simplified working drawings will be supplemented by a fabricator-erector's structural and architectural drawings.

*Shop Drawings:* Besides the combined structural and architectural details, conventional shop drawings for subcontractors of the finishing trades will be processed in the usual manner, except that submission and approval take place before construction is started so that the tooling for panels can make proper provisions for connections and attachments.

*Supervision:* The first production run of components must be thoroughly inspected. Since construction is merely an assembly process, main attention during construction should be given to connections and finishing of joints.

Plant-produced concrete is subject to the same testing procedures as cast-in-place concrete, and test reports are processed in the usual manner. With proper scheduling, components will not be shipped to a site until test results have been checked. This is a marked advantage over site casting, where it is practically impossible to enforce replacing of substandard concrete.

Mechanical and electrical systems are tested and approved as in conventional construction.

*Fees:* It is difficult to establish a fair fixed fee until more experience has been gained with architectural and engineering services for industrialized building. Since projects are usually of considerable size with a certain amount of repetition, the cost plus type of contract appears to be the fairest to client and the architect.

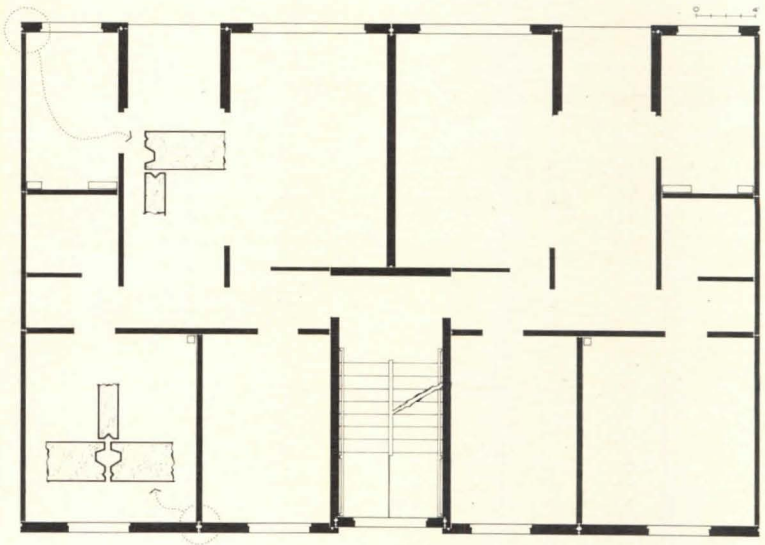
In comparing the different phases of work with conventional architect-engineer services, it must be remembered that substantially more time is required for site and building design (which often includes model and full-size mock-up studies) and less time is needed for specifications and working drawings, since many detail drawings are produced by the fabricator-erector. These, however, have to be checked by architect and engineer.

Supervision also takes less time, one reason being that construction often is twice as fast as in conventional building.

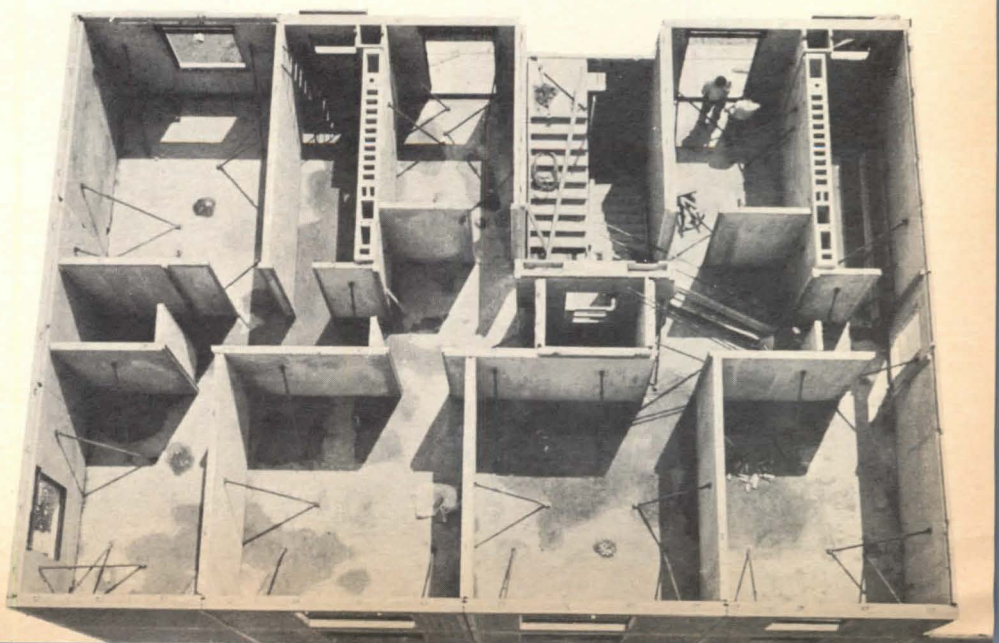
A further saving of time will often result from negotiated contracts with a fabricator-erector so that documents for competitive bidding will not be required. In many instances, combinations of developer-fabricator-erector will actually constitute "the client," since the advantages of industrialized building lead logically toward single management with single responsibility.

## Team Effort

Since existing architectural organizations are obviously not geared to undertake design for industrialized building, it is advisable to form teams having the required qualifications. Such teams can function within established architect-engineering firms or they may be independent specialized organizations. With a proper background, and accumulated experience, these teams will be able to direct industrialized building toward the desirable combination of economy, quality construction, and quality design.



**(4)** *Apartments panelized for industrial production.*



) *Simple bracing holds wall panels during erection.*

# BRICK TURBINE HOUSE

Like ladies' knees, mechanical equipment used to be discreetly hidden from public view. More recently, however, boiler houses have become socially acceptable and are now often prominently displayed.

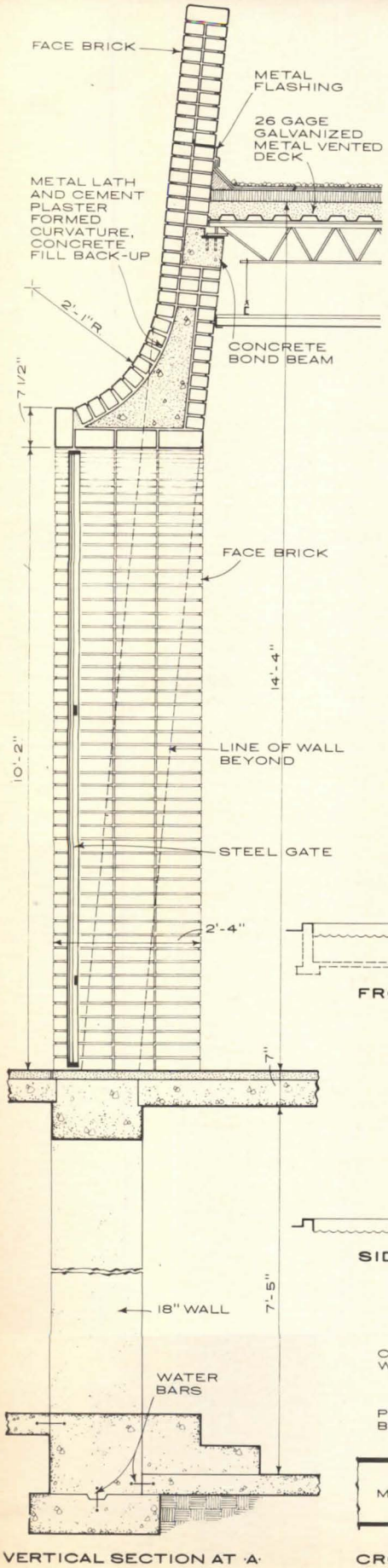
At the Intermountain Gas Company headquarters in Boise, Idaho, mechanical equipment occupies front stage center in a drum-shaped brick building located between the entrance gates and the main office building.

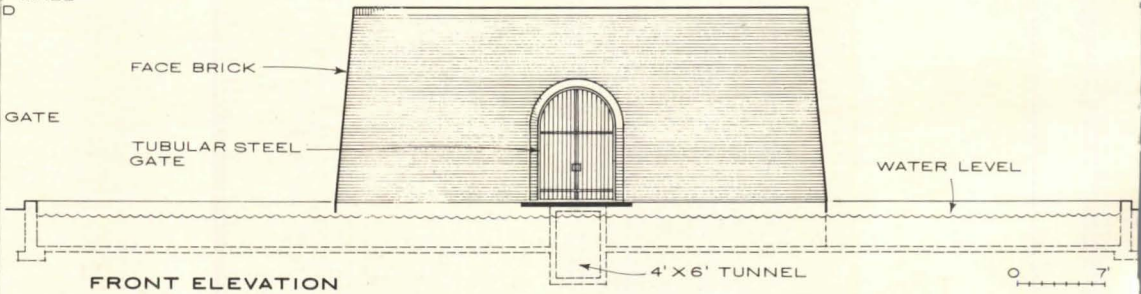
Although there are no windows to its interior, the building looks sufficiently intriguing to lure a visitor over its moat and inside to view the total energy equipment that converts natural gas into power, heat, and refrigeration. Gas is the owner's product, and the gas turbine house services the buildings and serves as a showcase.

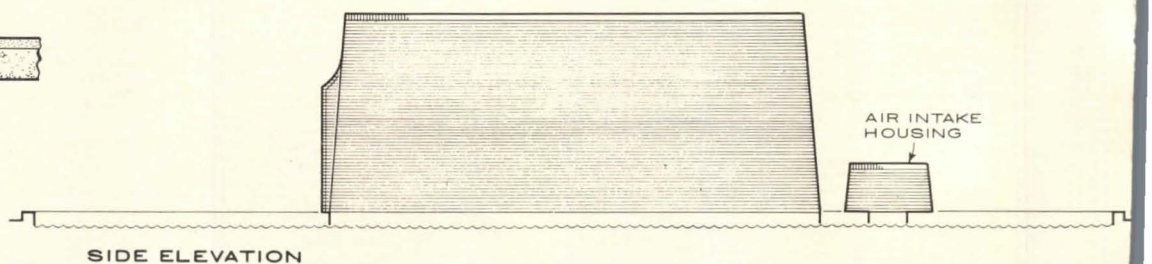
The form of the turbine house is no architectural whim. Its solid brick walls contain the high-frequency whine of the turbines, and the inward sloping walls mix the sound waves that would otherwise build up into an unbearable concentration of noise. Nor is the moat merely intended to enhance the fortress-like appearance of the turbine house: The water cools the air-conditioning equipment and feeds the fire-protection system.

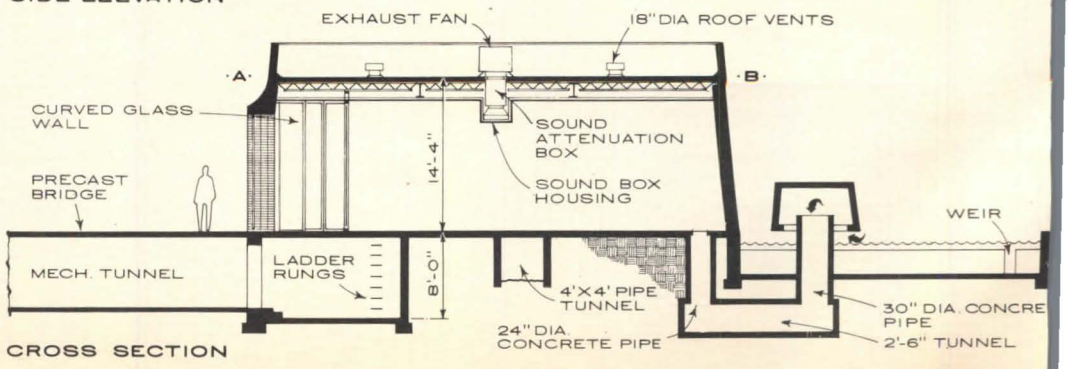
The architect, Kenneth W. Brooks of Spokane, Washington, designed the headquarters with an eye to the sky. Since he believed that the mountains and sky of southern Idaho should prevail over the site, he played down the architecture — both in mass and in color. This produced two masonry buildings in which blue bricks blend with the summer sky, and two buildings (including the turbine house) with putty-gray bricks to reflect the bleak winter sky.

The landscape architect was Lawrence Halprin & Associates. Kendall M. Wood & Associates was the mechanical engineer; Esvelt & Saxton the structural engineer; and Joseph M. Doyle & Associates, the electrical engineer.

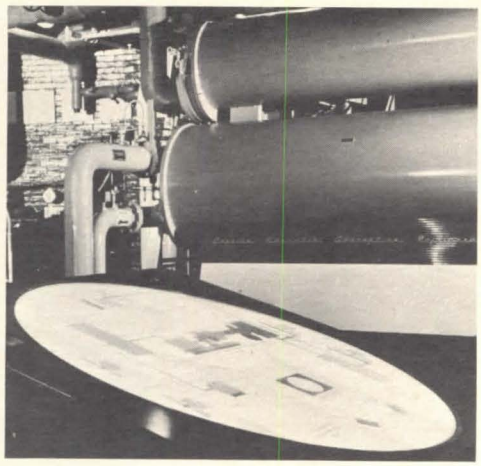


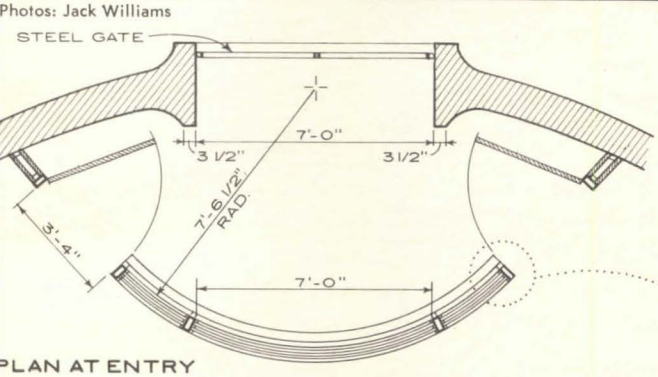



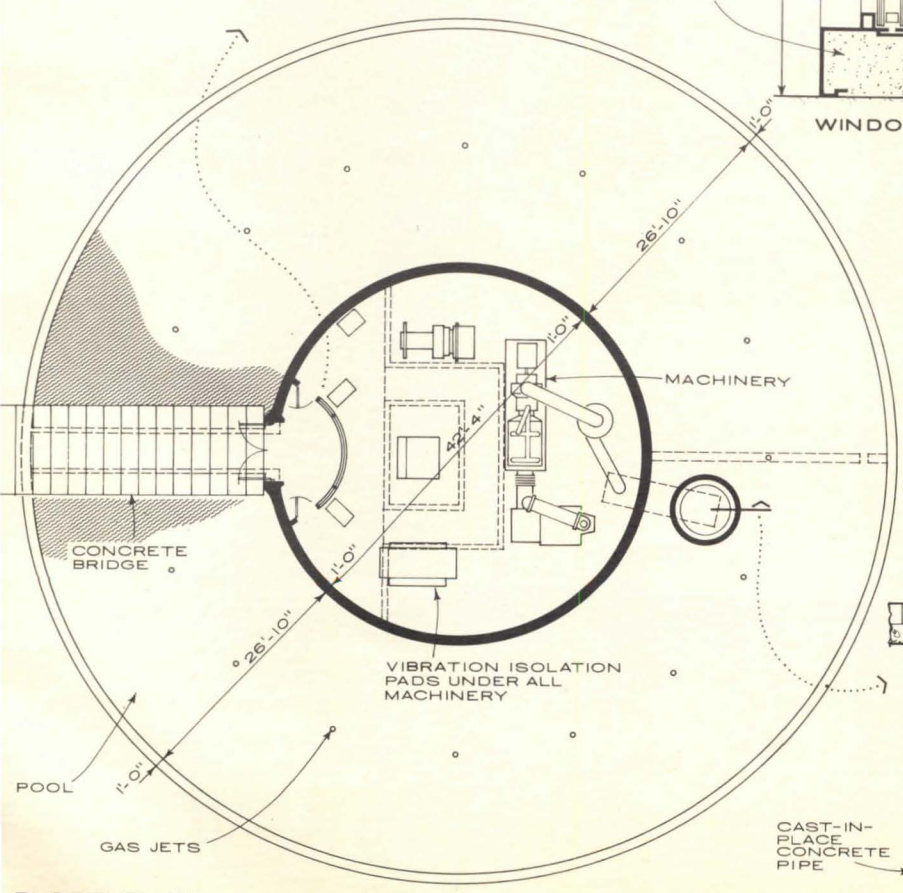
# BLENDS WITH BOISE SKY



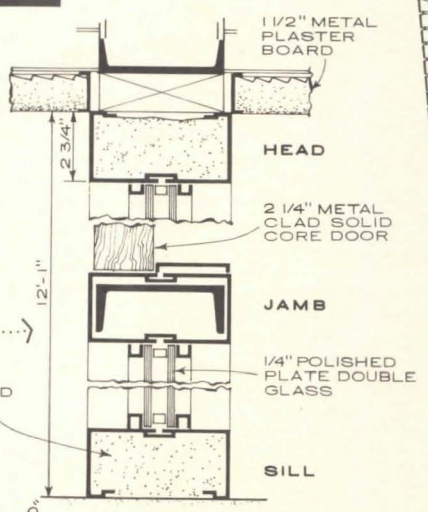
Photos: Jack Williams




PLAN AT ENTRY



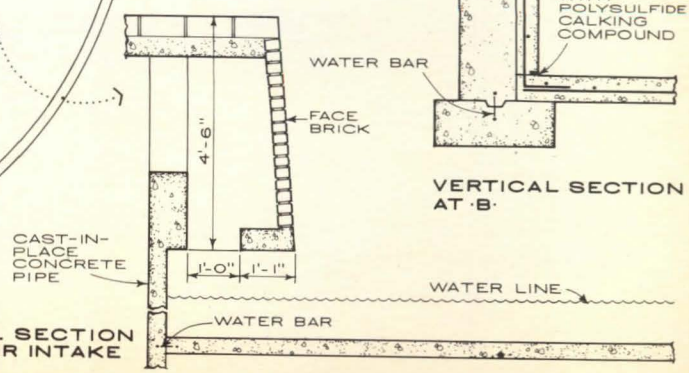

FLOOR PLAN




WINDOW DET.

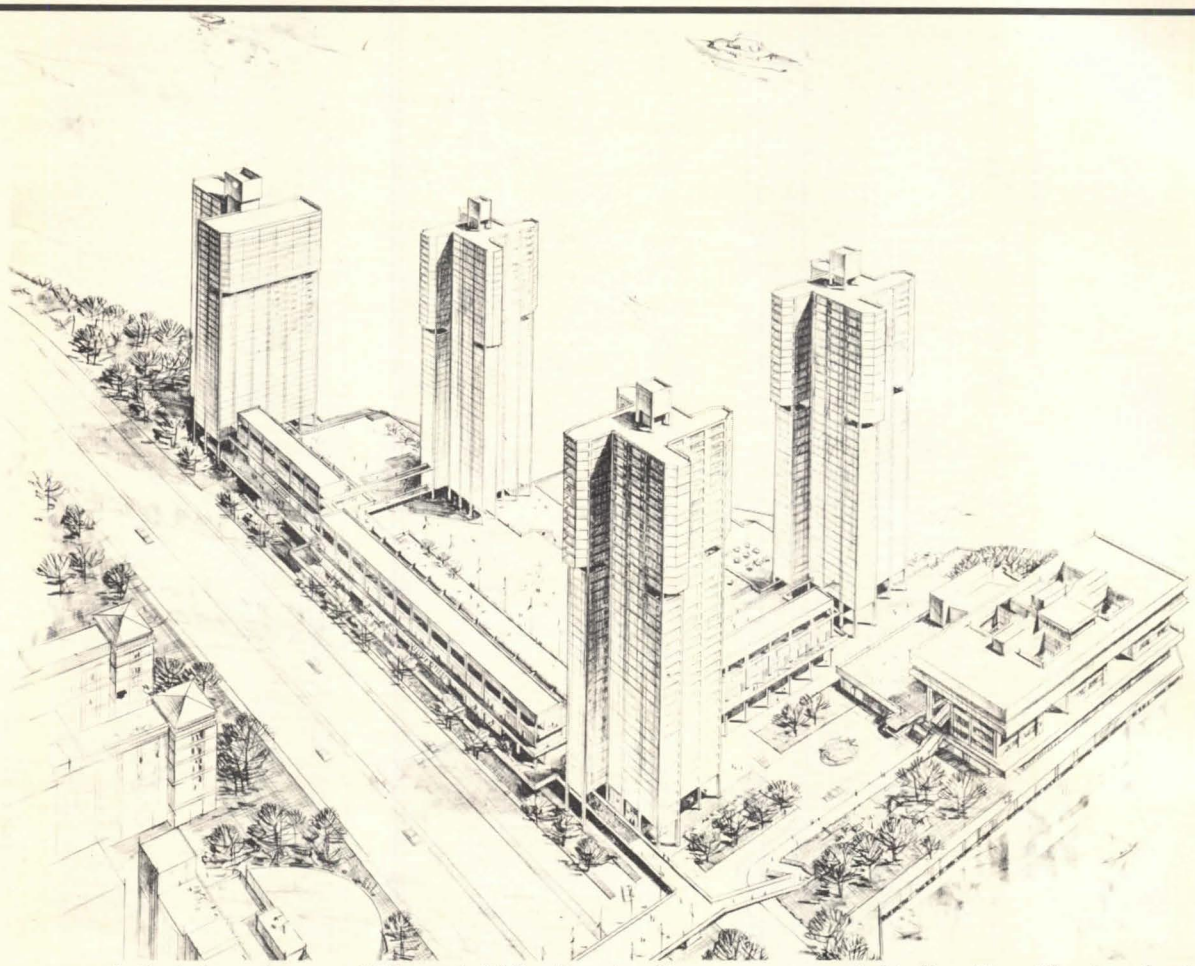



VERTICAL SECTION AT B




PARTIAL SECTION THRU AIR INTAKE

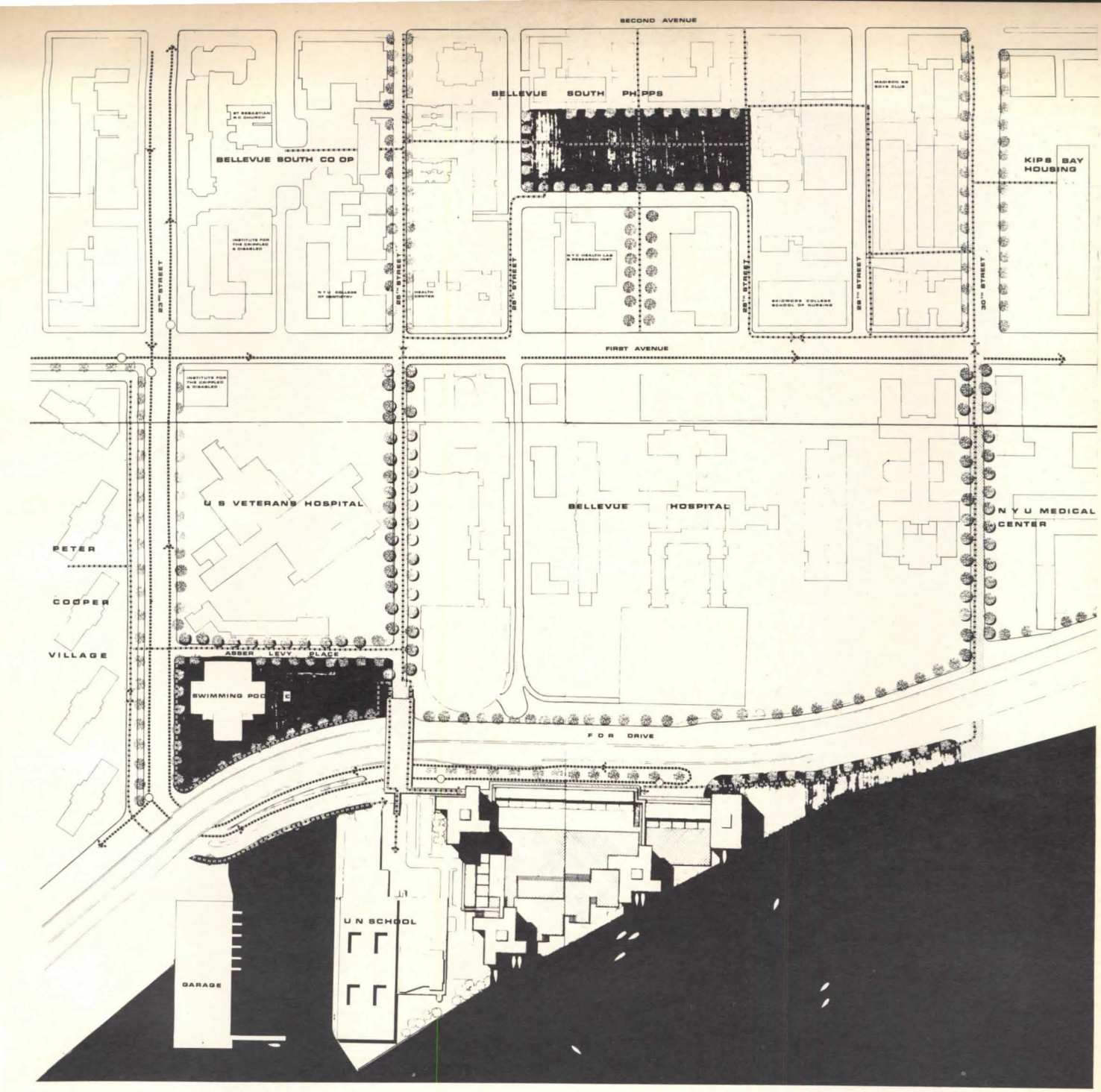
# BREAKTHROUGH ON THE RIVER



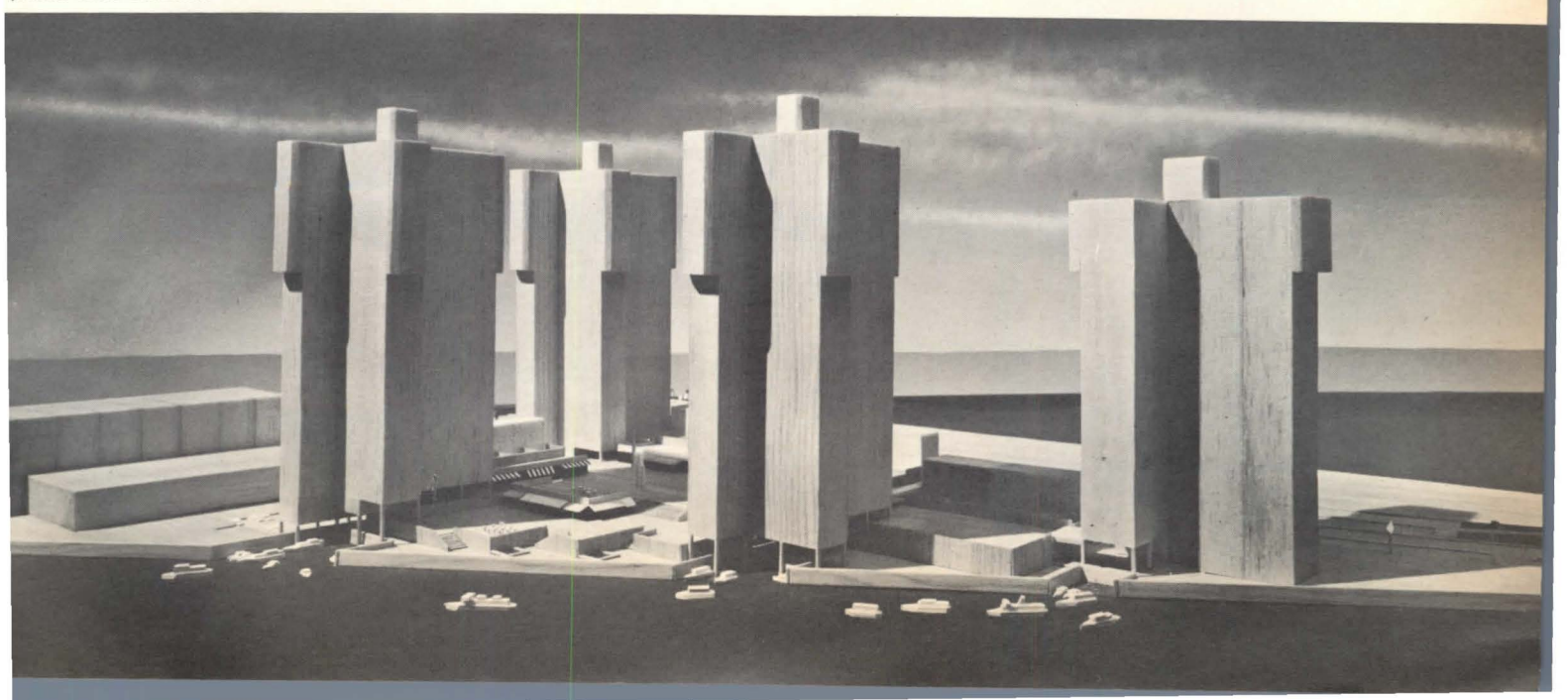
It has been rumored that to get a large planning project moving in New York City, one practically has to walk on the water (and there are suspicions that a former commissioner of practically everything still thinks he can do it), but until now there has not been a project that itself will stand in the river.

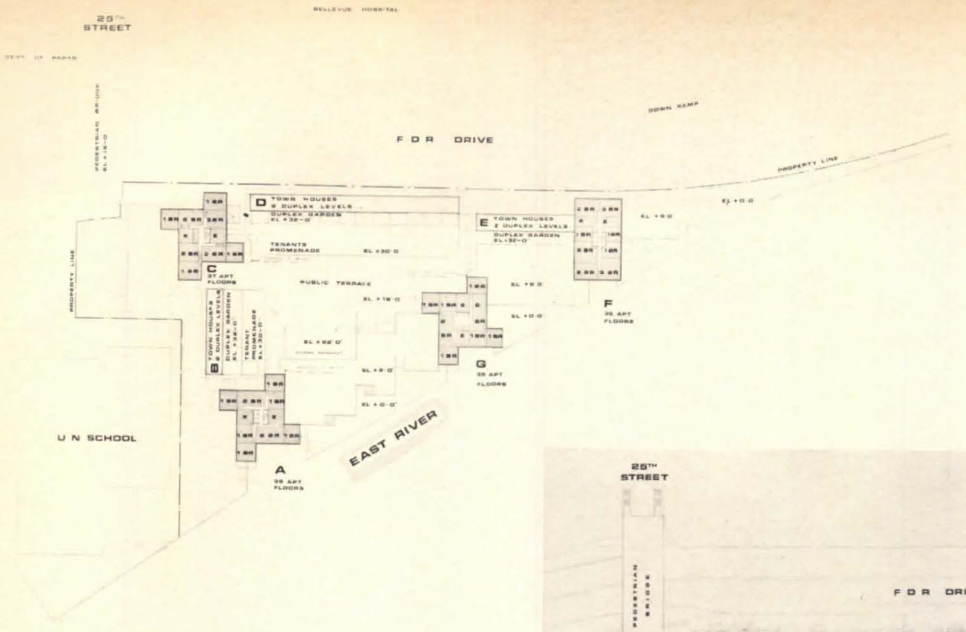
Such a proposal, however, seems closer than ever in its six-year history to realization. This is "Waterside," the plan by Davis, Brody & Associates for the HRH Construction Corporation and the Longstreet Corporation (a division of Lazard Frere & Company), to which we referred in a recent documentation of the agonies of rebuilding New York's waterfront (pp. 128–139, AUGUST 1966 P/A). The development will consist of four, 35-story apartment towers and 48 townhouses constructed on concrete platforms extending from Franklin D. Roosevelt Drive into the East River between 25th and 30th Streets. It was unveiled officially just before Christmas to paeans of praise from Mayor John V. Lindsay, Housing and Development Administrator Jason R. Nathan, and outgoing Parks Commissioner and Administrator of Recreation and Cultural Affairs Thomas P. F. Hoving. The plan still has to survive the scrutiny of the City Planning Commission and the Board of Estimate, and in a city like New York, we do not believe even the seeress Jeane Dixon could predict its fate accurately. However, it has received a gratifying forward thrust from the administration, a good local press, and, hopefully, the moribund Manhattan riverfront will soon see the beginnings of a resuscitation.

One of the authors of the splendid plan for the riverfront of Lower Manhattan also in the August article), on seeing the final version of the Davis, Brody design, commented favorably, saying it is a step in the right direction. The drawback of the Waterside plan, as compared to the one Whittlesey, Conklin & Rossant prepared for the city, is that it cannot propose sweeping changes for traffic and access patterns on the "mainland" approaches. By and large, the architects have had to deal with the status quo of surface and elevated vehicular traffic. They have suggested that a 60-ft vehicle access be created contiguous to the future neighboring United Nations School (Harrison & Abramovitz, architects) on what is now a sort of dock area for a marina. And there will be adequate entrance and turn-around facilities on the western edge of the site for cars and buses coming in from 23rd Street. Still, on paper, the traffic pattern appears rather constricted. The architects and some of the Bellevue Hospital staff are thinking that a redesign of 30th Street for the principal use of pedestrians would be good, bringing people across and into

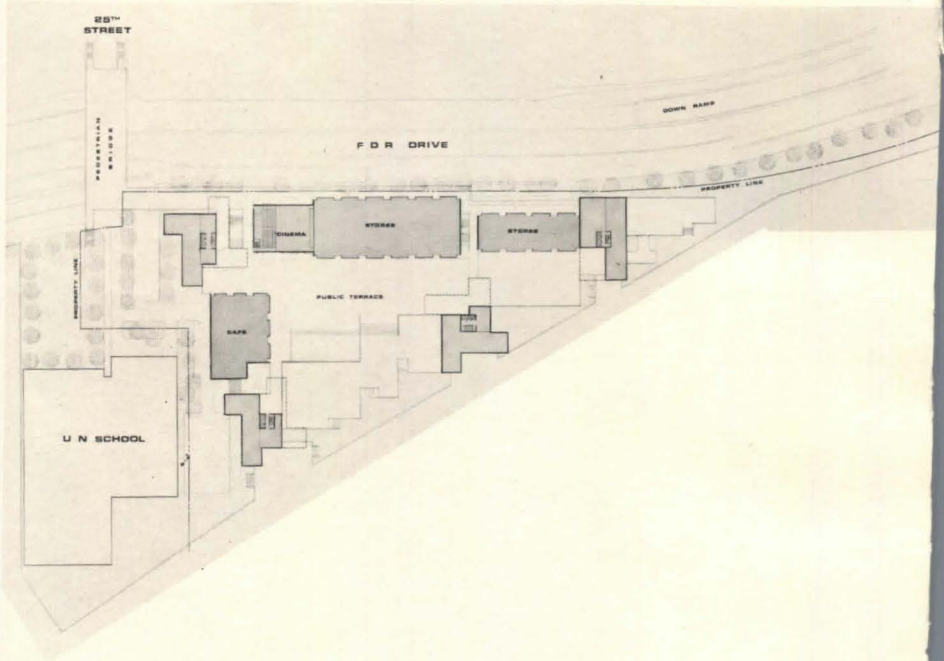



photos: Louis Checkman

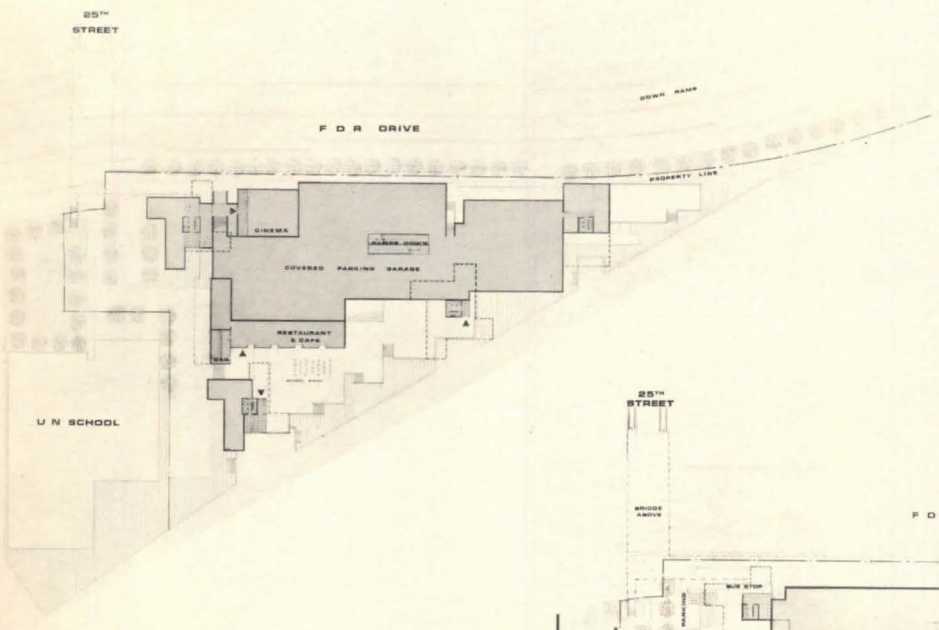




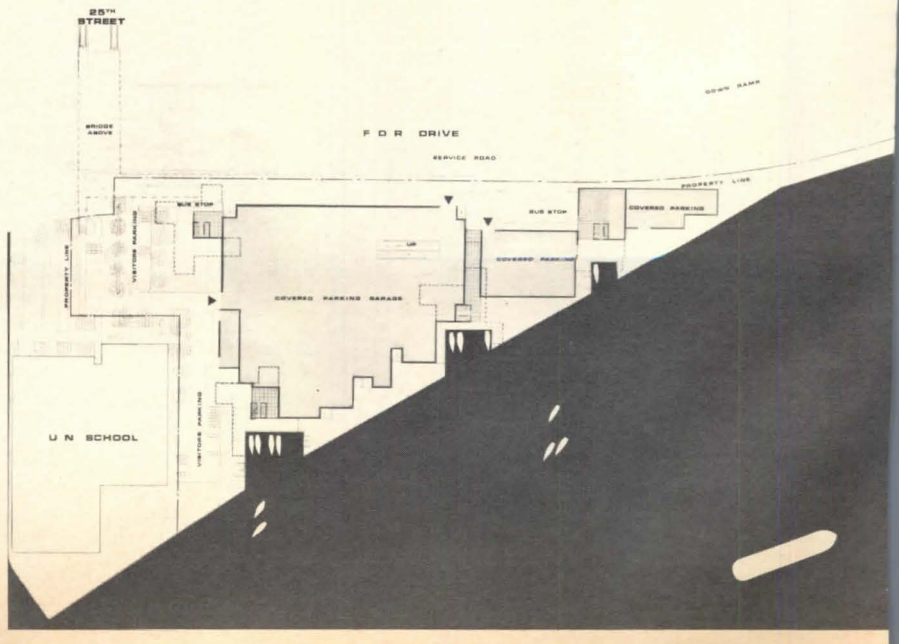

*Third Level*




*Typical Upper Level*




*Second Level*

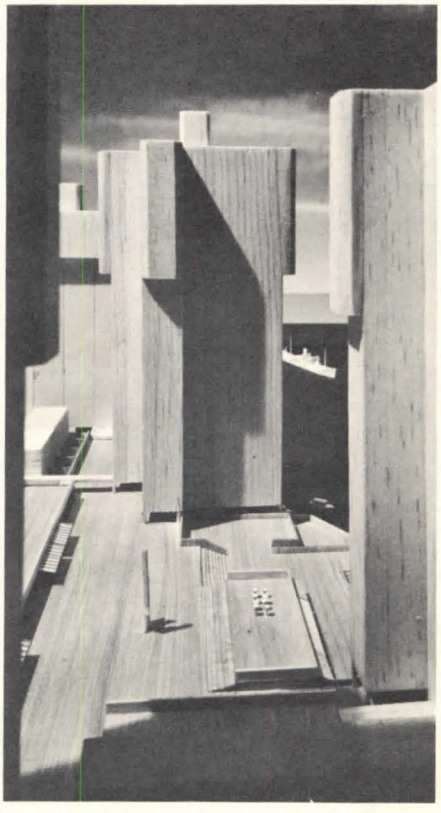



*First Level*

Waterside. It occurs to this observer that the restudying of both 25th and 30th Streets for greater fluidity of automobile circulation should be paramount. Major pedestrian access will be via an existing but widened bridge over the Drive at 25th Street. At other points, the pedestrian will pretty much have to run for it, a condition not the fault of the architects, since it is out of their jurisdiction, but one the city should study in conjunction with the larger area of the Bellevue-South Redevelopment project (see over-all site plan).

On the site, pedestrians and vehicular circulation is admirably separated, with all surfaces except for those necessary for entrance to garages (700-car capacity), the short-stop and bus access on the Drive side, and a space for 50 cars outdoors, left for the sole use of people on foot. The buildings surround a commodious central public plaza, which in turn terraces down toward the river through smaller open spaces past an outdoor café and under the tower buildings where they are built out over the water. Three small inlets invite the direct experience of New Yorkers with the river, something they very seldom have a chance for, except perhaps by jumping off the Brooklyn Bridge.

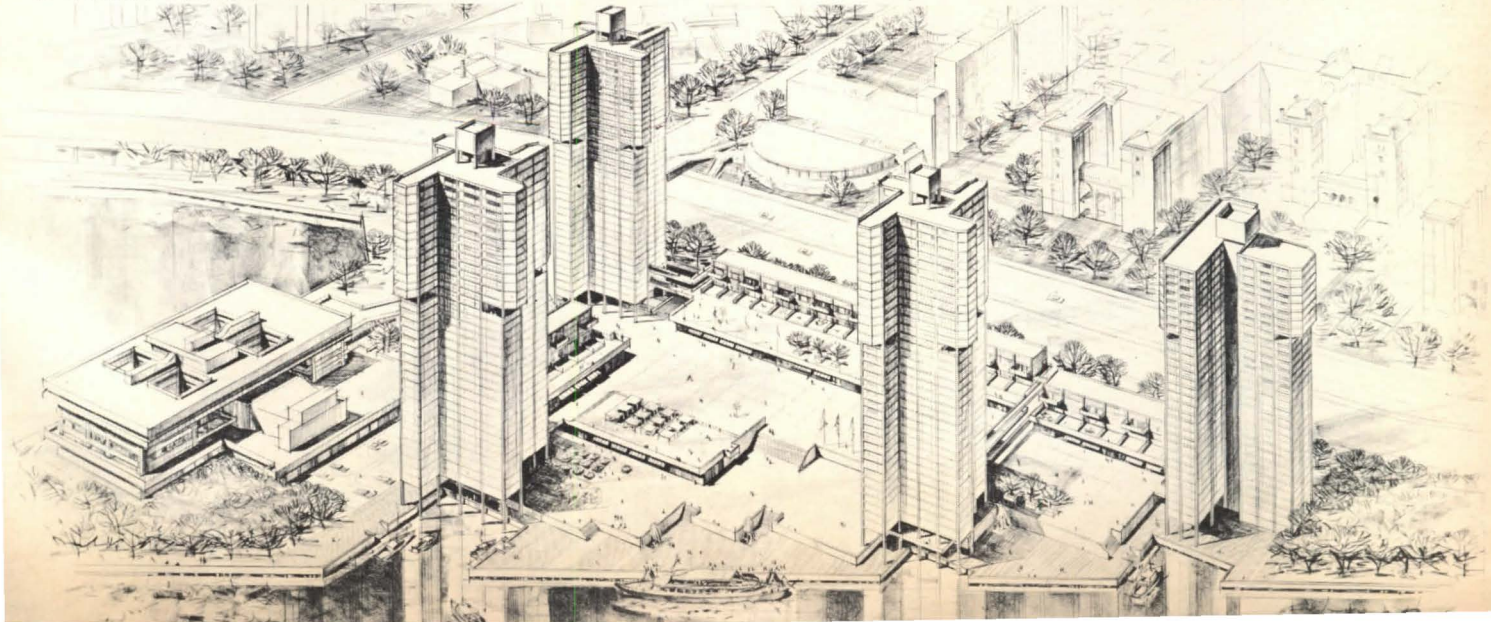
In plan, the townhouses form a sort of wall separating the interior open spaces from Franklin D. Roosevelt Drive and the United Nations School (see typical upper level plan). The townhouses on the west are raised a story to tie in with a more private tenant's "promenade" from which they are separated by walled gardens. The three towers, which are to have a certain amount of economically

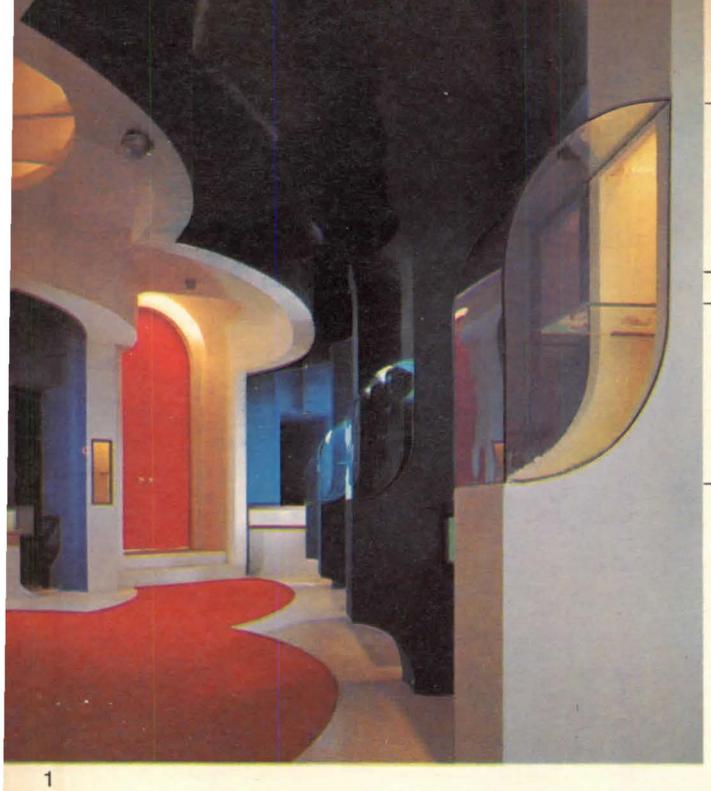


mixed tenancy — 350 out of a total (including townhouses) of 1468 units — will be cruciform in plan, surrounding central service and vertical transportation stacks. Rents will range from $18 per room in those apartments arranged through public housing leasing and/or rent supplements up to about $60 per room for the higher-income brackets. While the percentage of low-income tenants seems rather low in this instance, the Mayor stated that they will be mixed in the towers and in no way segregated. An encouraging sign, and one that will bear watching for future indications on how best to make economically mixed new neighborhoods work.

The development will have other tenants besides apartment dwellers. A major New York movie house chain is reported to be enthusiastic about having a cinema there as well as a restaurant, and there will be the necessary shops and services along the FDR Drive side (they will be needed for convenience in Waterside, of course, and will undoubtedly attract trade from other developments in the area, such as Peter Cooper, Kips Bay, and Bellevue South).

In its present form, Waterside is chiefly laudable for its use of open space and the riverfront. Had the program or the budget permitted landfill and sculpturing of earth here, the concept conceivably would have been more exciting. As it stands, the architects and their sponsors have made a dynamic first step toward getting New York back in touch with its environment. We hope that this good plan is not snowed under by the City Planning Commission or the Board of Estimate. — JTB





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# JEWEL OF A SETTING

2

Daniel, Mann, Johnson & Mendenhall of Los Angeles is one of the largest architectural-engineering firms in the world, with commissions for vast overseas military projects, enormous heavy construction developments, entire new college campuses, and complete new cities (their Sunset Mountain plan won P/A's First Design Award in 1966; see pp. 120 – 127, JANUARY 1966 P/A).

Oddly enough, one of the firm's most exciting recent designs is a small-scale interior for a jewelers' center in Beverly Hills. Designed by DMJM Director of Design Cesar Pelli with A.J. Lumsden, Assistant Director of Design, the 5000-sq-ft space brings to Wilshire Boulevard some of the same kind of imagination and intriguing design qualities that Simon Rodia gave the Watts district with his famous towers. This marks it at once as apart from the usual Los Angeles "exotica," which is generally brummagem stuff of the Miami Beach – Las Vegas stripe (thus is our nation united "designwise").

At the jewelry center, Pelli and Lumsden were presented with an oddly angled ground-floor corner in an oldish building on an important corner in Beverly Hills. The program called for designing a central bourse where gem merchants could display their wares and engage in the person-to-person comparing, trading, buying, and selling peculiar to their trade. Since most, if not all, the merchants have their own shops and businesses elsewhere, small display carrels — consisting of a front display case, a back storage-display cabinet, and a tiny private "work" room (a place to keep coats and drink coffee) — constitute each individual unit in the exchange. An attempt was made to give all carrels equal space and exposure to customers.

With a simple, basic palette of lath and plaster, terrazzo, carpet, paint, glass, plastic display hoods, and recessed or indirect lights, the architects have fashioned a jewelry setting of intertwining light (white) and dark (deep blue), low and high spaces, and nooks curiously appropriate for exhibiting the lapidary art.

Unfortunately, it is now untenanted, the original owner having sold it and the current owner having

Photos: Julius Shulman

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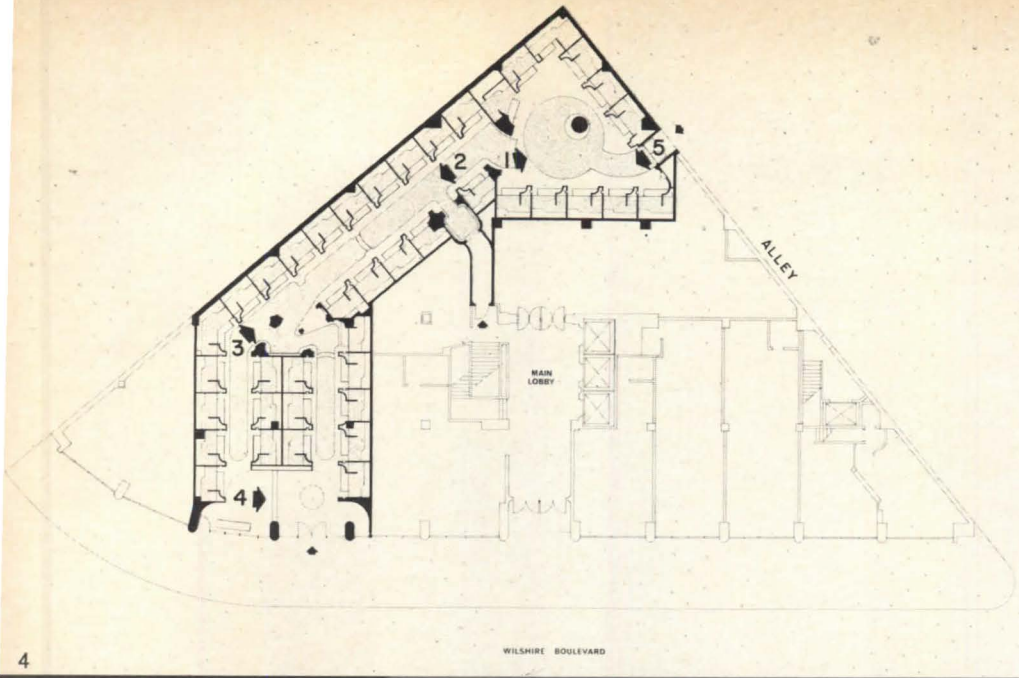


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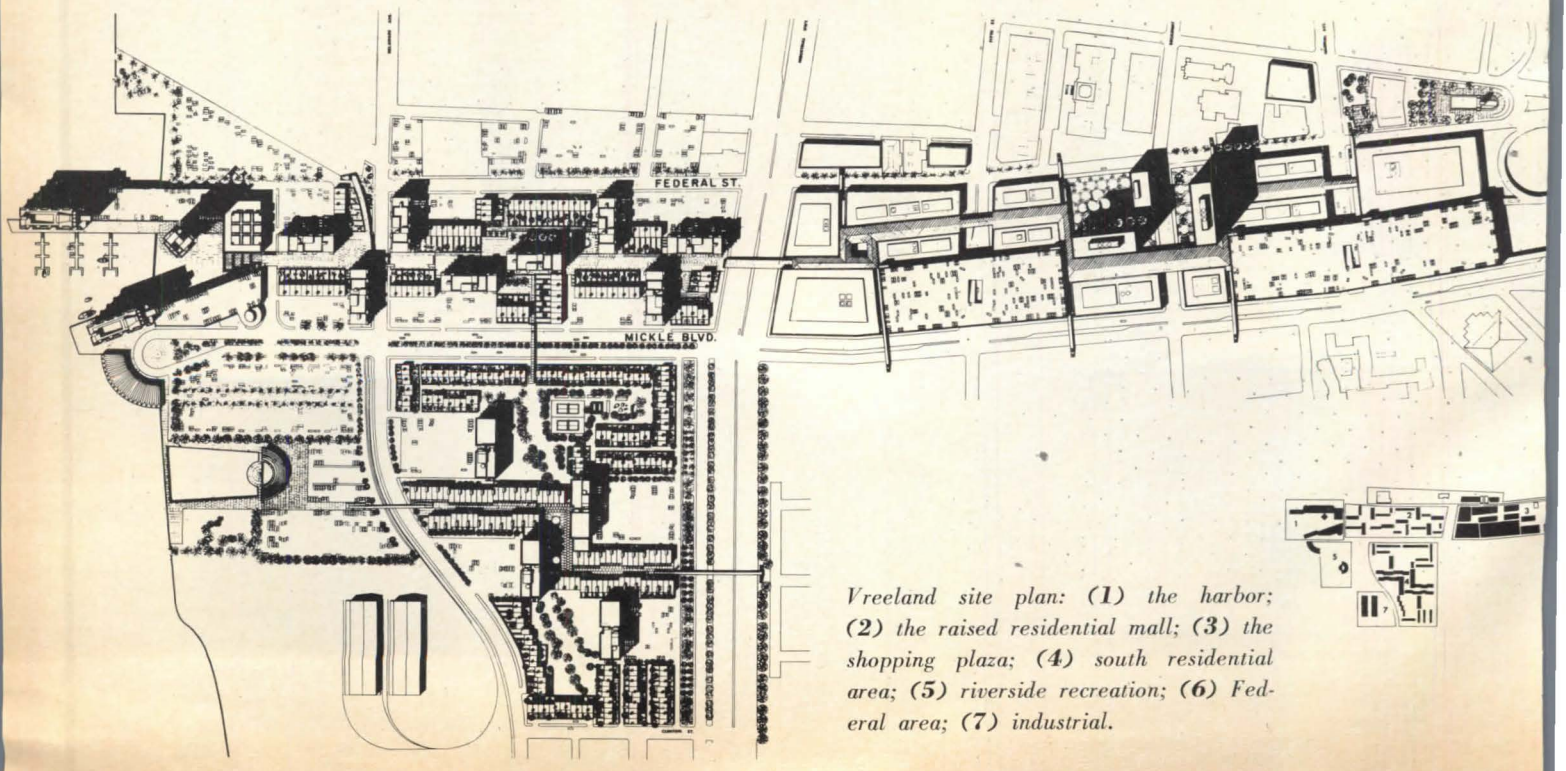
let it lie fallow (after adding non-Pelli additions to the Wilshire Boulevard entrance). This is an unfortunate waste of an exciting space. The center is stage-set architecture, and frankly proclaims itself as such. It is admirably suited to the purpose for which it was designed — much more so than the usual shop and store design we see. Within the scope of a limited space, it creates a mood and exhilaration that achieves grandeur on a small scale. This is the proper place for "stage-set" design; it is when such design masquerades as serious architecture in a high-rise building, an insurance headquarters, a church, a college, an atomic reactor, even a city plan, that disgust and repulsion overwhelm this observer.

It is too bad that Pelli-Lumsden interior is not being used for its announced purpose. But all should not be lost. We think that it would be a great place for a really swinging discotheque. It already has a good room at the rear for turning up the sound and flashing the strobe lights, and the current habit of discotheques of selling gear garb on the premises would be well accommodated by the stalls along the little "galleria." Andy Warhol or Borden Stevenson (of "Cheetah" fame) take note: You should move your West Coast operations right into 9441 Wilshire Boulevard. Cesar Pelli and Tony Lumsden have done all the advance work for you. — JTB

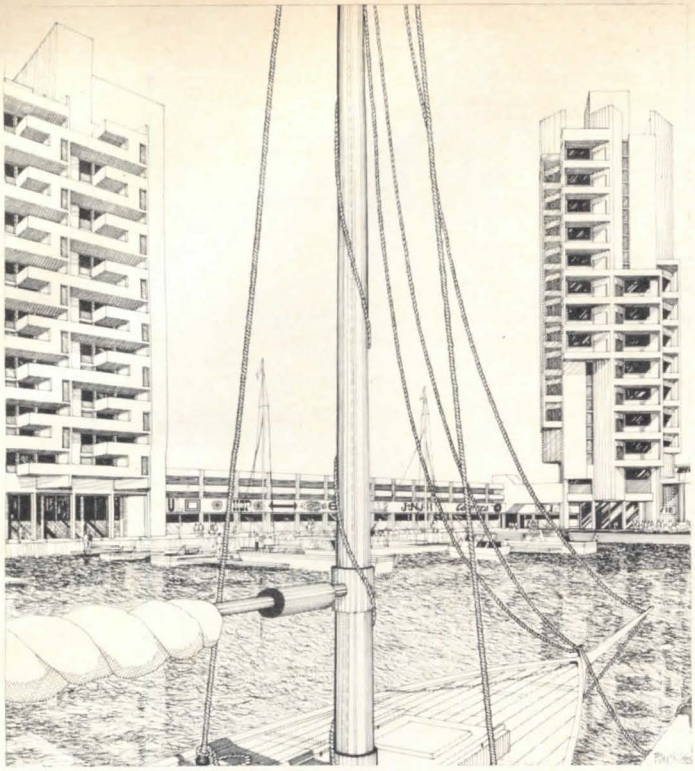
# CAMDEN CORRIDOR CONCEPT

Philadelphia's New Jersey neighbor, Camden, as well as being famous as the home of Jersey Joe Walcott, has long merited a less desirable réclame as one of the dreariest cities on the Eastern seaboard. In recent years, stung by this deserved reputation and anxious to reinvigorate Camden as a viable civic entity instead of a dumping ground for Philadelphia's low-income families and a chaotic wasteland of large and small industries, city agencies have sponsored a number of plans for urban renewal of the area. Among these have been the Cooper's Point plan by Thomas R. Vreeland, Jr. and Oscar Newman, which won an award in the 1963 P/A Design Awards Program (pp. 98–99, JANUARY 1963 P/A), and the interesting program of using new schools as nuclei of neighborhood rejuvenation programs (see pp. 64–65, APRIL 1963 P/A and p. 52, JANUARY 1964 P/A).

Now an attack has been made on the area that has been to Camden what Philadelphia's famous "Chinese Wall" used to be to *its* center city. This is the railroad embankment and marshalling yards that gouge through the city just south of the present CBD. Under a new plan by Thomas R. Vreeland, Jr. & Associates, with planning consultants Candeub, Fleissig & Associates, the railroad facilities will be relocated, freeing an eminently desirable mile-long corridor of land between the Delaware Riverfront and a proposed elevated North-South Freeway. The development will be generally about 500 ft




*Vreeland site plan:* ***(1)*** *the harbor;* ***(2)*** *the raised residential mall;* ***(3)*** *the shopping plaza;* ***(4)*** *south residential area;* ***(5)*** *riverside recreation;* ***(6)*** *Federal area;* ***(7)*** *industrial.*

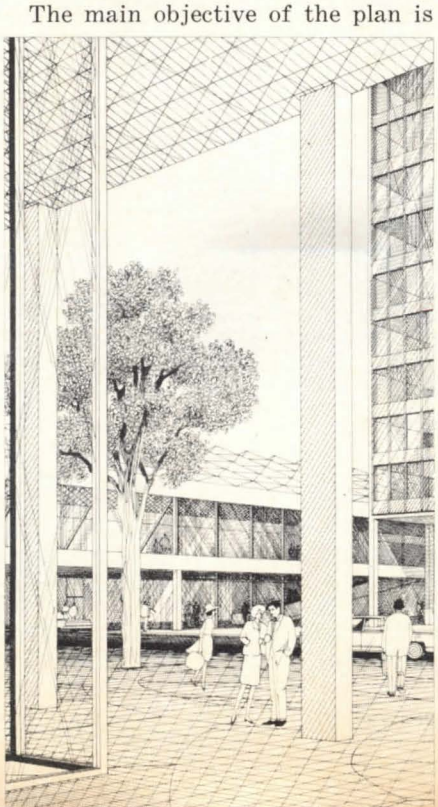


wide between existing Federal Street to the north and Mickle Street to the south, and will be intersected by a future Industrial Highway running north-south.

There will be four major elements to the "City Centre Urban Renewal Area," as it is officially known, running from the redeveloped waterfront at the western edge to a new department store at the east. They will be: (1) *The harbor.* Three luxury apartment high-rises, two on pilings in the river, forming a small harbor and incorporating parking and shops, restaurants, and a pedestrian plaza (the architect points out that these three towers will be directly across the river from Pei's three Society Hill towers in Philadelphia). (2) *The raised residential mall.* Middle-income apartments and townhouses combined on either side of a public pedestrianway built on the old railroad embankment. (3) *The shopping plaza.* A two-level shopping mall and two parking garages will be built by the city and private businesses will fill in with stores along the mall (a central plaza for the commercial section will be located on the mall at the juncture with Broadway, and will face Camden's City Hall). (4) *South residential area.* A section of low- and middle-income apartments planned around a pedestrian street south of Mickle Street. There are also provisions in the plan for a Federal office building at the northeast corner of the site, a riverside recreation area just south of the luxury apartment towers, and, presumably something Camden still cannot leave out, 70,000 sq ft of industrial warehousing at the southwest corner.

Vreeland says that the underlying principle of the plan is the mile-long, 500-ft-wide spine between Federal and Mickle, which "has been designed to keep the central strip continuously reserved for pedestrians . . . at a higher level and with bridging across the streets; cars gaining access from the parallel peripheral streets. North-south pedestrian movement is eased wherever possible by pedestrian crossways over bordering streets."

The main objective of the plan is to create a mixture of uses and activities. Tenants of the luxury apartments on the riverfront, the dwellings on the residential mall, and the south residential area will presumably be drawn to the shops and businesses of the mall at the eastern end, and, conversely, workers and residents will be lured to the cafés and recreational facilities of the riverfront on the west.



As an isolated entity, this plan is generally a convincing one, particularly in its mixture of uses and the separation of ways and means of locomotion. It shares, however, the drawback of most such plans for center cities, at least on paper, of uncertain relationships to the surrounding community. This might be called the "edge-condition syndrome," in which a plan might either be too amorphous in its relations to its next-door conditions, treating them in an uncertain or unresolved manner, or it might take *too* definite a form itself, resulting in a hard-edged and unyielding pattern of development. The Camden plan seems to this observer to be in danger of the latter condition. Admittedly, the river and the proposed North-South Freeway imposed mandatory edge conditions on the west and east, but it appears that more integration with the existing community (or possible contiguous renewal plans) would be desirable for the long north and south flanks of the Vreeland scheme. — JTB

# GOOD AS GOLD

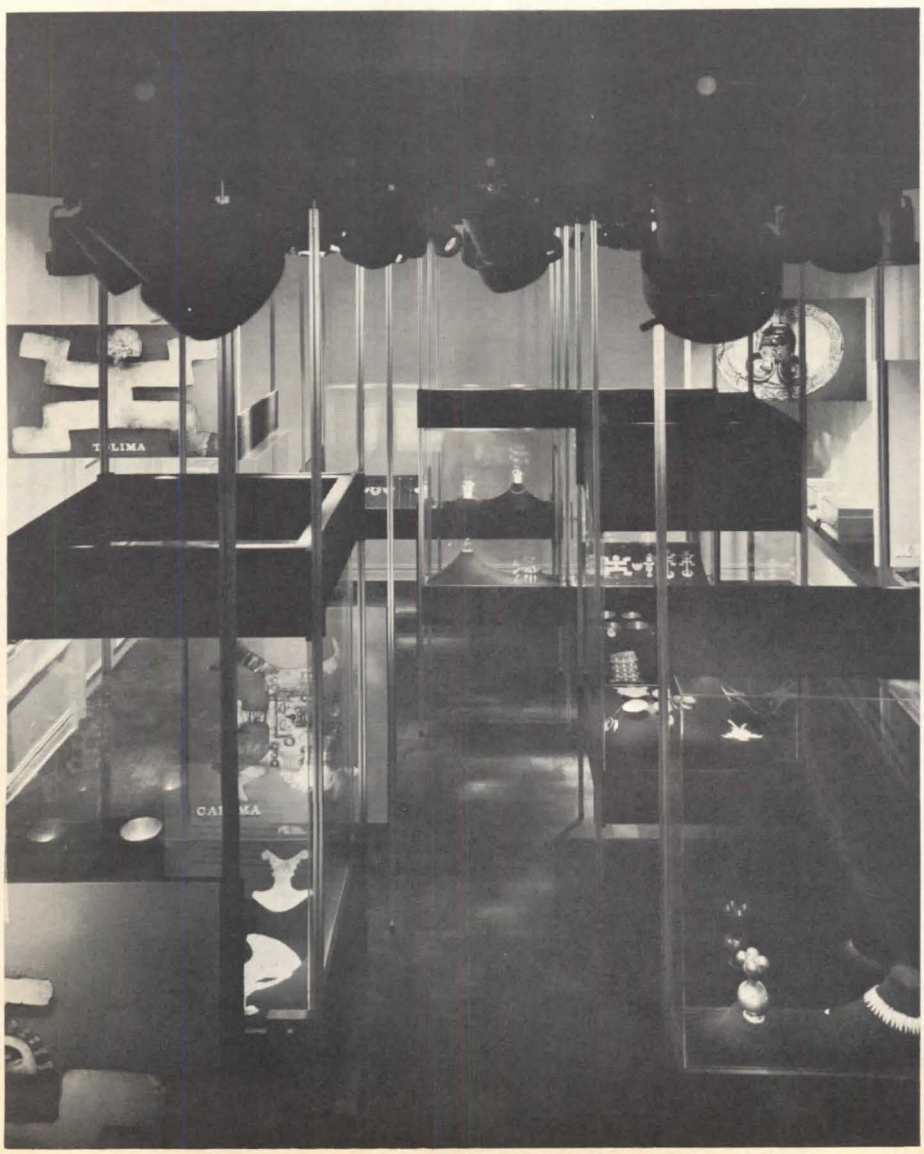
One of the richest exhibitions in New York City right now is also one of the tiniest. It is called "The Treasures of El Dorado," and is an exhibition of Colombia's Pre-Hispanic gold art. These small, incredibly beautiful objects — pectorals, masks, nose ornaments, pins, containers, figurines — are housed in an extremely sympathetic exhibition system and are the inaugural show of The Colombian Center, headquarters of Colombia's governmental agencies in New York. Housed in a building on East 57th Street that formerly was Huntington Hartford's neo-Georgian command post (dating from c. 1960), the center contains, in addition to the exhibition hall and a coffee-tasting lobby, the Colombia Mission to the United Nations, the Ambassador's office, the National Federation of Coffee Growers, and the Tourist Bureau.

Architect Paul Lester Wiener (with Richard Bender as associate, Ala Damaz as interior designer, and Roland Dick as job captain for exhibition work) replaced the old-fashioned ground floor façade with rich bronze-framed light boxes, bronze plant boxes, and bronze-tinted glass. Especially designed clay floor tiles from Colombia and a large dark wood coffee bar continue the scheme of warm hues into the lobby and reception area.

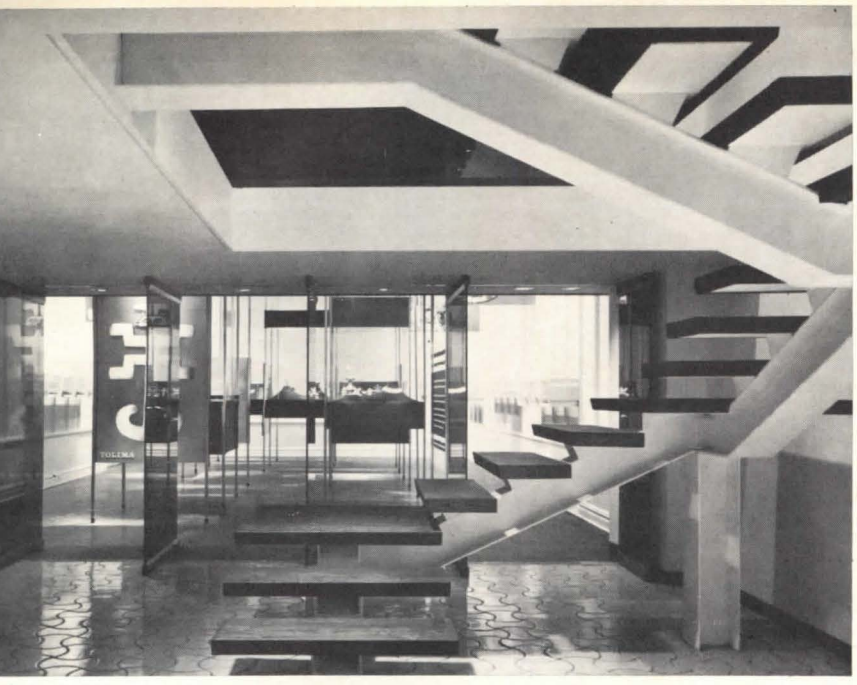
Of particular note is the flexible exhibition hall at the rear of the ground floor, created by raising the ceiling to 15 ft. Wiener says that the exhibit system had to be adaptable enough to show objects ranging from the tiny gold pieces now on display up to contemporary industrial products. The next exhibition will probably be of ancient and modern Colombian fabrics and textiles.

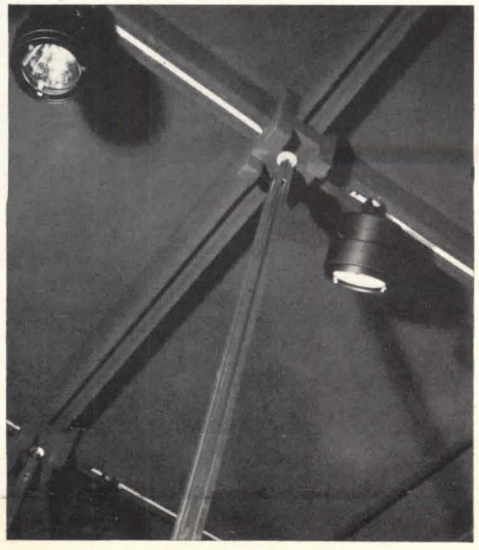
The system uses a basic 4-ft grid, the wood structure that holds the ceiling light tracks forming a support for the poles, which in turn support the display cases. The poles are "Omnipoles," resting on the floor and being spring-loaded at the top for easy removal and relocation. Boxes, brackets, and panels can be located on the poles at any point vertically. Wall strips for display panels and cases are on a 2-ft grid, with every other strip lined up with the pole system. Supporting brackets slip into these strips and are secured by bronze pins. For security reasons, cases can be opened only by a special tool. Tops of all cases are clear plastic to permit spotlighting of items.

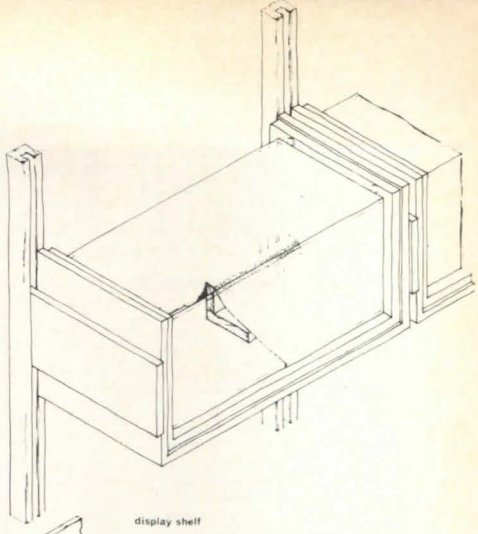
The flexible lighting system consists of three kinds of spotlights integrated into the ceiling tracks and throwing beams of 1 to 2 ft. The spots can be moved along the tracks as needs require. Another group of lights in ceiling coves, controlled by dimmers, creates a more general lighting ambience. Air conditioning is also integrated into the ceiling system. The architect says that "the nature of the installation allows for the removal of all exhibit structures so the room can become an auditorium for 150 people with full audio-visual installation on the mezzanine."



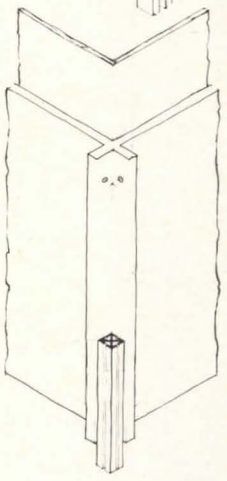
Photos: Ezra Stoller

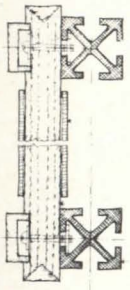


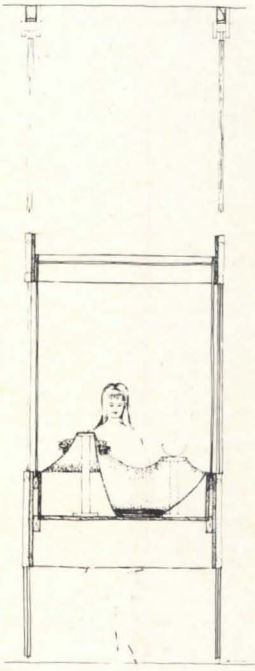


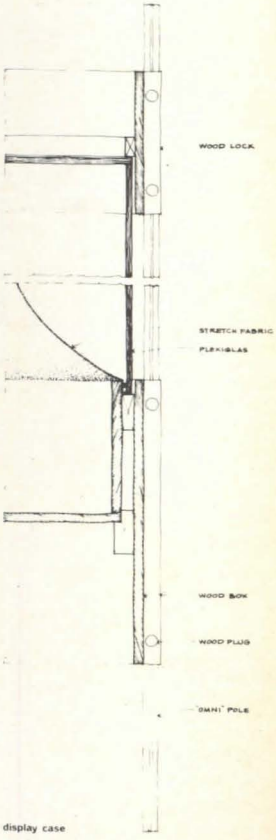
display shelf



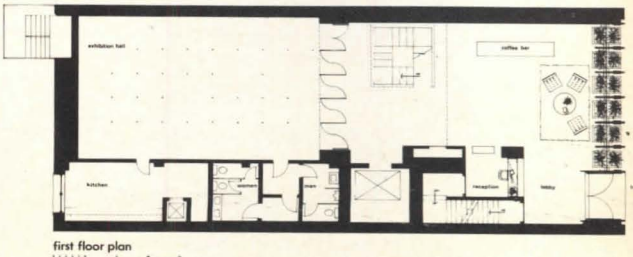



display panel



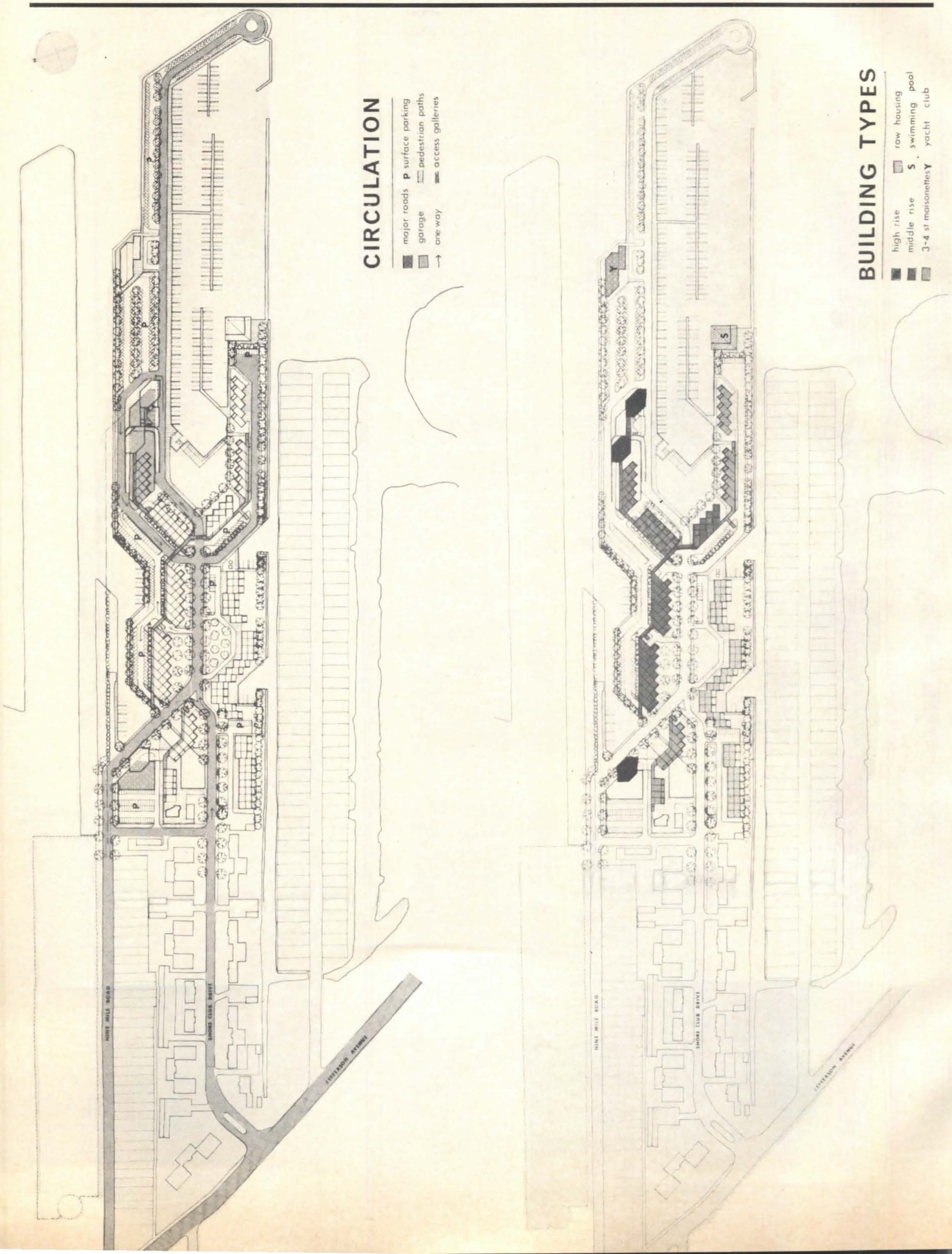



display case




first floor plan

# MIXED MEDIA (PLUS CARS) ON LAKE ST. CLAIR

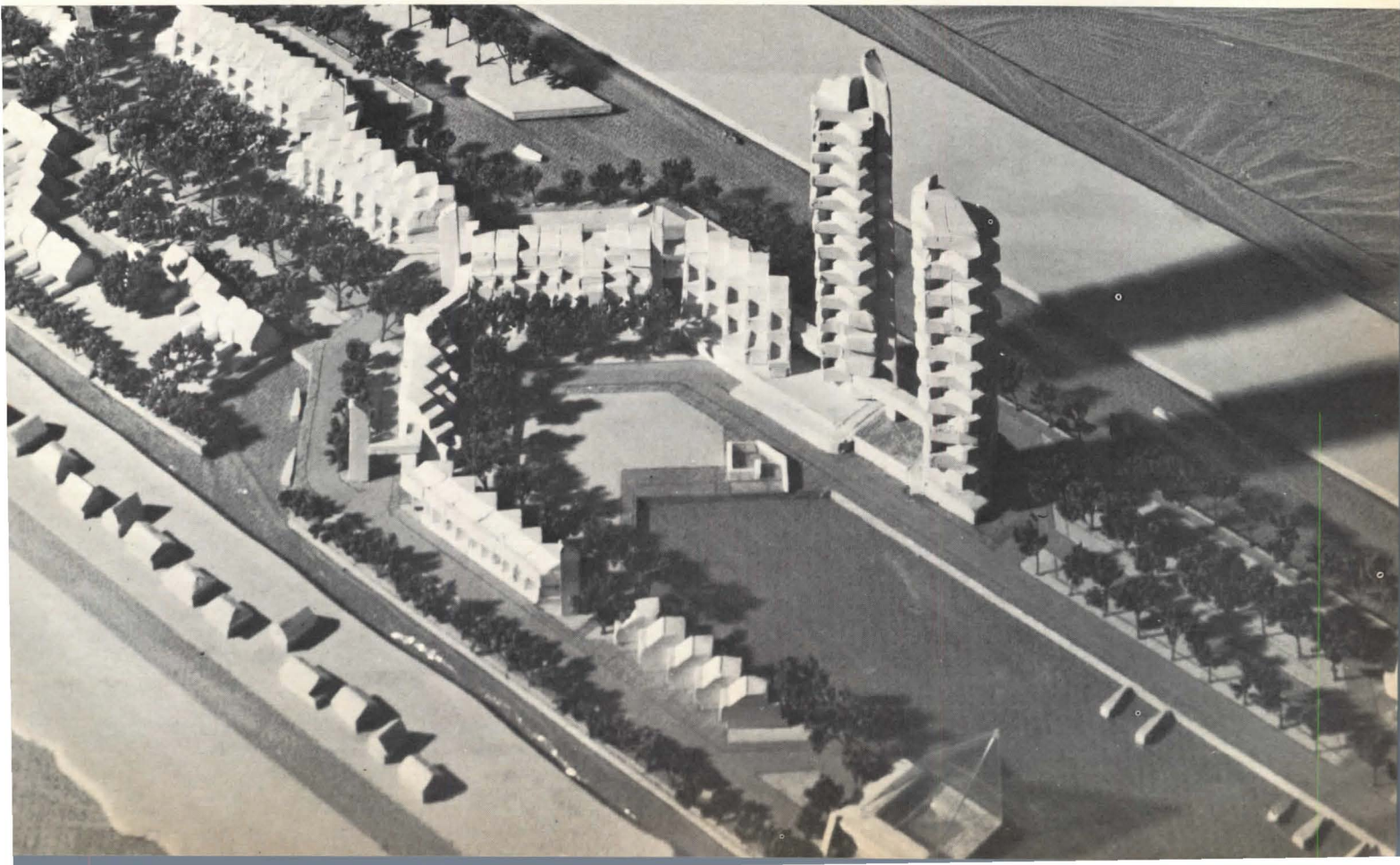


A proposal for New England Life Insurance Company by the Cambridge, Mass., firms of Homer & Rogers and Ashley & Myer may bring a new feature to the Gold Coastline of Lake St. Clair, just north of Detroit's moneyed suburb of Grosse Pointe. This is The Shore Club, a peninsular development on filled land featuring residential structures of mixed varieties; high-rise apartments, medium-rise apartments of four-to-eight floors (dubbed "duplex terrace apartments" to overcome local buyer resistance to this type), low-rise duplexes, and row houses. At the ends of the two prongs of the peninsula that embrace a yacht basin (the development evidently will not boast a wide range of income groups) will be an enclosed swimming pool and a yacht club. The architects, after a number of preliminary model studies, used the peninsular form and the water views as shapers of the plan. At the north (*see site plan*), medium-rise apartments will overlook a narrow channel and a new park, past parking areas dotted with trees. To the west, where there is no view save into an existing development, duplexes and row houses will be arranged around an older large house and a swimming pool, into which a fountain will be introduced. One of the three high-rise towers will serve as visual accent mark at the northwest corner of the site. At the southern border, row houses will be clustered around small green areas and boat dockages; they will be across the channel from, but not glaring directly at, an older subdivision. At the east, where the Y of the peninsula opens to greet the lake, will be the largest number of units and the most important open space in the development. High-rise, medium-rise, and three-to-four story townhouses will border the head of the yacht harbor and a large landscaped green area.

Circulation on the Shore Club peninsula is via a main spine road feeding in from two roads at the entrance to the development. This road loops around the two towers at the east of the site and returns on itself in a two-way pattern. Secondary loop streets service ancillary areas, buildings, and parking sites. Parking is 1:1 under or within buildings and 1:1 uncovered. In addition, there is provision for 180 cars, uncovered, for yacht club and harbor use.

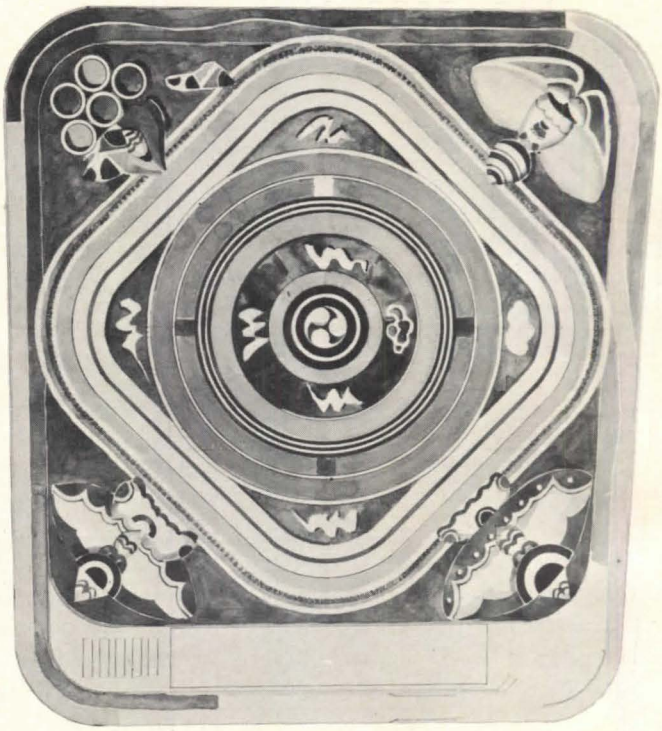
Much of the Shore Club plan seems likeable from these illustrations. There is a pleasant village-street aspect about the interior vehicular circulation and the frequent open spaces. As noted, the architects paid close attention to arranging the structures to the best water views, and with good effect. The mixture of different forms and kinds of housing appears convincing from perspective views and also from the graphics of the plan. What is most disturbing, to this observer, at least, is the dedication of so much open land, most of it at water's edge, to parking. This sort of thing might go down well in the Detroit area, but surely some sort of covered solution could — and should — be explored. Particularly offensive in this respect is the use of the crescent of land that sweeps out past the two high-rise buildings for nothing but cars, with the exception of the yacht club. This would seem potentially one of the ideal places for open space and/or active recreational development to tie in with the drama of the lake and the yacht basin. That chance seems to have been missed here, but it is by no means too late to rectify. — JTB

Photo: George Zimberg



# POOLING HIS TALENTS

Q. How does an abstract design like this . . .



. . . become a swarming, 30,000-people capacity swimming pool like this?

By being created by an artist interested in the use of "ready-made" materials and impatient with the preciosity and self-indulgence of much studio work.

The artist, Yukihisa Isobe, has been described by the magazine *Japan Interior Design* as "an artist of the period of printing culture" because of his metamorphosis of labels, advertising material, and similar contemporary artifacts into screens, cabinets, and wall constructions. (One was presented in the JULY 1966 P/A, p. 151, and another was recently on view at the Museum of Modern Art in its show, "The New Japanese Painting and Sculpture.")

Currently in the United States "to find out everything I can about new materials and different ways to use them, and, of course, to get some work, I hope," Isobe explained that the use of some traditional allusions in the design of the huge Yokohama Pool Center (butterfly pavilions, stepping stones, bridges, colored, circular shapes) came naturally in Japan. "In this country," he says, "people have wanted me to do 'Japanese' designs, which I do not wish to do. I want to work in discovering American popular materials."

In his architectural work, which has included such smaller commissions as a key-club bar in Tokyo, lobby designs, and walls and murals for private residences, Isobe finds much more satisfaction than in what he terms "gallery work." In the latter, he says, everything depends on the artist's own temperament and sensitivity and can become private, finicking, and "interior." Architectural work, he feels, becomes a more public and outgoing art, dealing with "ready-made" materials, subject to money problems, and trying to create part of an atmosphere for the immediate use of many people who would never experience his "gallery work."

The Yokohama Pool Center, which seems a good start in this direction, uses multicolored enamel-on-steel plates for poolside cabanas, shelters, and snack stands, concrete structures for dressing rooms, fountains, bridges, and play sculpture, and strong emphasis on color and sculptural form to give a sense of playfulness to an enormous (660′ x 580′) public recreation facility.

Photos: Isobe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IT'S THE LAW

# CLAIMS AGAINST OWNER FOR EXTRAS

BY BERNARD TOMSON AND NORMAN COPLAN

*P/A's legal team discusses the course of litigation in a case in which a plumbing contractor sued the owner, the City of New York, for extras.*

Contractors' claims against an owner for compensation for "extras" or for damages are a recurrent source of litigation. Although the construction contract may provide an explicit method for the contractor to follow in securing authorization for extra compensation, acts of the owner may be deemed a waiver of the contract requirements. In one New York case, the jury awarded a contractor $24,000 for extras — even though the extras had not been authorized as provided under the construction contract — and an additional $120,000 as damages for delay. On appeal to the Appellate Division of the Supreme Court, this award was reversed on the ground that, as a matter of law, there could be no waiver by a municipality of the procedure under which extras were to be authorized (see IT'S THE LAW, AUGUST 1963 P/A). However, on further appeal, the highest court of New York reversed the Appellate Division, ruling that the jury could find a waiver of the contract requirements if supported by the facts (*Joseph F. Egan, Inc.* v. *City of New York*, 17 N.Y. 2d 90, 1966).

In the *Egan* case, the plaintiff was a plumbing contractor for the construction of a hospital in the City of New York. The plumbing contract required that, if the contractor determined "that any order of the engineer calls for work not provided in the contract, he must, before complying with such order, or proceeding with the work, notify the Commissioner of Public Works and request a final determination." It was further stated in the contract that, if such application was not made, any claim for extra compensation was waived. As a consequence of changes made in the plans for the purpose of providing coordination among the work of various contractors, the plumbing contractor was directed by the owner's engineer to retain an engineer to furnish certain services of coordination. The extra claimed by the contractor represented the salary of the engineer whom he had employed for this purpose. The plumbing contractor, however, had made no request in writing to the Commissioner of Public Works for authorization of the "extra."

The contractor asserted that the requirement of the contract had been waived by the owner, in that 82 change orders had been issued and payment made upon them without the necessity of an application to the Commissioner of Public Works, that the owner's engineer had advised the contractor that the matter of extra compensation would be determined in the future, and that the salary of the engineer employed by the contractor appeared upon the daily reports submitted by the contractor on the job. The Appellate Division of the Supreme Court of New York ruled that these facts did not constitute a waiver. However, the Court of Appeals came to the opposite conclusion, stating:

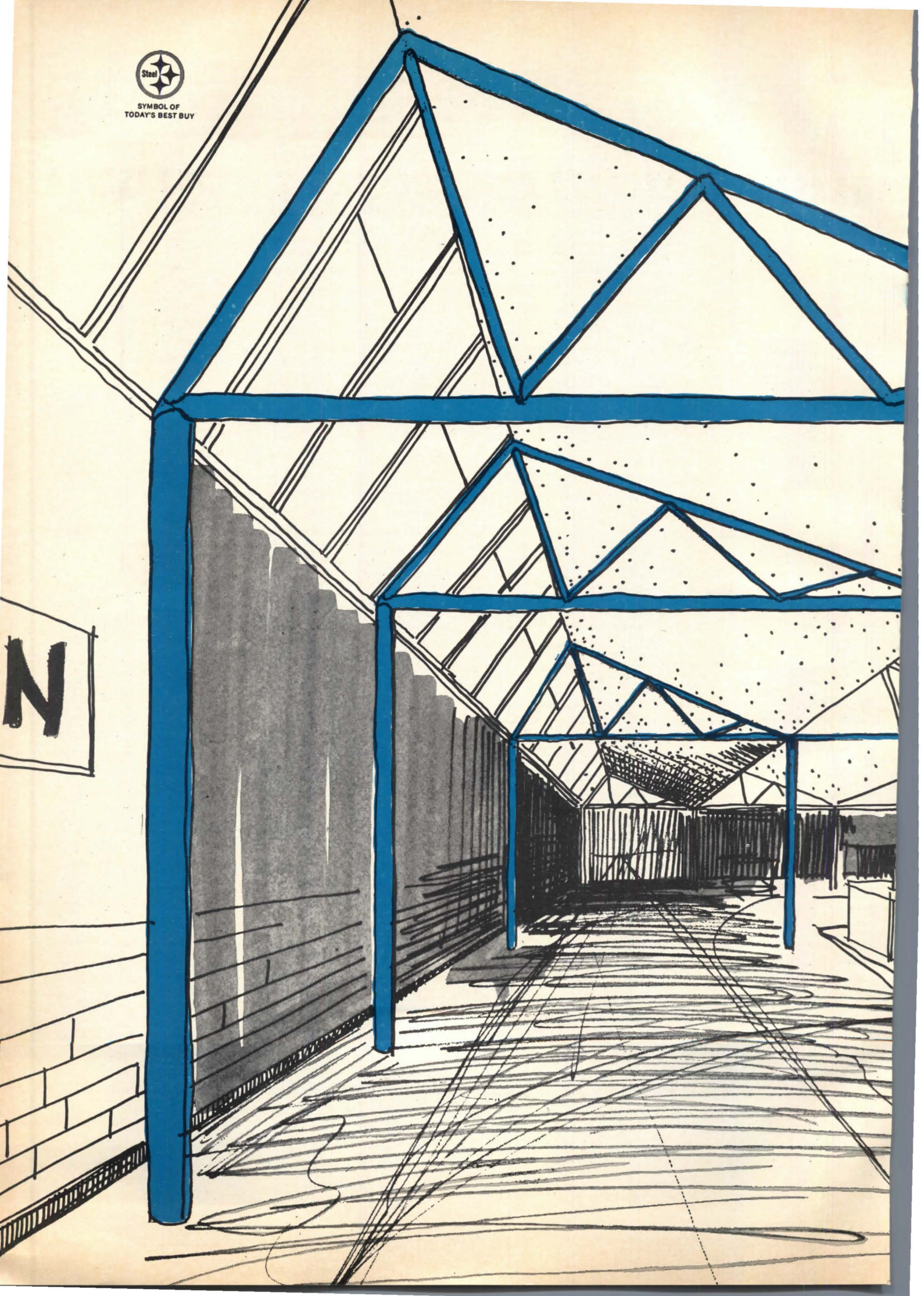
**"Thus it is clear that the plaintiff proceeded to do what it considered extra work without complying with the contract.**

**"Conceding this failure, the question nonetheless remains whether the defendant's conduct precludes it from interposing the contract to bar a recovery. The Appellate Division majority held that notwithstanding the jury's verdict recovery was barred as a matter of law. We disagree. In our opinion, enough evidence was produced to make the questions of waiver and estoppel fair questions of fact for the jury. No rule of law precludes such a waiver. . . .**

**"The evidence tends to show that, while the plaintiff's bid for the work was accepted in 1952, the work was not substantially completed until 1956 nor finally completed until 1958. In October of 1958, notices of claims in the amount of $254,558 were filed with the comptroller which included the claims presently in suit. In all, the plaintiff presented 91 claims for extra compensation which accrued in substantially the same manner as the engineering claim, viz.: upon the instructions of the resident engineer. Of these, all but nine were taken in due course and settled by the commissioner or by the engineers in charge through the issuance of subsequent formal change orders. Of the remaining nine, all but the two now before us have been settled.**

**"In short, the defendant conceded or settled each claim upon its merits as an extra, without requiring strict compliance with the 'protest' provisions of the agreement and, upon being unable to settle or unwilling to concede the propriety of the engineering services, it chose to fall back upon the requirements of the contract. Thus, while we agree with the Appellate Division's view that defendant's payment of the other claims could not and did not lull plaintiff into a feeling of security because they occurred long after the extra work was completed, we think they are nonetheless significant insofar as they indicate the intent of the parties to follow a procedure other than that provided by the written agreement. . . . We think that the questions of waiver and estoppel were properly submitted to the jury."**

The determination of the Appellate Division of the New York Supreme Court vacating the jury award of damages to the contractor for delay was affirmed by the Court of Appeals. It had been contended by the owner that the contractor had waived any claim for damages for delay when he applied for and obtained a substantial completion payment. The contractor argued that such waiver was under duress and resulted from financial distress arising from his need for the payment and because of his fear of reprisals in respect to other contracts he had with the City. Although the Commissioner demanded a waiver of claim before making the substantial completion payment, this failed to establish "duress." The Court pointed out that the owner was in no way responsible for the contractor's financial condition and the granting of a substantial completion payment rested solely on the discretion of the Commissioner.


Steel
SYMBOL OF
TODAY'S BEST BUY
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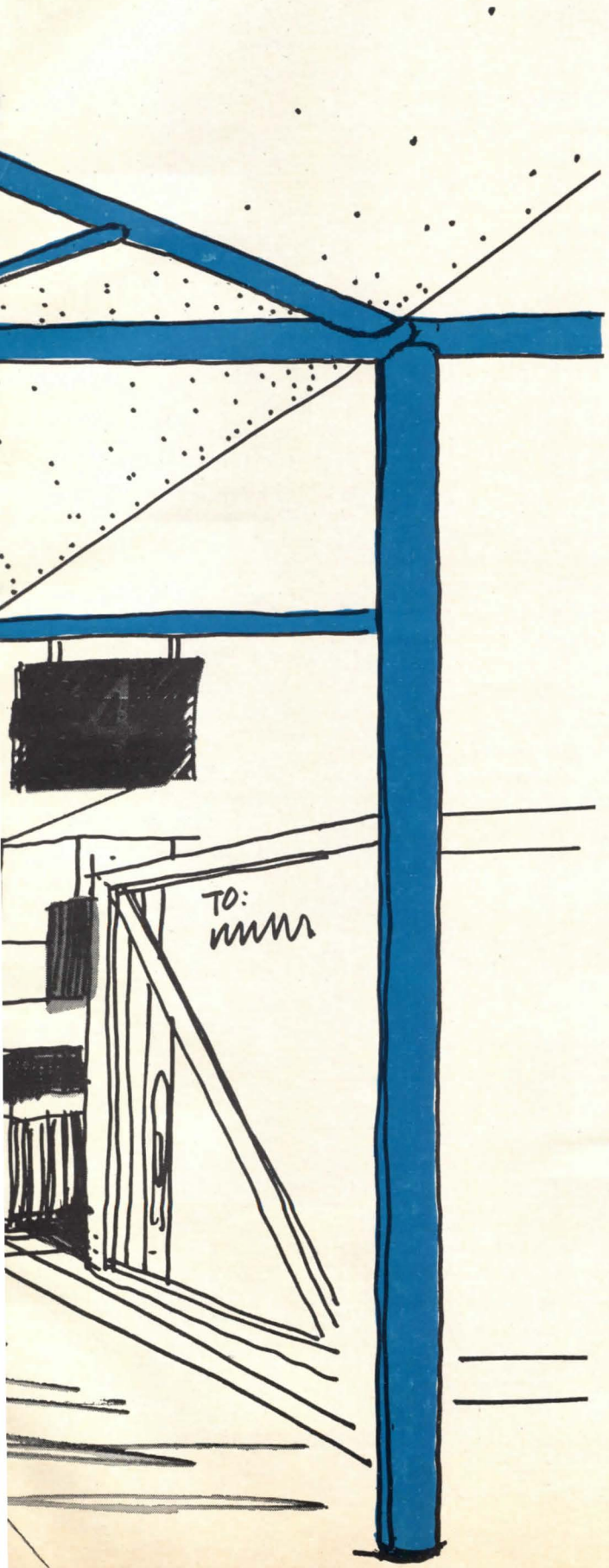

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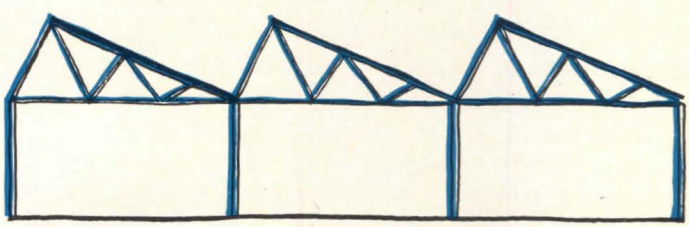

**Clear repetitive expression of structure.** A-36 pipe columns are 8″ OD, with 4″ chords and 2″ intermediate trusses in the roof bents. Spacing between bents is 20 to 30 feet. Span is up to 60 feet. Braced bays provide stability.

Architectural concept: Outcalt-Guenther-Rode and Bonebrake
Engineering consultants: Barber & Hoffman

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SPECIFICATIONS CLINIC

# UNIFORM DOCUMENTS

BY HAROLD J. ROSEN

*Accounting, filing, and specifying procedures and documents are standardized by AIA, CSI, and the AGC. Rosen is Chief Specifications Writer for Skidmore, Owings & Merrill, New York, N.Y.*

The "Uniform System for Construction Specification, Data Filing and Cost Accounting, Title One-Buildings," promulgated last October by the AIA, the Associated General Contractors of America, the Construction Specifications Institute, and several other organizations, consists of three major parts: a specifications section outline, a standardized system for filing manufacturers' literature, and a construction cost-accounting guide.

This publication completes a cycle started in July 1957, when this column recommended the adoption of a universal system of section titles for specifications. The column also recommended that such a system should have the corollary benefits of filing manufacturers' literature, cost estimating, filing shop drawings, and filing correspondence. In 1963, the CSI Format for Construction Specifications created the first step in this direction when it established 16 basic specifications divisions with recommendations for certain specifications sections and subjects under each division.

## Specifications Outline

The Specifications Outline consists of the basic 16 divisions of the earlier CSI Format. Under each major division, the Uniform System assigns standardized section titles in a recommended sequence.

The Specifications Outline introduces two categories of section titles, the broadscope title and the narrowscope title. This arrangement recognizes that, since a specifications section is essentially a unit of work, it may be very broad for one project and may have to encompass many small items; or it may be very narrow in scope for another project and cover in detail a large volume of identical work.

This permits the specifier the same flexibility he always enjoyed before the publication of the CSI Format and the Uniform System.

Division 2, for example, contains a broadscope section entitled Clearing of Site. This section is divided into three narrowscope sections: Demolition, Structures Moving, and Clearing and Grubbing. If the project were on a small site consisting of a toolshed to be moved, a henhouse to be demolished, and several trees to be cut down, the specifier would determine that this work could very well be written under one broadscope section entitled Clearing of Site. He would then describe, under appropriate paragraphs, each of the items of work to be accomplished.

If the project were on a large site, consisting of acres of trees and shrubs to be cleared and one major structure to be demolished, the specifier would write two narrowscope sections. In one, entitled Demolition, he would describe in detail the demolition of the existing major structure, and in another section, entitled Clearing and Grubbing, he would describe the removal of existing acres of trees and shrubs.

In any event, each section title, whether broadscope or narrowscope, has all the elements necessary for its stature as an independent section. The determination as to whether the unit of work, and subsequently the content of the section, is to be broad or narrow is determined by the needs of the specific project and the prerogative of the specifier.

The Uniform System also permits the specifier, for his own use and convenience, to assign a permanent number to all section titles in the system. Or, he may prefer to assign a number to the section title only when it is used in a project specification.

If the former method is used, there may be gaps in the section numbers appearing in the table of contents, but these can be clarified by an appropriate note. If the latter method is used, the section numbers appearing in the table of contents will obviously be arranged in numerical sequence.

## Filing System

The Uniform System enables manufacturers' product literature and related material to be filed numerically under one of the 16 divisions. Each division is composed of certain generic subdivisions, corresponding generally with the section title appearing under the Specifications Outline. The methods outlined under the Uniform System for the preclassification of product literature, identification symbols to be used, location of identifying symbols on the literature, and the use of the filing system are completely illustrated in the Uniform System.

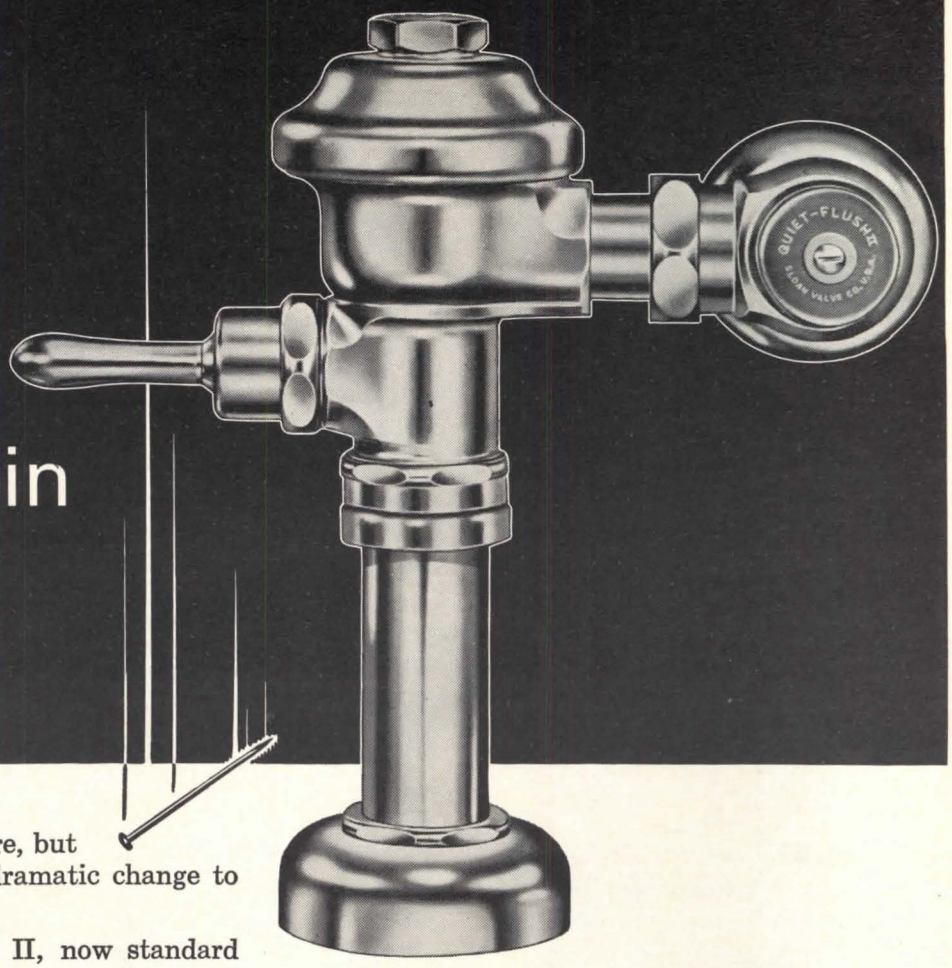
## Cost-Accounting Guide

The Uniform System cost-accounting guide is an orderly arrangement of the items of work required by a contractor during the course of construction. The cost-accounting titles are, with few exceptions, identical with the section titles used in the Specifications Outline. In addition, a fixed number has been assigned to each division and section that makes its format readily applicable to computer-processing techniques.

An index of key words at the end of the Uniform System is arranged alphabetically to enable the user to use this valuable standard for any one of his several needs.

Copies of the Uniform System are available from the national headquarters of the AIA or the Construction Specifications Institute in Washington, D.C., at a cost of $5 for members and $6.50 for nonmembers.

# *NOW...* so QUIET you can hear a pin drop




A figure of speech, to be sure, but one which points up this dramatic change to quietness.

Sloan's new Quiet-Flush II, now standard equipment on all ROYAL, NAVAL and CROWN Flush Valves, offers the ultimate in *Quiet* flush valve operation—yes, flush valve quietness you can depend on. These Sloan Flush Valves are ideal for Apartments, Hospitals, Hotels, Motels, private office toilet rooms, or for any installation where quietness is essential.

A major development of Sloan research and engineering, Quiet-Flush II is scientifically designed to quiet the high velocity flow of water due to excessive pressure in the lines (between 50 and 100 P.S.I.). In Sloan Flush Valves special means are employed to guide or interrupt the water so as to cushion and quiet its free flow.

*Quiet-Flush II* is applied at two points where water is restricted to control operation of the flush valve—(1) the control stop and (2) the flush valve main seat. Permanently efficient without screening the water, new Quiet-Flush II equipment not only maintains quiet flush valve action, but when used in conjunction with closet bowls specifically designed for quiet operation the ideal result is obtained—total maximum quietness.

Quiet-Flush II is only one of many innovations designed to further improve the quality, dependability, ease of installation, and smart appearance of Sloan Flush Valves. So, for the Flush Valve of Tomorrow—Today—be sure to specify and insist on Sloan.

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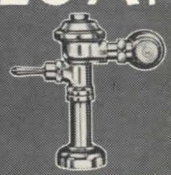
SLOAN



FLUSH VALVES



On Readers' Service Card, Circle No. 361

MECHANICAL ENGINEERING CRITIQUE

# PUMPS CHALLENGE ROOF TANKS

BY WM. J. McGUINNESS

*Sensitive pumps can maintain water pressure in tall buildings without rooftop water tanks. McGuinness is a practicing engineer in New York City.*

Roofscapes are changing, and the familiar rooftop water tank is no longer seen on too many new buildings. The decline of the water tank started about seven years ago, when Skidmore, Owings & Merrill omitted a roof tank from the General Mills Building in Minneapolis.

Instead of feeding water by gravity from the roof **(3)**, the designers called for pumps to deliver water directly into the piping system. The pumps for this operation have to be extremely sensitive so that they can deliver water at varying rates and stop when demand ceases and pressure is restored.

In the Minneapolis installation, the engineers used a small, closed tank to provide an air cushion for smoothing out minor delivery variations that could cause shock. However, the cushioning tank has been eliminated from later installations.

## Constant Pressure Pumping

The pumping system, called constant pressure pumping, is sometimes applied to tall buildings **(1)**. It was developed from industrial applications, where multiple pump units maintain a fixed pressure in closed piping systems. Engineers now recommend the system for tall buildings, and large, isolated, rural groups of low buildings.

The pump group can deliver water at any required rate within its range, and maintain at any location a pressure within 2 psi of design pressure.

The constant pressure pumping system has many advantages. It eliminates the cost of a conventional house tank, and eliminates supporting the load that must be transferred from the roof down to the foundations; it eliminates the cost of cleaning a water tank; and it removes the unsanitary condition often found in open tanks that are poorly maintained.

## How It Works

The pumping system usually requires three pumps: one small jockey pump, and two large pumps. All are variable-speed, squirrel-cage pumps connected to a control panel actuated by a sensor installed on a building riser.

When one or two plumbing fixtures are used, the demand activates the sensor, which impresses a low voltage on the small jockey pump. This pump delivers water at a low rate, and continues after the fixtures shut off until pressure to the system has been restored.

When many opened fixtures create a larger demand, the two larger pumps operate as a duplex system. Each pump serves as lead pump for a 24-hr period. The pumps automatically alternate as lead pumps, so that wear is equalized between them. Because varying voltages can be impressed on all three pumps, the system effectively adapts itself to the quickly changing water demands.

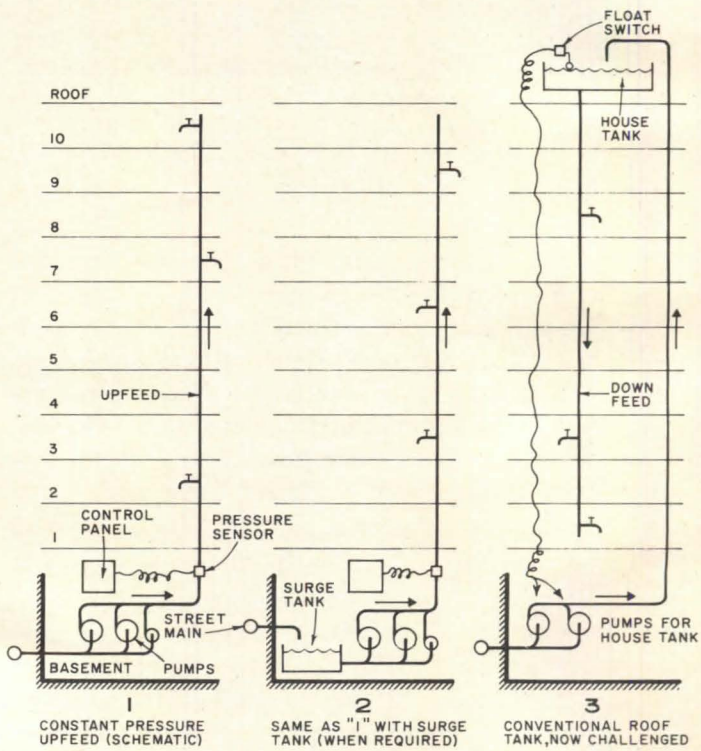
## Some Buildings Need Surge Tanks

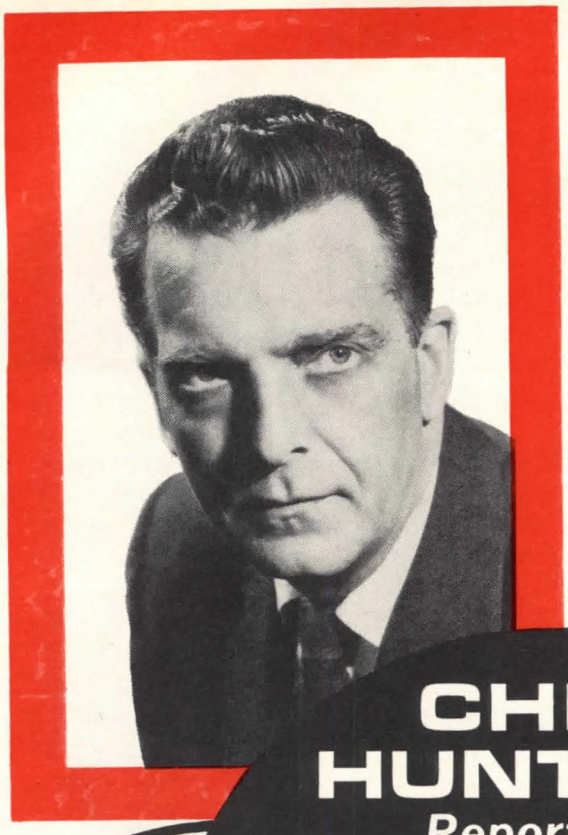
Some building codes do not permit the installation of constant pressure pumping systems. The present New York City code does not approve this method, but the proposed new code makes allowance for it. If passed, the City will have made a wise decision in providing for buildings with high demand.

The proposed code recommends that a surge tank **(2)** be provided in the few tall buildings with a pumping rate greater than 400 gpm. This will allow the pumps to feed from the tank in peak demand periods, instead of reducing the pressure in the street mains, to the detriment of adjacent buildings.

In addition to feeding plumbing fixtures, the constant pressure pumps can service fire standpipes and sprinkler systems. But in areas where electric utility outages are common, fire protection authorities may require stand-by power to assume performance in a dual emergency of power failure and fire.

Information about pump performance was supplied by the Crane Co., Chicago, from its bulletin CP 1000.





## PRODUCTION

This brand new film shows the modern manufacturing of cast iron soil pipe and fittings. New methods and controls that improve quality to space-age requirements. Continuing research that keeps a centuries-old industry new as tomorrow.

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## ACCEPTANCE

A leading plumbing inspection authority verifies the acceptance of modern cast iron joining systems, and the film shows a wide variety of installations ranging from residential one-story construction to high-rise structures.

# CHET HUNTLEY

*Reports on cast iron soil pipe*

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On Readers' Service Card, Circle No. 327

# THE MAN FROM MASCOM

BY JOHN McHALE

UNDERSTANDING MEDIA: THE EXTENSIONS OF MAN. *Marshall McLuhan. McGraw Hill Book Co., 330 West 42 St., New York, N.Y., 1966. 364 pp., $1.95 (paper); 1964, hardcover edition, $7.50. The reviewer has had a varied career as artist and designer, has written extensively on mass communications, and is currently associated with Buckminster Fuller in conducting research on world resources, human trends and needs at Southern Illinois University.*

When someone manages to upset the intellectuals on the Right, on the New (and old) Left, and the eternally emergent Center, it is a considerable achievement. Marshall McLuhan has been called both "double agent" and "cool totalitarian"; the reaction of the most recent congress of P.E.N. [the international writers association] to a talk by McLuhan was a mixture of "skepticism and fear." In delightfully paradoxical fashion, more space has been given to misunderstanding McLuhan, as a charismatic medium, than to understanding his *Understanding Media.* The medium has been demonstrably both message and oracular messenger. But what has caused the critical alarums and excursions? The writing, by now electronic, has been on the wall for some time and our local soothsayers have, presumably, been looking elsewhere.

McLuhan's primary tenet, which he has carefully elaborated since his first book in 1951 *(The Mechanical Bride)*, is that the *form* of communication radically alters what is communicated; and, conversely, that the receiving apparatus, which screens such communication, also alters what is perceived.

Within this system, "reality" is a construct, made up of what we "see" and how we "interpret" what we see. Both aspects of the process are conditioned by the "agreed reality" with which we have been enculturated. The communicating medium — of senses, mind, and referential ideas — also provides the bulk of the message. To cite the usual example, our everyday linguistic communication is conducted through a medium of highly selective and affective symbols — which is also, intrinsically, "the message." As Hugh D. Duncan notes in *Georg Simmel:* "We do not have meanings and then share them. On the contrary, as we communicate we create meanings." And as McLuhan states it: "[We] more and more turn from the content of messages to study total effect. Concern with *effect* rather than *meaning* is [the] basic change ... for effect involves the total situation, and not a single level of information movement."

This concept is hardly a new one, but its impact and critical understanding has been long in cumulative process. McLuhan is the latest protagonist in one specific focus of the discussion on the nature of reality and its relation to sensory experience. The developmental ideas might be most recently traced from Descartes through Hume, Berkeley, and Kant, with various modern branches to Sartre, to Wittengstein, to the empirical linguistics of Whorf-Sapir, and, particularly, to the work in psychological optics of Adelbert Ames, Jr. The main import of Einstein, after all, was also about the distortion of data-messages through the relative and selective positions of their receiver-observers and the measuring media used. McLuhan's own mentor, Harold Innis, carefully documented the growth and stability of historical empires in relation to their means of communication.

The key relevance of McLuhan's work is that he expands the discussion beyond its traditional bounds: one, to consider not only language, or visual communication, etc., as separate channels, but as part of the interacting spectrum of all the sensory modes involved in man's relation to his environ; two, how these modes are amplified or transformed by the development of specific technologies that extend the range of human organism; three, to describe how these technological — or media — extensions tend to become autonomous: develop as forms in themselves, to become the message. Also, and importantly, he does not limit his consideration to either side of the supposed "two cultures" barrier, but manages to re-present the discussion as a whole. Science and art are viewed merely as alternative, but not exclusive, ways of understanding, communicating, and manipulating the environ. Each has its particular "form" and media characteristics. No inherently superior, or more rational, value is accorded to either mode. They are both seen as ultimately dependent on the sensory nature of perceptual experience and its transformation through various media: "The artist is the man in any field, scientific or humanistic, who grasps the implications of his actions and of new knowledge in his own time. He is the man of integral awareness."

Awareness of the degree of transformation of perceptual experience is the key idea here. McLuhan emphasizes, as many others have, the unprecedented nature of the successive technological revolutions that have transformed the human condition in our period. We have no historical guidelines to evaluate this altered condition. Almost all of the traditionally binding rules governing man's relation to his environ have been changed.

Most analysts of these changes, however, tend to confine the effects of change within their own field view; they often implicitly assume some traditional stability exists in areas outside their concern. The economist will discuss economic and technical changes as if the social matrix remains unaffected; the social analyst will be insightful about change in various social institutions but regard "art" and "cultural" forms as seemingly impervious to basic changes in their function; the planner often appears to assume radical changes in physical facilities with social institutions continuing in their traditional forms. McLuhan goes further than most of the "authorities" on change in actually accepting the integral

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nature of our present transformation, in explaining that it not only affects the technological, the economic, or the organizational forms, but poses fundamental questions about all aspects of human society — its cultural and implicit "value" bases as well as its physically manifest and visible aspects.

In the work under review, he deals particularly with the mass-communications media. Again, it is interesting to note that those most disturbed by this aspect of his work are seemingly unaware of the influence of his ideas in the early development of the "Pop Art" movement. *The Mechanical Bride* (1951), with its Duchamp-derived title, was one of the first primers on how to "read" the Pop environment — when most of the academics had not quite caught up with abstract expressionism. In differentiating between the mechanical and electronic technologies, McLuhan expresses the effects of the latter as "extending the human nervous system to global extent." In so doing, he underlines how the mechanical extensions enhance our physical mobility, extending our legs to wheels, autos, and airplanes; our hands to machines, which evolve into factories and assembly lines, etc. The electronic extensions directly enlarge our *psychic* mobility: through telephone, TV, computer and satellite circuitry, we are now linked together in a manner that is unprecedented in human history. "Electric media . . . abolish the spatial dimension. By electricity, we everywhere resume person-to-person relations as if on the smallest village scale." The world media networks diffuse and interpenetrate all local cultural traditions, bringing commonly shared experiences to our awareness with an immediacy that was not possible in the linear and sequential manner of the printed book and other traditional modes of communication. In so doing, these new media create their own forms, which are no longer accessible to earlier aesthetic canons. They tend also to restructure our sensory, and, particularly, our spatial experience in various ways. McLuhan expresses this in a manner specifically applicable to architecture when he refers to:

**"The electrification of writing [telegraph] was almost as big a step into the non-visual and auditory space as the later steps taken by telephone, radio, and TV.**
**"The telephone: speech without walls.**
**"The phonograph: music hall without walls.**
**"The photograph: museum without walls.**

*Continued on page 176*

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On Readers' Service Card, Circle No. 420

# INTRODUCING THE WORST COMMERCIAL CARPET YOU SHOULD EVER BUY.


Enka nylon is a product of American Enka Corp., Enka, N.C.

Read the headline again.

Enka commissioned the Nationwide Consmer Testing Institute to create a nylon comercial carpet on paper.

It's in the form of minimum construction d performance standards. High ones.

And they're collectively called The Worst. ecause anything less shouldn't be in your school, otel or office building.

Other fiber makers have standards too. Conruction specifications, mainly. Set up according their own house rules.

But Nationwide makes our tests and our les. And impartially makes them stick.

Any carpet of Enka nylon that doesn't meet e standards doesn't get the Enka Commercial rade label. And that's that.

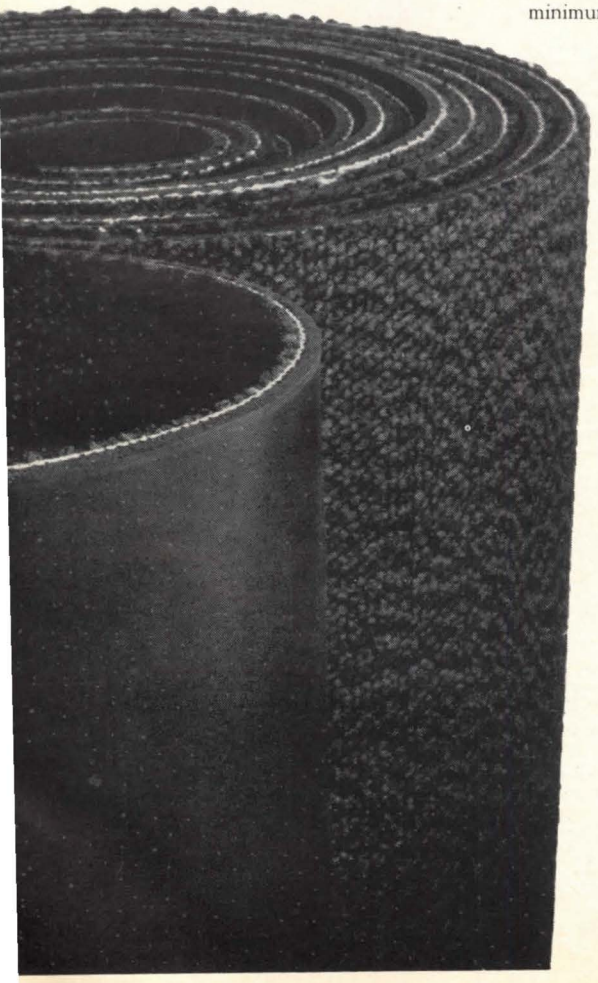
Picking the Standard Standard.

When you develop a carpet standard you ve to start off with a real carpet.

The one that Nationwide picked is the one at's called The Workhorse of The Industry by e carpet people who know (who also happen to people with no particular ax to grind either ay).

Ironically, for Enka, it turned out to be wool the good looking, good wearing, eight dollar op, made by one of the most famous names in rpeting.

And, we've been told, it happens to be the rpeting used in the elevators of the Empire tate Building. Which could be the supreme trial r any carpet.



Nationwide Tests The Workhorse.

The eight dollar wool was subjected to five basic performance tests:

In the Tug Test, it took 13 pounds of pull to yank a tuft of the wool out of its backing.

And in the Washout, a variety of common and household stains were tried. Wool proved to be readily cleanable with water and detergents.

In the Cement Mixer—a tumbling drum containing carpet samples and abrasive materials—The Workhorse was tested for pilling and fuzz resistance. Its performance was fair.

Then came the crucial tests:

The Workhorse met The Crusher. For 48 hours the wool carpet was subjected to a constant compression of 50 pounds per square inch. And the carpet pile made a 75% height recovery in 96 hours.

Finally it went to the Rubout, where it took 14,000 revolutions of an aloxite coated abrasion wheel, using a torque of 60 inch pounds, to wear through to the backing.

Good? No. Excellent for a wool carpet in the 8-9 dollar range.

But Nationwide wasn't finished with The Workhorse yet.

Their engineers tore it apart, just to see how well it was put together.

They examined tuft height, uniformity, loop density, primary backing and secondary backing. And when they were finally through they knew exactly how good they wanted The Worst to be.

The Absolute Worst.

The following are Nationwide's absolute minimum standards for performance *and* construction.

1. Cleanability — (The Washout). Common stains, both oily and non-oily, including foodstuffs, cosmetics and grime, must be readily cleanable.
2. Resiliency — (The Crusher). On the standard testing apparatus the carpet is compressed for 48 hours. It must recover at least 80% of its pile height within 96 hours. (Note: The Workhorse only scored 75% recovery on this test.)
3. Resistance to Pilling—(The Cement Mixer). Samples of the carpeting are tumbled in the drum with abrasive agents for 8 to 10 hours and must show only a minimal fiber distortion. On the rating scale 1 equals none and 5 equals very bad. A rating of 2.5 or higher is unacceptable.
4. Tuft Bind—(The Tug Test). If tufts can be pulled from the backing, with less than 7 pounds of pull it isn't acceptable.
5. Abrasion Resistance—(The Rubout). The carpet must be able to withstand at least 10,000 revolutions on the abrasion wheel before wearing through to the backing.
6. Pattern—The carpet must be a continuous filament loop type and they must be loops of even height. (Uneven loops don't give maximum support to one another and don't wear evenly as a result.)
7. Minimum Tufts—The absolute minimum tufts is 56 per square inch. That means they're packed together well for maximum wear and mutual support. You can see the difference in carpet samples when you bend the facing and can see the backing. This is called grinning.

And the more a carpet grins at you the unhappier you're going to be.

8. Finished Pile Height—Nationwide Testing says that 3/16" is the best height for maximum wear and minimum stress. Any more and the loops would tend to bend over and destroy the new looking appearance. Any less would give less wear and take away from the cushioning and insulating qualities of the carpet.
9. Primary Backing—This is the backing that the pile is tufted into. It's got to be strong enough to minimize distortion and support the pile. Nationwide says it should be 9 ounces per square yard, jute. Or a substantial polypropylene backing.
10. Second backing—The final step. When you look at the back of an Enka approved carpet you'll see double jute or high density foam welded to the carpet. The foam must weigh at least 32 ounces per square yard.

That's how the manufacturer gets the label. And to keep it he has to submit samples for periodic retesting.

The Worst vs. The Workhorse.

Naturally we're grateful to The Workhorse. It provided the basis for The Worst. But if it were a nylon carpet it wouldn't get the label. Because it flunks just one test—the resiliency test—by a mere 5%. But that's enough to make a big difference. (And The Workhorse costs eight to nine dollars a yard, while an Enka-Nationwide approved carpet can cost as little as half as much.)

Enka's Claim:

Dollar for dollar, you're better off with nylon than with wool.

And you're better off buying a nylon carpet with the Enka Commercial Grade label.

Because Enka's the only fiber maker that independently tests against impartial construction *and* performance standards—standards you can understand.

(You can write to American Enka Corp., 350 Fifth Ave., N.Y.C.—and we'll send you the actual certified test reports of any Nationwide approved carpets you're considering. And you can compare the results and prices yourself.)

So when you buy a commercial carpet with the Enka label you'll know what you're buying. Not just who you're buying.

**Before you buy the front of a carpet, read what's on the back.**

# Enka

*Continued from page 172*

**"The electric light: space without walls.**

**"The movie, radio and TV: classrooms without walls."**

and:

**"Electricity does not centralize but decentralizes . . . electric power, equally available in the farmhouse or the executive suite, permits any place to be a center, and does not require large aggregations. . . . The railways require a uniform political and economic space. On the other hand, airplane and radio permit the utmost discontinuity and diversity in spatial organization."**

What this may mean in architectural terms is subject to any number of interpretations. The emphasis on "without walls" might be construed as "without any specifiable architectural form." On the other hand, if medium is also message, the architectural "form" is as important a component in the process as the content of "functions" it may house.

We may already note some confusion in one of the first of many attempts to understand McLuhan in architectural terms. In John Johansen's essay, "An Architecture for the Electronic Age," he writes:

**"The air terminal that looks like a bird: the architecture of 'imagery' is out of date. And since the mechanical age has been replaced by the electronic age, buildings styled after machines are out of date."**

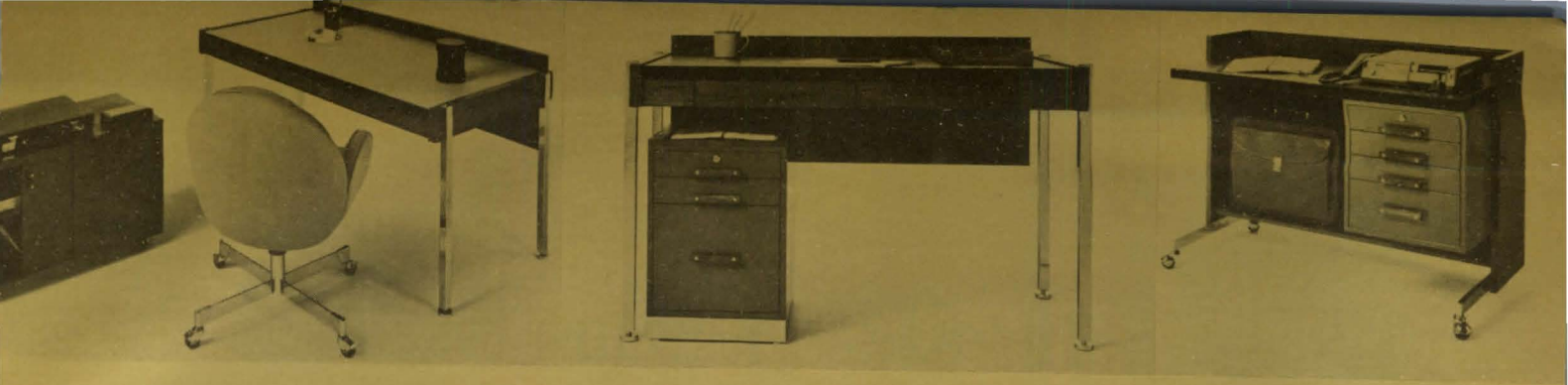
But earlier in the same article, Johansen suggests that:

**" . . . with the passing of the industrial age we may now expect an architecture conceived more as a computer, of components rigged on armatures or chassis connected by circulation harnesses. The use itself of electronic terms conjures up new mental pictures of architecture."**

Alas, it seems only that the architecture of imagery is *in* or *out* depending on which image is in current stylistic use. Johansen's Robert Hutchings Goddard Library. which he used to illustrate his point, does indeed look like the image of a breadboard assembly of computer components. But, presumably, if he had been hooked on phonographs, the architect might have "conjured up" something like the RCA Victor building, near Hollywood and Vine — in which the medium is certainly the message.

Much of the confusion still to come in the application of McLuhan's ideas may be attributed to the McLuhan phenome-

*Continued on page 188*



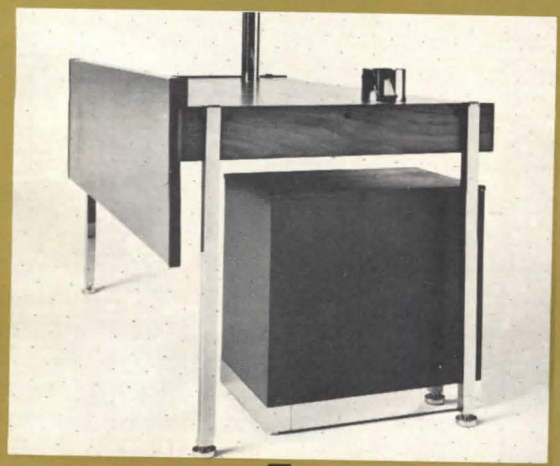
# If you're punctilious, Departure should excite you.

DEPARTURE is the transition from the extremes of rigid or chaotic office space planning to the refreshing environment of individual expression.

DEPARTURE'S essential elements consist of platform tables, mobile pedestals and multi-purpose riding units.

These components allow the freedom to create work areas perfectly suited for highest efficiency in particular tasks while recognizing the individual's personal requisites.

In its philosophy, DEPARTURE seeks to liberate the office from the deterrents of *inflexibility* to the composure of organized variety. Catalog on request.



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DOW CORNING

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# When is Terraseal 100 joint sealant a bargain at $20 per gallon?

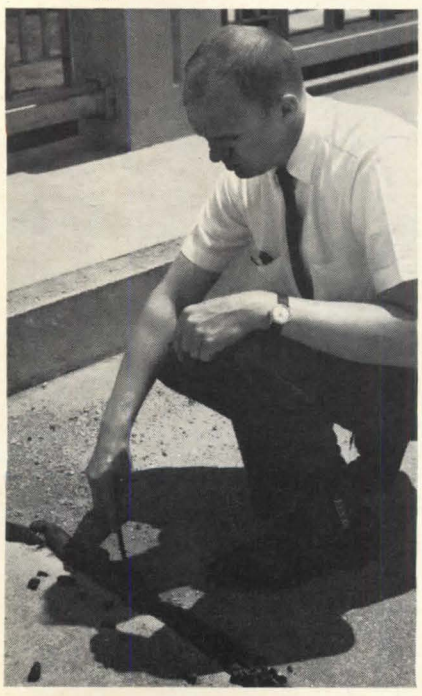
**When leaks on terraces can cause expensive damage to underlying building areas.**

**When freeze-thaw of standing water on decks may result in heaving, cracking and structural damage.**

**When foot traffic on walks or patios poses dangers of mishap and injury.**

**Whenever replacement of sealant is a costly, never-ending maintenance expense.**

In these instances, there's no margin for failure, no allowance for the alternate softening and hardening of asphalts, the cracking and failure shown below. No allowance, either, for punctures, abrasion damage and loss of adhesion which often befall polysulfides in these applications.



A new Dow Corning product, Terraseal® 100 joint sealant, has mastered these problems and many others which afflict deck, terrace and traffic joints. It costs as much as ten times more than the lowliest asphalt caulk — and it's worth every penny.

Terraseal 100 sealant is a flexible, one-part polyurethane caulking compound specially formulated to give long, trouble-free service in joints on

terraces
patios
swimming pool decks
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walkways
sidewalks
roof gardens
drives
stadiums
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Terraseal 100 sealant is exceptionally *tough* (tear strength, 110 lbs/inch), and will withstand heavy abuse of foot and vehicular traffic. It resists puncturing by rocks, stones or spiked heels. It has iron-like *adhesion* to most joint surfaces, even *green concrete*. Flexibility and recovery are excellent even at low temperatures. Terraseal 100 sealant can be stretched or compressed up to 50% in service without affecting joint soundness, and it will rebound to 90% of its original dimensions after long periods of expansion and compression.

This polyurethane sealant is exceptionally resistant to direct sunlight and the deteriorating effects of *water* and *weather*. Standing water will not affect the sealant or its adhesion in the joint.

In a word, Terraseal 100 joint sealant is the "greatest" . . . stronger, longer lasting, and more durable than asphalt, polysulfide or any other polyurethane sealant.

Why not make your own *value test* — send for demonstration sample, product data and source of supply. Circle the reader service number provided by this publication or write direct to Chemical Products Division, Dept. 8114, Dow Corning Corporation, Midland, Michigan 48640. Demonstration sample offered only in U.S.A.



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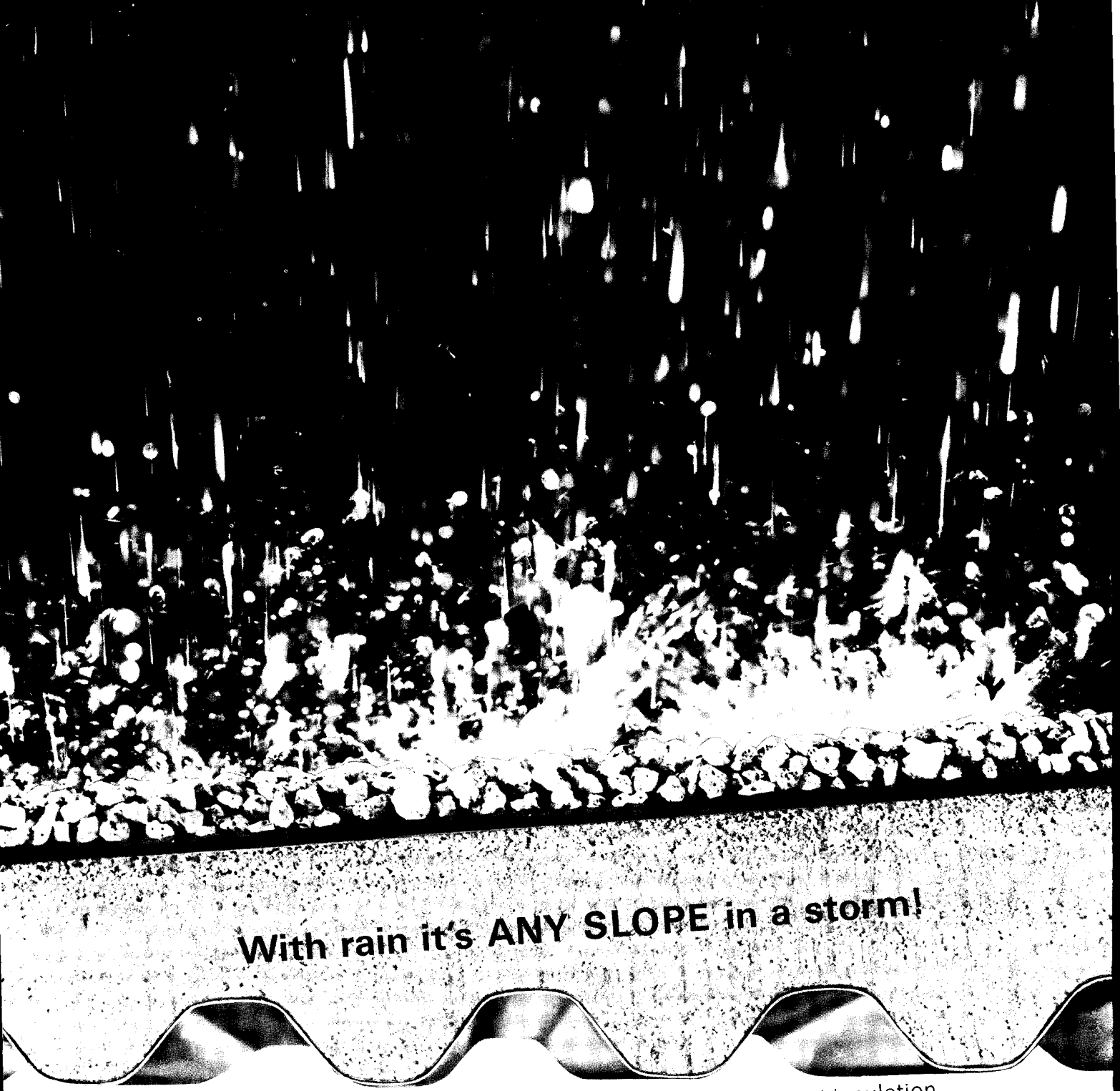


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**New design freedom**
**in the Open World of L·O·F glass**

# Derthick & Henley design a College Library to help students see the light

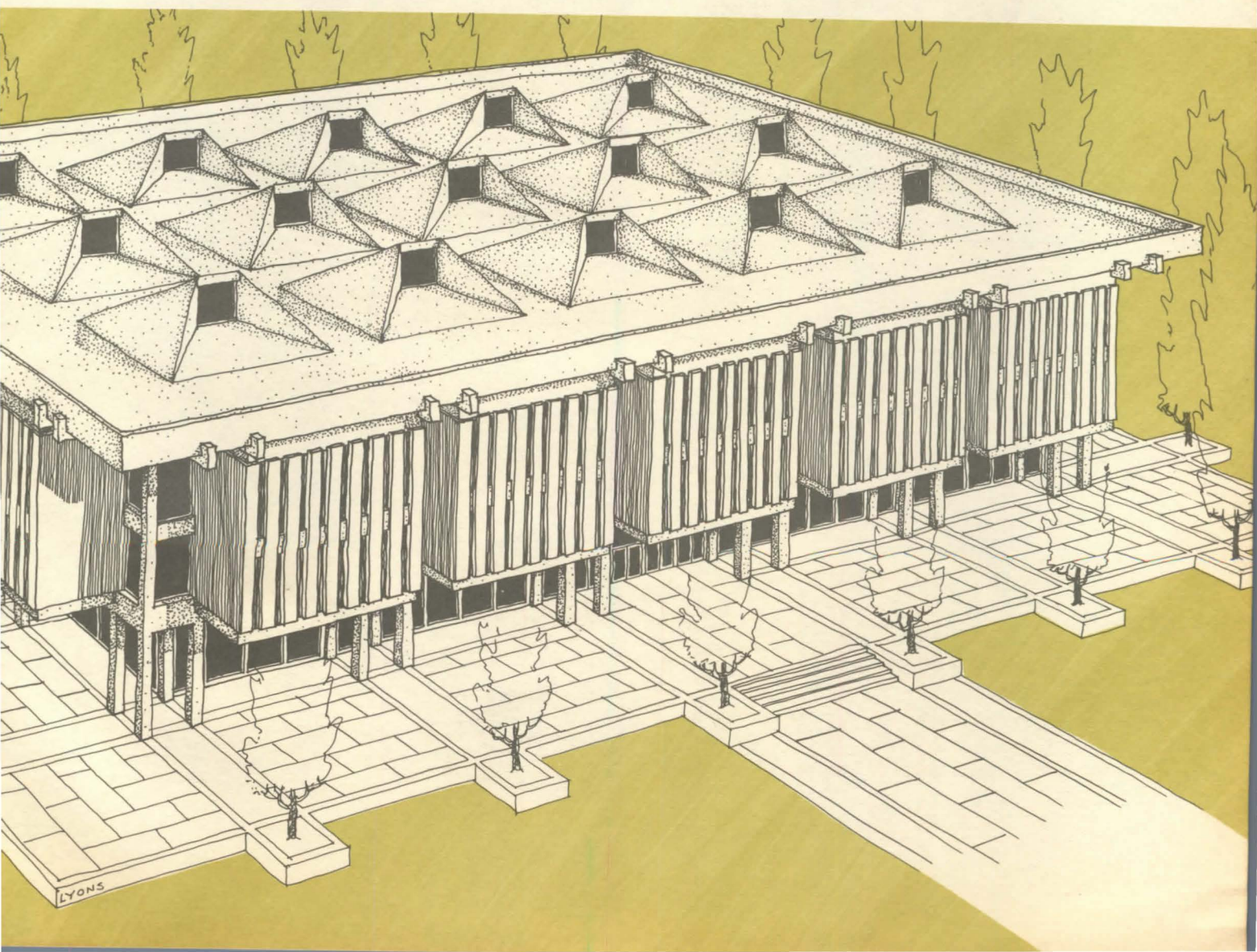
Every corridor looks out through glass to a vista of the campus.

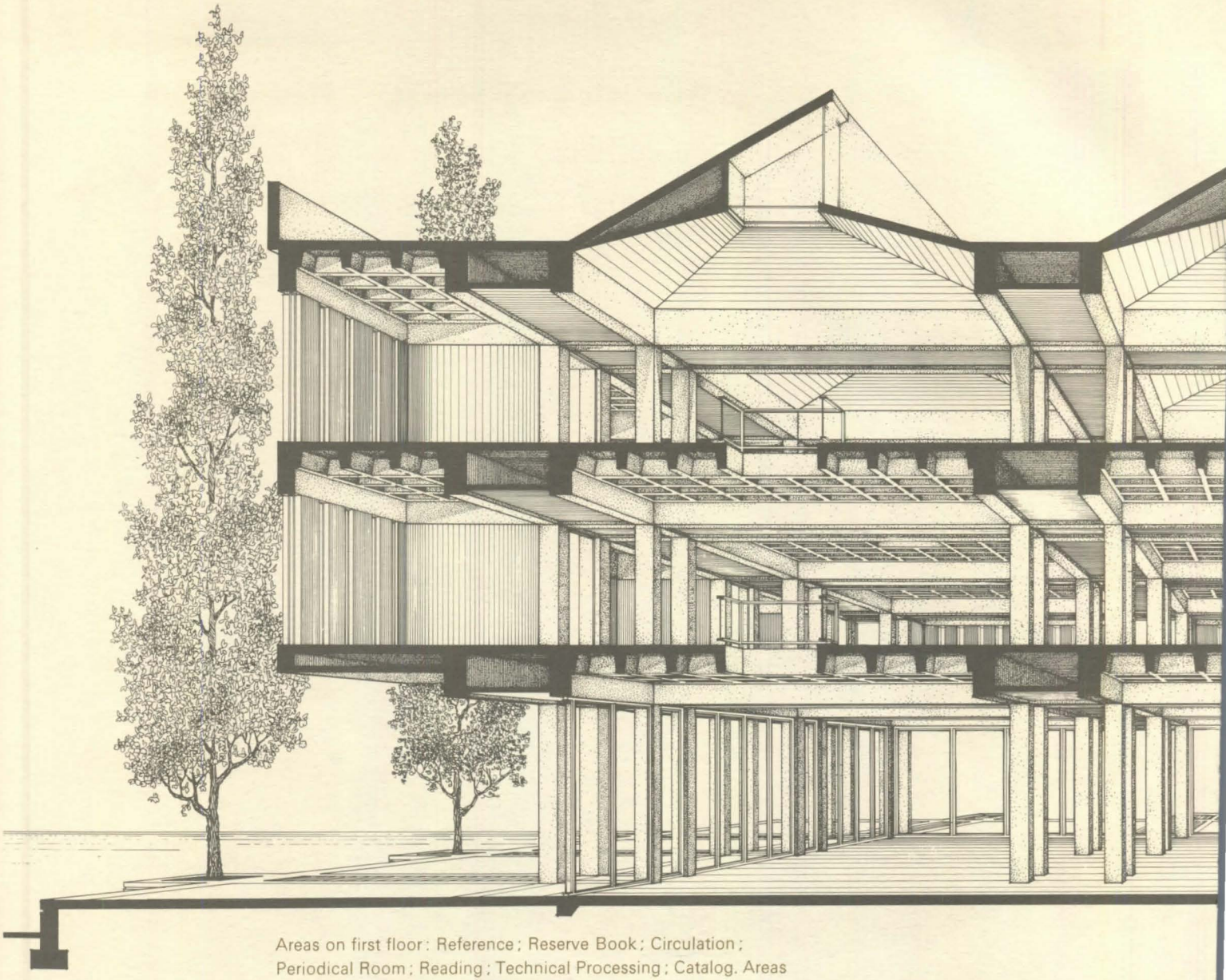
Each structural bay has a hooded, polished wired-glass skylight oriented toward the north for controlled interior lighting. Shafts permit the daylight to penetrate through the floors to ground level.

Study carrels, faculty offices, and graduate study spaces are located around the perimeter of the upper two floors. The cantilevered carrels are sheathed in lava-bronze *Vitrolux*® spandrel glass banked by vertical vision strips of bronze-tinted *Thermopane*® insulating glass. Carrels are divided from each other with translucent Rough Plate glass or Patterned glass, and enclosed with *Tuf-flex*® glass doors and sidelights.

The building is designed on a 3'-0" module to provide flexibility in interior arrangement of stacks and reading areas. It can be expanded to either side—an important consideration for any college library.

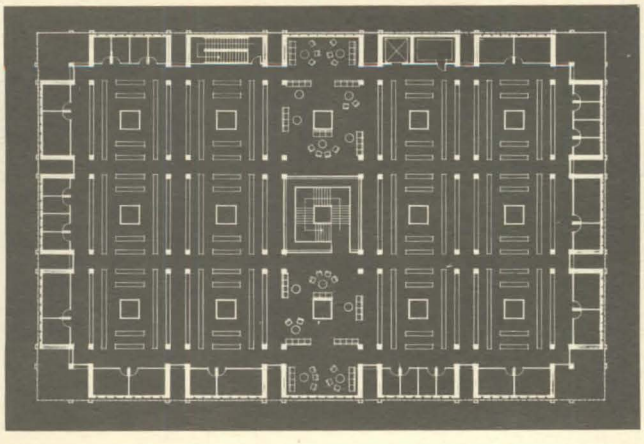
L·O·F commissioned Derthick & Henley, of Chattanooga, Tenn., to show how functionally glass can be used in library design. As you see by the drawings they met the challenge in a practical way.

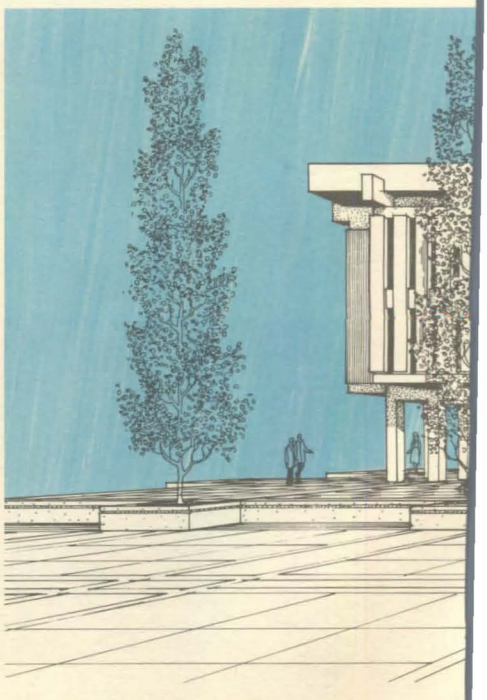


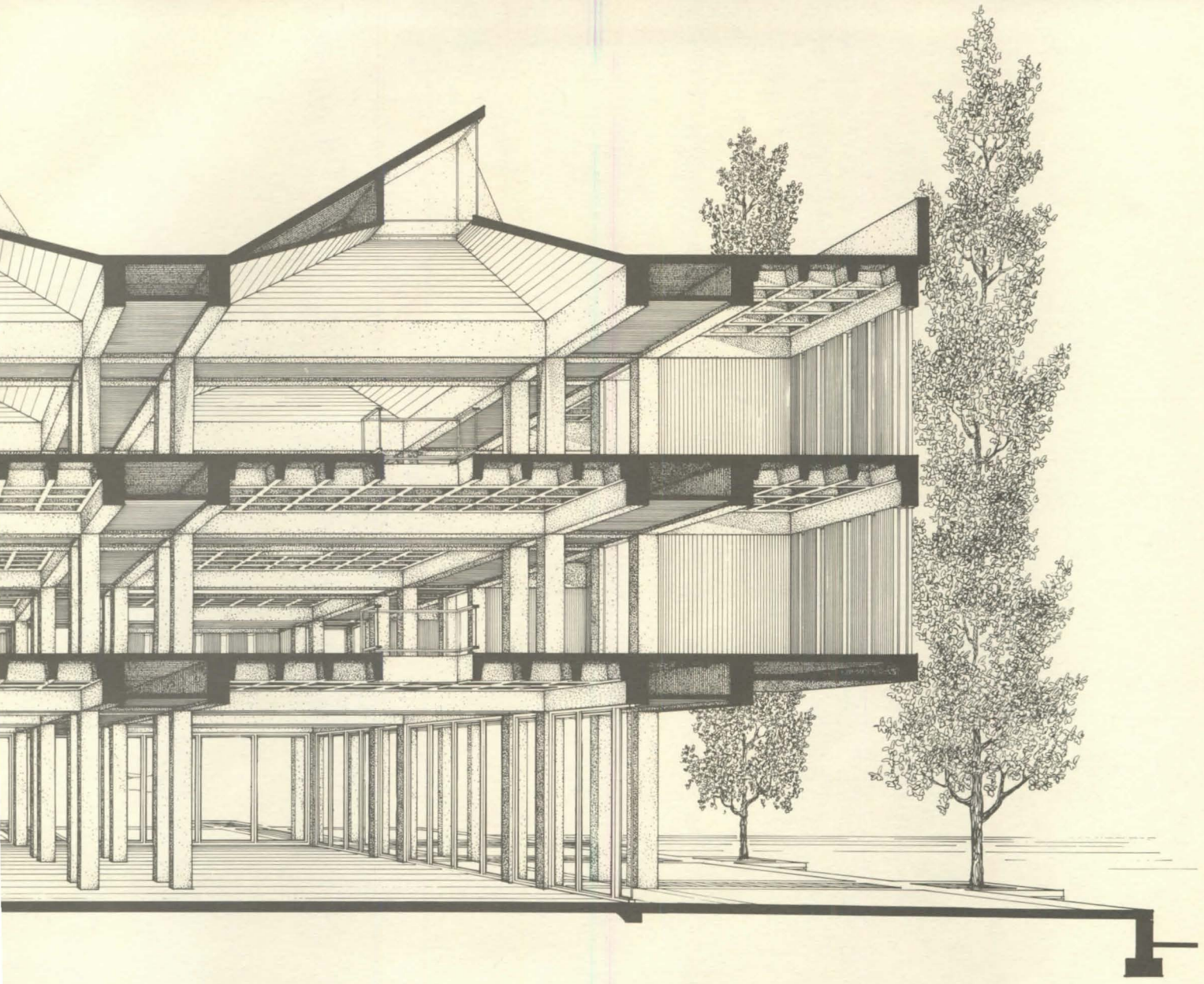


Areas on first floor: Reference; Reserve Book; Circulation; Periodical Room; Reading; Technical Processing; Catalog. Areas on upper floors: Stacks and Reading. Service areas in basement.

Double column arrangement sets up strong circulation patterns. Vistas of campus can be seen in all directions. Mechanical circulation handled between double column rows over circulation areas.







Large units of *Thermopane* insulating glass made of *Parallel-O-Bronze®* are placed at ends of all corridors. Glass-enclosed carrels and hooded skylight are also shown.

## L·O·F GLASS FOR LIBRARIES

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Heavy-Duty Parallel-O-Plate, 5/16" to 1"
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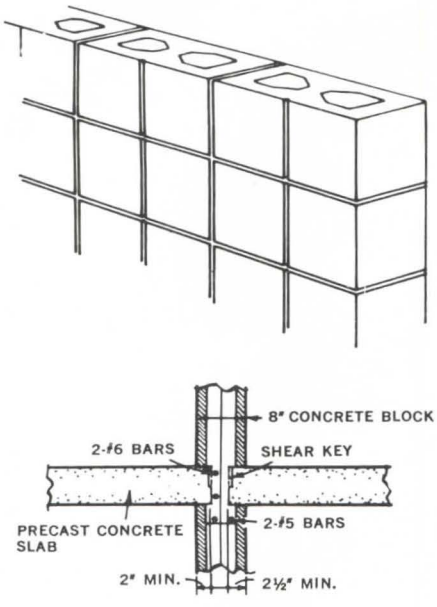


Concrete block is coming up in the world—and fast. These loadbearing walls of scored 8″ x 8″ x 16″ block were completed at a rate of one story per week over a four month period, enabling the owner to open for the summer season. Note how transverse wall system provides the amenity of balcony privacy. Integral scoring treatment in the modular unit evinces a more attractive wall network of 8″ squares. The loadbearing walls support concrete floor slabs that were precast at the site.

*Architect:* Hendrik & Mock


The Hanalei Hotel • San Diego

# Modern masonry is reaching new heights with loadbearing concrete block

**The high rise**—Newest concept in concrete masonry construction.

The Hanalei Hotel is another recent example of the far—and high—reaching structural advantages of innovative concrete block. Today concrete block possesses more compressive strength than ever before—yet still provides more wall area for less material and labor costs. This, combined with the wide variety of shapes, sizes, colors and textures, helps to elevate the most creative designs; the most demanding loadbearing requirements to new highs. And with these structural advantages go the many traditional qualities of block always held in high regard: complete fire-safety, extremely high sound isolation (perfect for party walls) and impressive self-insulation head the list. Little wonder, concrete block is the building material more people are looking up to in high rises of every nature: hotels, condos and apartment buildings, college dorms, hospitals and office buildings.

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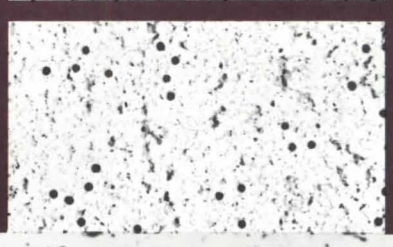

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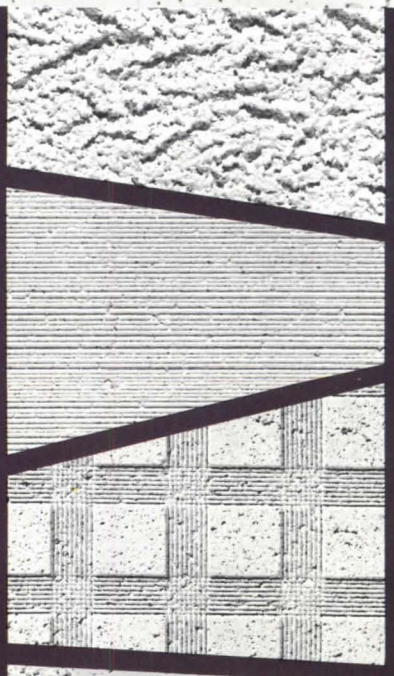

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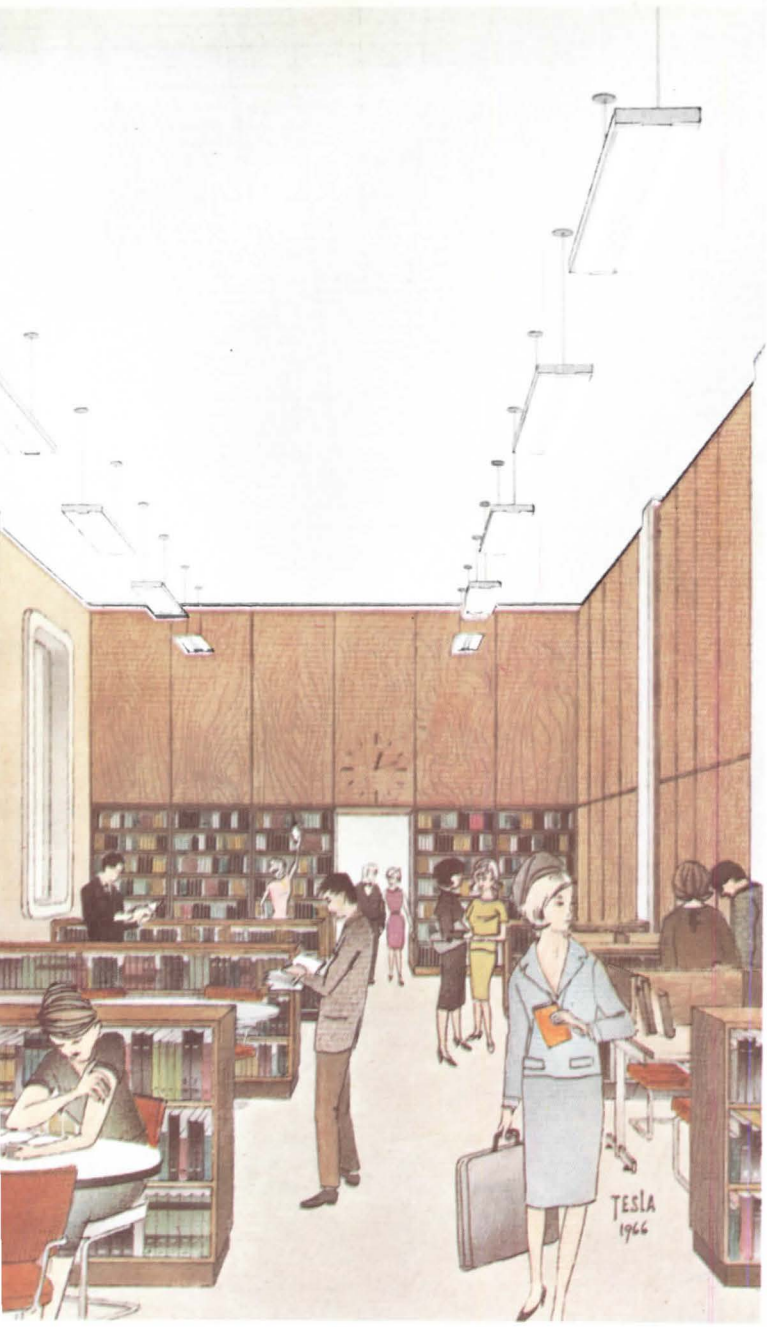
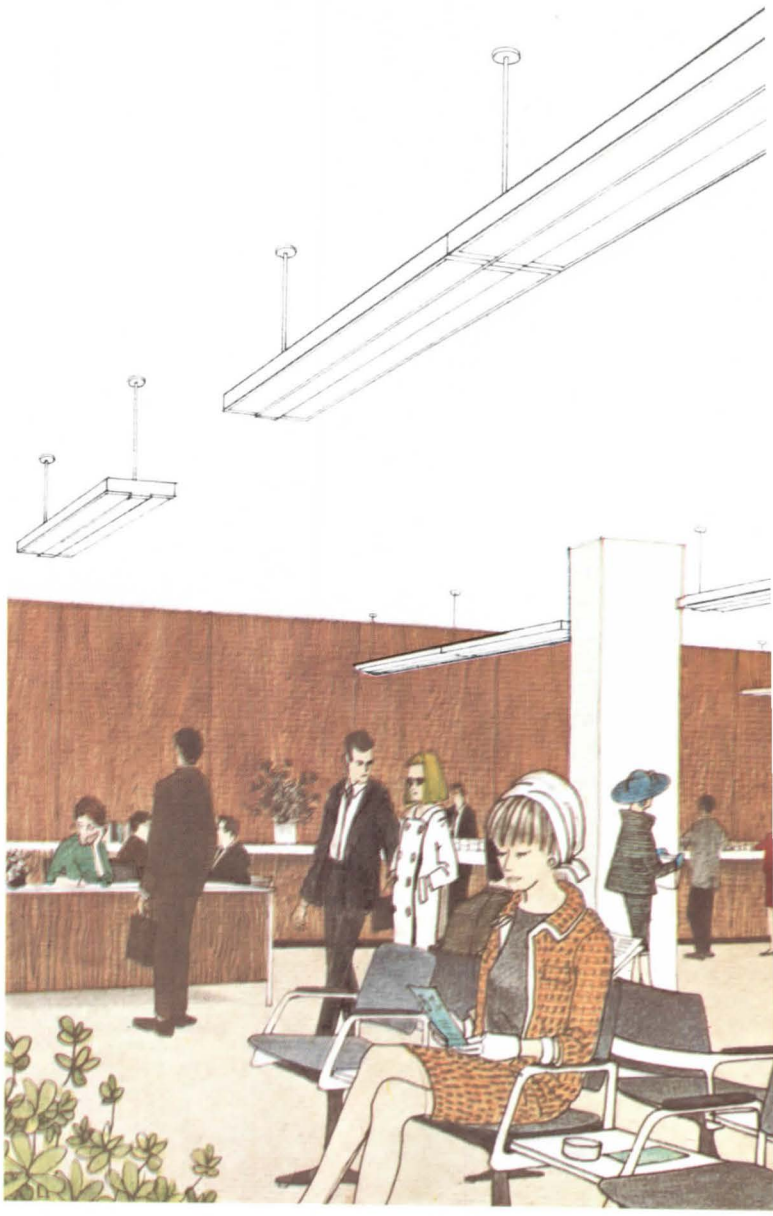
*Continued from page 176*

non itself. *Understanding Media* is an attempt to examine radical change in a radical manner. Its format takes on the character of the process with which it is concerned. There is little attempt to impose an orderly linear and sequential form upon an explosive and discontinuous process. The style of the work is that of a loosely interconnected series of aphoristic comments, densely compact at one moment, and seemingly irrelevant the next; each section interpenetrates, reflects upon and refers backwards and forwards to all others. Where this form works, it gives an extraordinary clarity of insight to the process it describes. Where it does not work, you are left with poetical incantation — delightful in itself, but, to use the author's own phrase, "too low" in definition to enable one to participate.

McLuhan presents, in part, a new theory of social change that is strikingly apposite to our now global requirements. But what we need even more than new theories are adequate methodologies of change — not only to become more aware of how our world is changing, but how we may now exercise some conscious control over the change process. The danger, so far, seems to be that McLuhan is responded to only as "medium," as a new prophet, or as a charismatic soothsayer whose electronic trance utterances only require repetition to ensure entry into some terribly exciting promised land. Unfortunately, where the prophet does get down to describing this land, we are persuaded that our only hope of salvation may be a return to the older and more inclusive sensory modes — to tribal man. We are asked, in effect, to abandon the rational, linear (etc.) "absolutes" of visual print literacy for what seems to be the older familiar "dark absolute." Among all the electrical wiring and cybernetic jazz effects, we suddenly come upon Rousseau, Fenimore Cooper, and Lawrence discoursing heatedly about "the natural good" and "primal urges." As McLuhan might say, "We are back in Bloomstown" — but Joyce had the insight to call his hero Daedalus, no tribal lad but a hip artificer. Though we need not "confuse reason with literacy, and rationalism with a single technology," we need no longer pose such questions in either/or form. As McLuhan himself so amply demonstrates, one may be both literate *and* "integrally aware," both consciously rational and rationally conscious — even of the degree to which we act unconsciously. We may best conclude with the author's own statement in this

*Continued on page 199*



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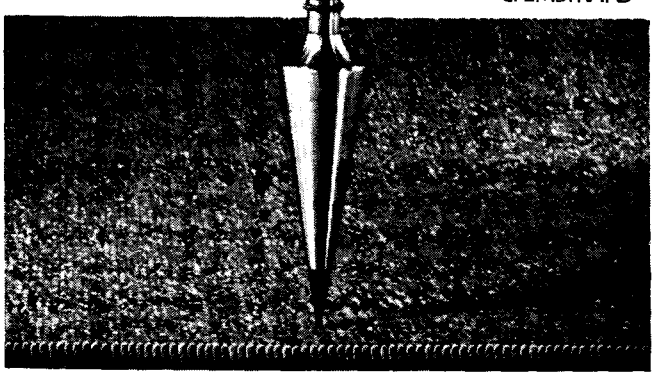


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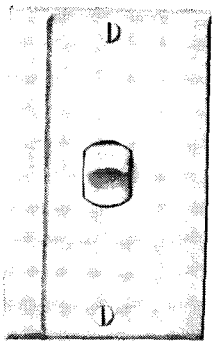

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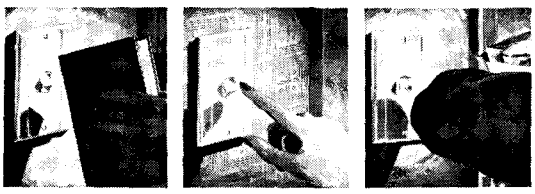

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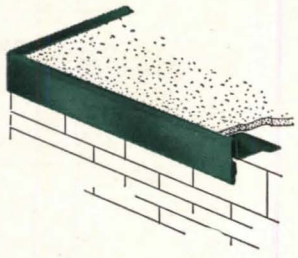
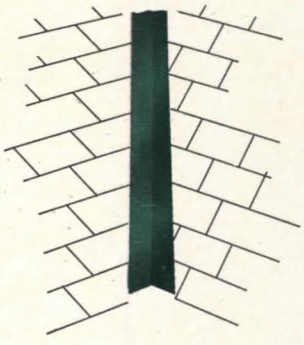
## TERNE METAL: The Accessories

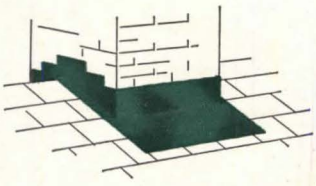
We believe most architects are now aware of terne's nearly unique design potential for visually significant roofs in the contemporary idiom. **But terne is also among the best of accessory metals—probably the best when initial cost is balanced against durability.** If considerably fewer architects are aware of it in this context, the fault is largely our own, for we frankly haven't found too many exciting things to say about gutters, flashings, valleys and gravel stops. Exciting or not, however, these commonplace items still play an important role in most buildings, and any failure can be very troublesome indeed. When next specifying them, therefore, why not give Follansbee Terne a trial? It should not only save your client money, but under normal exposure has a life-expectancy measured in generations rather than years.



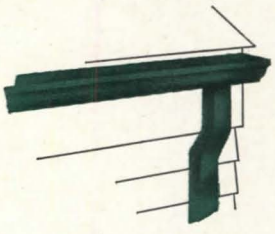
Combination Gravel Stop and Fascia



Valley



Chimney Flashing



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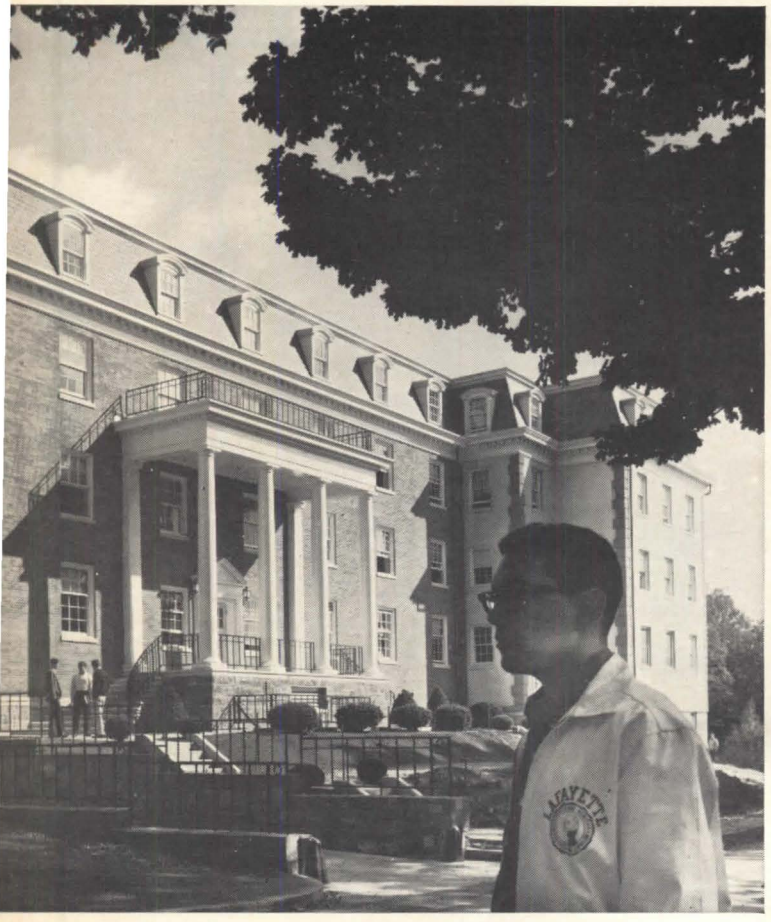
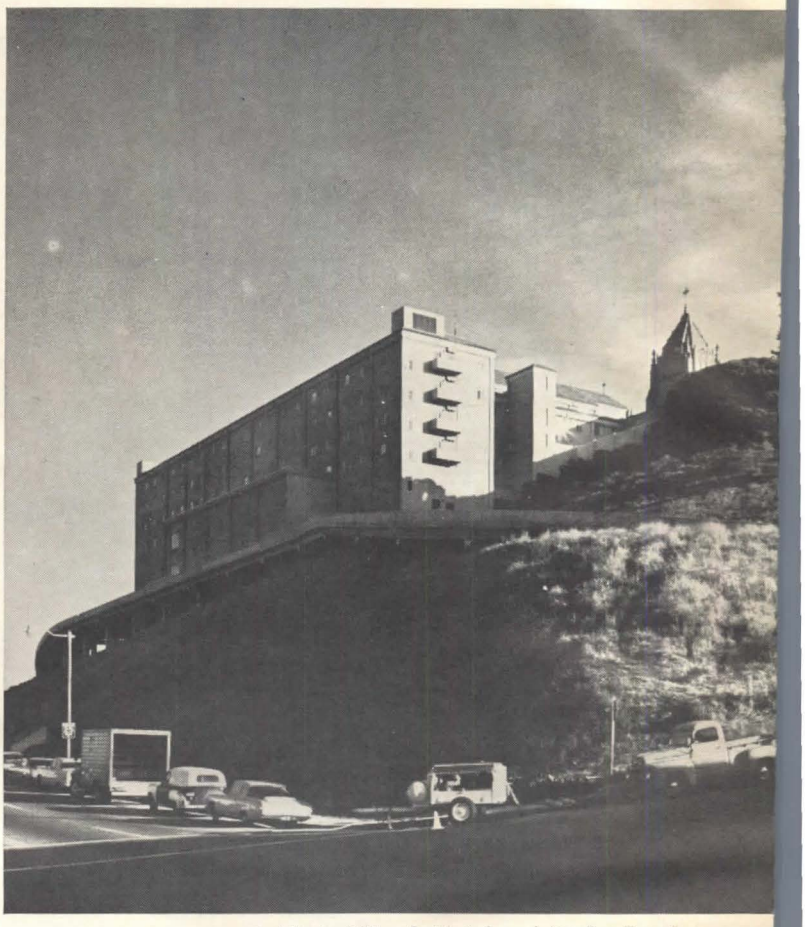
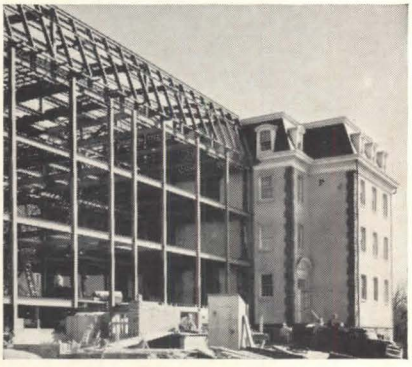


*Architects:* Everett Associates, Allentown, Pa.



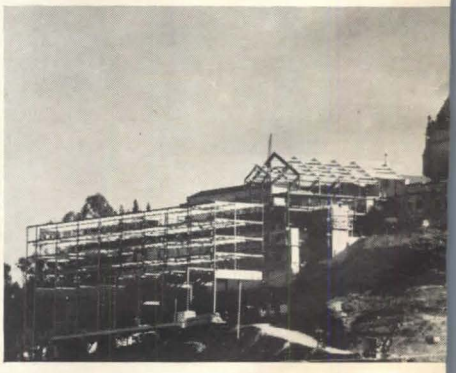
*Architects:* Wilton Smith & Associates, San Francisco
*Structural Engineers:* Gilbert, Forsberg, Diekmann, Schmidt, San Francisco

## Built a new "old" building...



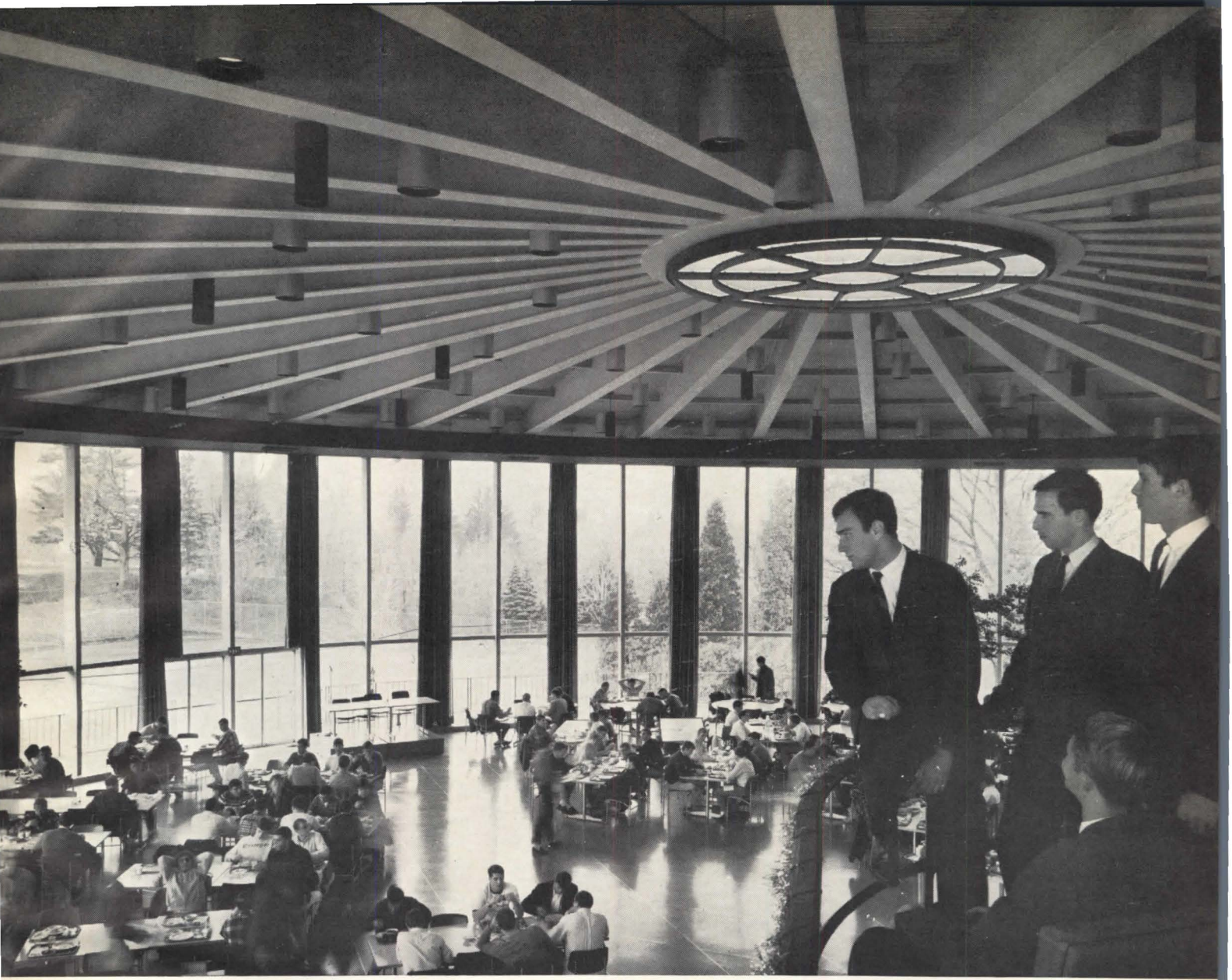
South College is Lafayette's first building, dating back to 1833. After 130 years of service, the center portion was torn down and rebuilt, beginning with a new steel frame. And here it is today, new yet still "old" in its warm Colonial grace. Restoring or maintaining traditional architecture is easy with steel. Steel is so adaptable, so quickly erected, and so economical.

## Changed a hillside to a hall...



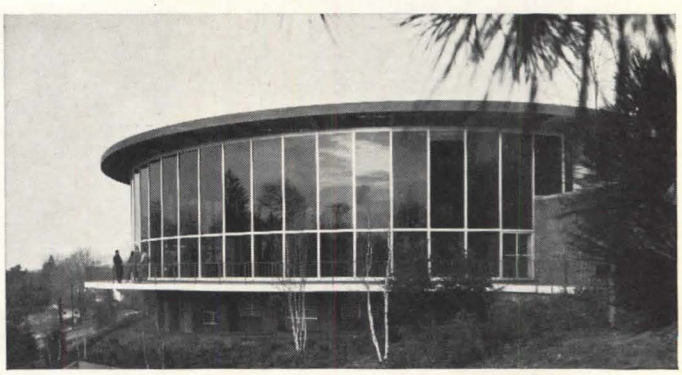
Steel can tame a difficult site with ease. That's why San Francisco's College for Women was able to build a dormitory with 100,000 sq ft of floor space on an otherwise unusable location. The new building, including a prom room and assembly hall, connects to the existing Chapel via an enclosed steel bridge. Remember: most difficult building problems can be solved economically with steel.

Steel



*Architects:* Brown, Lawford and Forbes, New York; Warner Burns Toan Lunde, New York.
*Structural Engineers:* Severud-Perrone-Fischer-Sturm-Conlin-Bandel, New York

## Created a column-free circular dining room...



*In Middletown, Conn.*, Wesleyan University has built an attractive yet functional dining hall that is completely free of interior supporting columns. The radial steel roof beams meet in the center at a steel compression ring which frames a skylight. Along the periphery, the beams are supported by slender steel columns which frame the glass walls. Here indeed is a fine example of steel used to combine beauty with both economy and speedy construction.

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*Continued from page 188*

regard; it is one that his more fervent disciples might take to heart:

**"Since consciousness and awareness seem to be a human privilege, may it not be desirable to extend this condition to our hidden conflicts, both private and social. . . . The present book, in seeking to understand many media, the conflicts from which they spring, and the even greater conflicts to which they give rise, holds out the promise of reducing these conflicts by an increase of human autonomy."**

## *New and Valuable Techniques*

BY JACQUES HEYMAN

INELASTIC STEEL STRUCTURES. *By Stuart R. Daniels. The University of Tennessee Press, Knoxville, Tenn., 1966. 195 pp., $7.50. The reviewer is author of several books and papers on plastic theory and is University Lecturer in Engineering, University of Cambridge, England.*

Architectural students are among the brightest to be found in any university; they are alert and intelligent and can, by and large, be taught anything by a good teacher using a good book. Here is a book on plastic design, written perhaps for engineers, but containing material that can certainly be taught to architects. Simple structural analysis uses hardly any mathematics; calculus, that bugbear of the architect (as of the medical student), is almost completely absent, or can in any case be done without. Instead, all the necessary equations can be set up using simple arithmetic; indeed, the ideas and techniques of structural analysis are incredibly simple.

What might be called the philosophical concepts of structural behavior, however, whether elastic or plastic, are more complex; the student can understand each process in a calculation without understanding the analysis of which that calculation is a part. And the concept of plastic structural behavior can present peculiar difficulties to students brought up on a diet of conventional elastic analysis. Certain habits of thought become very quickly inculcated about the "actual" behavior of structures; it is often difficult to shake the conviction that elastic calculation gives a true picture of the behavior of a real structure.

In fact, an elastic (or any other) calculation relies, of course, on many assumptions, and the student (and regrettably, the practicing engineer) acquires the habit of not questioning the assump-

tions. If the footing of a column settles, for example, by a fraction of an inch, as it is certain to do in practice, then it is often not realized that such settlement can make nonsense of conventional elastic calculations, in the sense that the effect on the stress distribution in the structure can be immense. This particular observation offends common sense; an engineer, or the layman, will feel in his bones that small anomalies in practical construction, such as settlement, imperfect fit-up, slight manufacturing errors, can have no real effect on the strength of a structure.

This intuitive appreciation of structural behavior is reflected in the predictions of plastic theory; a plastic analysis of a frame is unaffected by the imperfections mentioned above, which have no effect on the ultimate load at collapse of the frame. Thus plastic theory, concentrating as it does on assessments of the strength of structures, gives a realistic estimate of ultimate collapse conditions, in a way that elastic theory cannot. Elastic theory, however, can be used to predict with reasonable accuracy the deflections of a structure under working load; plastic theory has no comment to make on working conditions.

Therefore, in a structure designed for both strength and stiffness, plastic and elastic theory should both be used, and the engineer should keep clearly in mind the purposes of each theory. Professor Daniels is himself explicit on this point: "Only for a limited number of structural types is the application of plastic theory advantageous. The subject treated in this text is an essential supplement to conventional analysis and design."

And the subject is treated very nicely. Plastic theory is now part of the vocabulary of the structural engineer, and in a text of this sort one does not necessarily look for any startling advances. It is pleasant to record, therefore, that some of Dr. Daniels' techniques appear to be not only new, but also valuable as tools of analysis. The subject is displayed with some expertise, and an engineering student will find that his appreciation of structural behavior is enriched if he can master these pages. He will be able to break away from the tyranny of elastic analysis, and, ideally, will come to appreciate a structure as an entity that exists independently of the tool, elastic or plastic, used for its analysis.

The question remains how much of all this should be taught to architects. In a perfect world, all knowledge is good. In the practical world, the architect will very rarely, if ever, use technical knowl-

*Continued on page 206*

# Pozzolith concrete gives a bank

Inside and out, concrete plays a dramatic role in this striking savings and loan association building in California.

The natural concrete color and texture of the pre-cast, post-tensioned waffle ceiling, and the post-tensioned girders and fascia beams match the exterior walls. The simplicity of the unembellished concrete suggests the strength and stability of the structure and its function. It's another outstanding example of concrete's ability to combine the functional with the aesthetic with no sacrifice of either.

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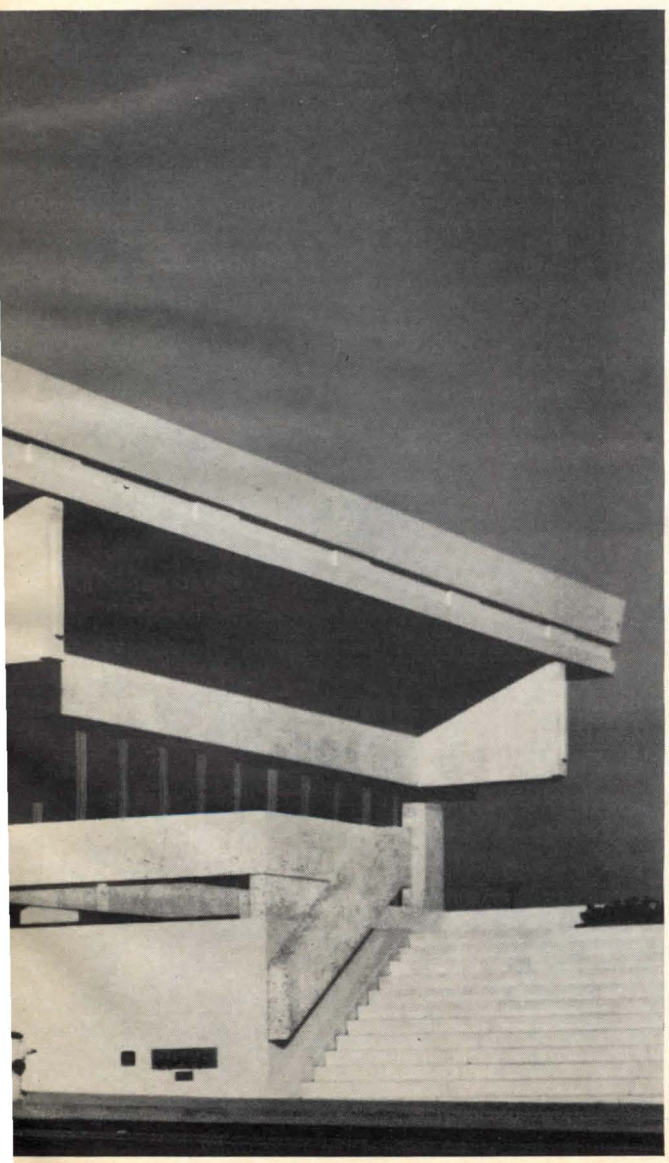
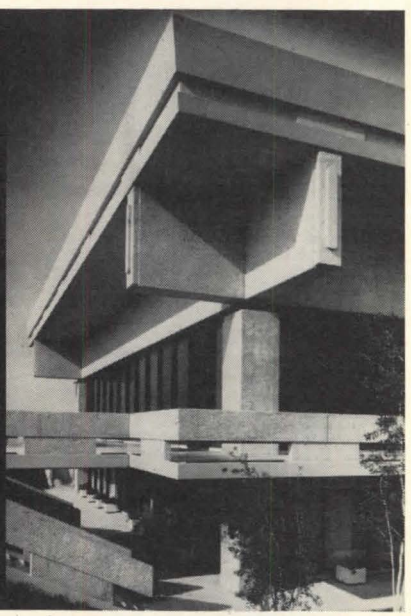


All elements of the Ventura Savings and Loan Association building, except the precast, post-tensioned waffle ceiling, were job placed concrete. Interior concrete is natural color and texture. Hand railings are bush-hammered white concrete.

Owner: Ventura Savings and Loan Association, Ventura, California. Architect: William Pereira. Structural Engineer: Woodward Tom Associates. General Contractor: William Simpson Company. POZZOLITH Precast Concrete Components: Interpace Concrete Products. POZZOLITH Ready Mixed Concrete: Consolidated Rock Products Company.



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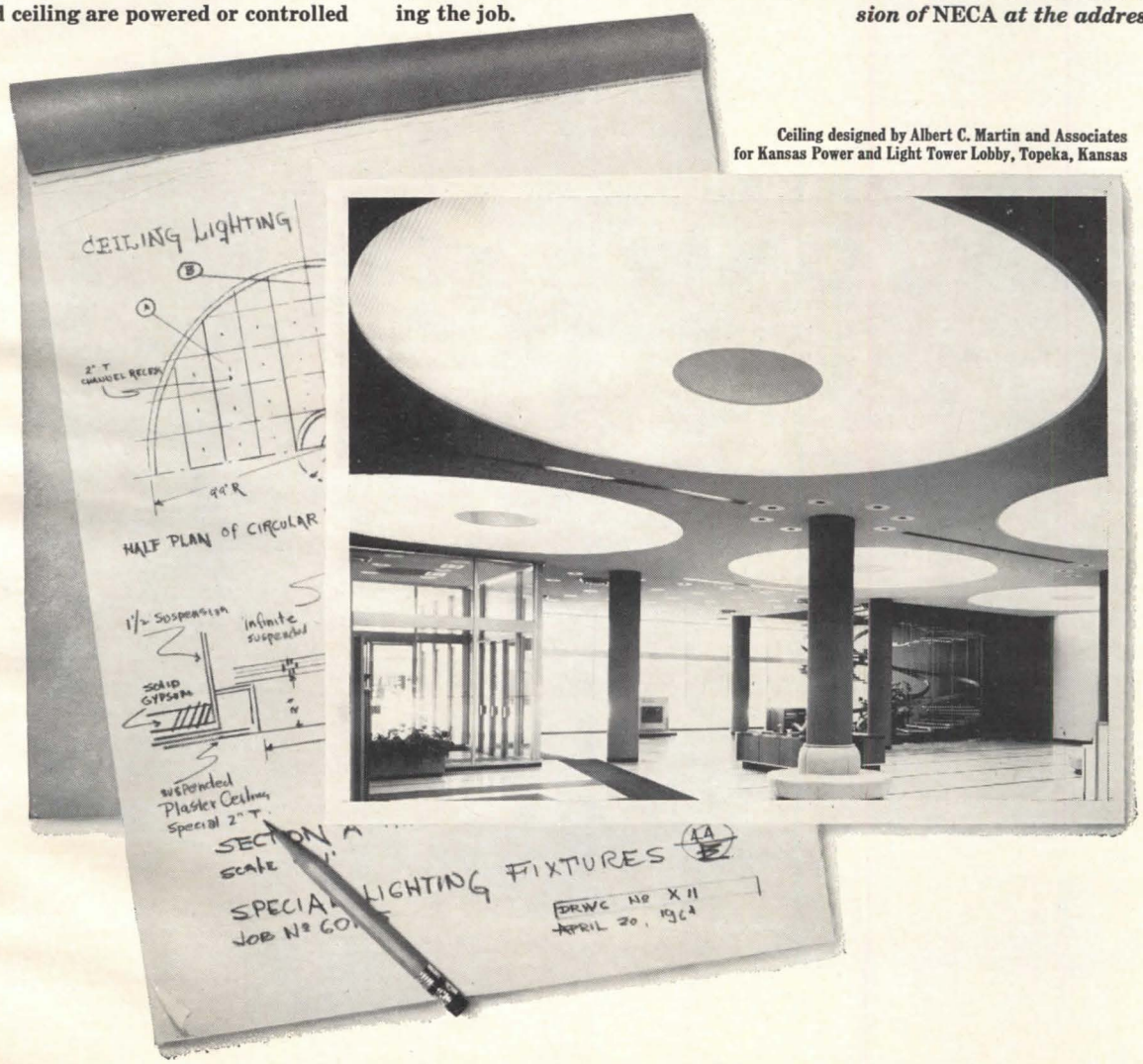


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*Continued from page 200*

edge of this complexity. *Generally speaking*, the structural problems confronting an architect are either so simple (design of a beam to carry a floor) that only the most elementary theory is needed, or so complex (design of a steel frame for a multistory building) that an engineering consultant must be called in. In neither case will the architect need the plastic theory of this book. If the book can help him to a better appreciation of structures, then there is a positive gain. If, however, the book is prescribed unthinkingly by a teacher who is interested only in imparting techniques of structural analysis, then this will be an abuse of the talents of the architectural student, which could well be better employed elsewhere.

## BOOK NOTES

**AITC Timber Construction Manual.** John Wiley & Sons, Inc., 605 Third Ave., New York, N.Y., 1966. 800 pp., $12.50.

**The American Association of Architectural Biographers Papers, Volumes II and III.** Edited by William B. O'Neal. Published by The University Press of Virginia, The Rotunda, Charlottesville, Va. 1966. $5 each.

*Volume III is a bibliography of writings by and about Walter Gropius, with a foreword by Ise Gropius, and includes a chronology and an honors section. Volume II contains a bibliography of the architectural writings of Sibyl Moholy-Nagy (compiled by Sibyl Moholy-Nagy), an addition to a previous bibliography of writings by and about Philip C. Johnson, a section on Holabird and Roche, and another on The Early Architecture of Virginia.*

**Architecture in Ancient Egypt and the Near East.** By Alexander Badawy. The M.I.T. Press, 50 Ames St., Cambridge, Mass., 1966. 246 pp., illus. $10.

*An examination of the evolution of pre-Hellenic building in Egypt, Mesopotamia, Asia Minor and North Syria, the Levant, Elan and Persia, and Cyprus. The author made 400 tracings to accompany his text. Each country is discussed separately, with the buildings divided into domestic, religious, funerary and military categories within each country, rather than the usual chronological format.*

**An Historical Outline of Architectural Science.** By Henry J. Cowan. American Elsevier Publishing Co., Inc., 52 Vanderbilt Ave., New York, N.Y., 1966. Illus. $5.75.

*Cowan's is one of an increasing number of books that is at last bringing to light the beauty and excitement of architectural engineering. He does not hide behind technical pretense but explains principles with an easy logic that betrays his own deep comprehension of structural principles. Particularly meaningful are his excellent choice of illustrations, the page on statically indeterminate structures, and his theory that most structural problems of building have been solved and that the next breakthrough will be in the area of building environment.*

**Park Güell of A. Gaudi: A Miniature Universe.** By Carola Giedion-Welcker. Ediciones

On Readers' Service Card, Circle No. 375

La Poligrafa, S.A., Barcelona. Distributed by Wittenborn and Co., 1018 Madison Ave., New York, N.Y., 1966. Illus., $15.

*A sumptuous picture-book, with a short (10-page) text in English, Spanish, German, and French, and approximately 70 beautifully reproduced, full-page (7¾ sq in) photographs, half of them in color, and a fold-out plan of the entire park (with numbers indicating the places photographed for the book).*

**Sheltered Workshops — An Architectural Guide.** By F. Cuthbert Salmon and Christine F. Salmon. Oklahoma State University, Office of Engineering Research, Stillwater, Okla. 74074. 1966. 134 pp., illus., 90¢ postage and handling charge.

*Programming and planning information peculiar to this specific type of building and a description of the role sheltered workshops have in the community are clearly presented in this book.*

**This Is Japan: 1967.** Published by Asahi Shimbun Publishing Company. Available from Overseas Courier Service, 350 Broadway, Room 208, New York, N.Y. 412 pp., illus.

*From a nine-page, photograph-cum-caption essay on recent Japanese architecture to an article entitled "The Executive Who Would Not Smile," to another called "I Wanna Hold Your Hand," this huge, thick, boxed, yearly "magazine" (that is, paperbound tourist propaganda) has 64 different stories on Japanese cultural and social developments from 1965 to 1966 — everything except political and economic analyses (except for a brief historical essay on the Meiji Era). The magazine is filled with beautiful color photographs and prints.*

**Time-Saver Standards: A Handbook of Architectural Design.** Fourth Edition. Editor-in-Chief, John Hancock Callender. McGraw-Hill Book Co., 330 W. 42 St., New York, N.Y., 1966. 1292 pp., illus., $27.50.

**Frank Lloyd Wright: His Life, His Work, His Words.** By Olgivanna Lloyd Wright. Horizon Press, 156 Fifth Ave., New York, N.Y., 1966. 224 pp., illus., $7.50.

*To be reviewed.*

## NOTICES

### *New Addresses*

AINSLIE/SAMUELSON, Architects and Planners, No. 1 Chelsea Place, Houston, Tex.

GEORGE ANSELEVICIUS, ROGER MONTGOMERY & WILLIAM W. RUPE, Architects, 379 N. Big Bend Blvd., St. Louis, Mo. 63130.

THOMAS CARCATERRA & ASSOCIATES, Consulting Engineers, 9301 Georgia Ave., Silver Spring, Md. 20910.

FRED S. DUBIN ASSOCIATES, Consulting Engineers, 312 Park Rd., West Hartford, Conn.

RAUSCHENBACH, CASINI & URBAN, Architects and Engineers, Independence Square, 6537 Brecksville Rd., Cleveland, Ohio 44131.

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SUREN PILAFIAN, Architect, 1334 Michigan Building, Detroit, Mich. 48226.

### *New Firms*

WILLIAM H. AHRENS, Architect, Via delle Terme Deciane, 6, Rome, Italy.

ALEMCO INC., Consulting Engineers, 375 Park Ave., New York, N.Y.

ASSOCIATED SYSTEM PLANNERS AND DESIGNERS, 14-22 Astoria Park S., Long Island City, N.Y. 11102.

CONSORCIO BRASILEIRO TECNOSOLO WARD, Consulting Soil and Foundation Engineers, Caldwell, N.J., and Rio de Janeiro, Brazil.

JERRY GRETHEN & ASSOCIATES, Architects, 623 Deerfield Rd., Deerfield, Ill. 60015.

G. JOHN STEVENS, Architect, 6623 Gratior Ave., Detroit, Mich. 48207.

IRV WEINER, Architect, 212 E. 49 St., New York, N.Y. 10017.

### *New Partners, Associates*

LAWRENCE HALPRIN & ASSOCIATES, San Francisco, Calif., have named FELIX M. WARBURG an associate.

SMITH, HINCHMAN & GRYLLS ASSOCIATES, INC., Detroit, Mich., have designated HARRY W. BESSLER, JR., JOHN B. MEEK, and JOHN S. TODD as associates.

THE ARCHITECTS COLLABORATIVE, Cambridge, Mass., has named HOWARD ELKUS associate partner.

### *Elections, Appointments*

THE AIA has appointed GINO ROSSETTI chairman of the Committee on Architecture for Commerce and Industry.

BURNS & ROE, Consulting Engineers, Oradell, N.J., have announced the appointment of HENRY GITTERMAN as Deputy Director, Engineering Division.

EDGAR TAFEL, Architect, New York, N.Y., announces that R. NIELL GARDNER will be in charge of institutional interior design.

### *Name Changes*

MOFFAT, MOFFAT & KINOSHITA, Architects, Engineers, and Planners, Toronto, Ontario; formerly, MOFFAT & MOFFAT.

NICAS, GOLDSTEIN & ASSOCIATES, INC., Architects, Omaha, Neb., upon the formation of a new partnership.

STANLEY CONSULTANTS INC., Muscatine, Iowa; formerly, Stanley Engineering Company.

Architect: Minoru Yamasaki & Assoc., Birmingham, Mich.
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ARCHITECTS—Architectural Draftsmen—Long established architectural-engineering firm in mid-South has permanent position for experienced architects and architectural draftsmen. Practice includes schools, hospitals, institutional, industrial and commercial buildings. Prefer men with minimum of five years experience. Complete benefits program: Bonus, Profit-Sharing, Retirement Plan, Hospital—Major Medical Plan, full vacation, seven paid holidays. All replies acknowledged and handled in confidence. Personnel Director, Lockwood, Greene Engineers, Inc., Box 491, Spartanburg, South Carolina.

ARCHITECTS—Columbia City, Maryland. The Rouse Company has immediate openings for qualified architects and land planners in the design and planning support of the new town of Columbia project. Applicants should have a B. Arch. degree and preferably two years of practical experience in architectural work in all phases from program and schematics through preliminary design. Sensitivity to building and land relationships and urban design required. Must be able to work with other architects, civil engineers, etc. Please refer complete resumes and salary history to: Director of Personnel, The Rouse Company, The Village of Cross Keys, Baltimore, Maryland 21210.

ARCHITECTS—Minimum of five years experience on design and working drawings. Excellent opportunity for advancement in an office doing schools, hospitals and commercial work; moving expenses allowed. Send experience resume in confidence to Radotinsky & Associates, 1401 Fairfax Trafficway, Kansas City, Kansas.

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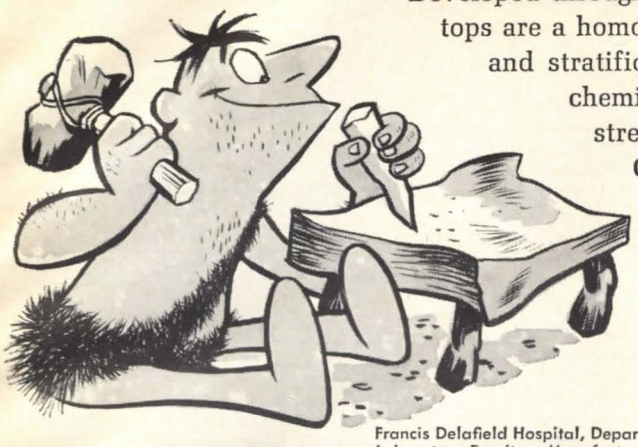

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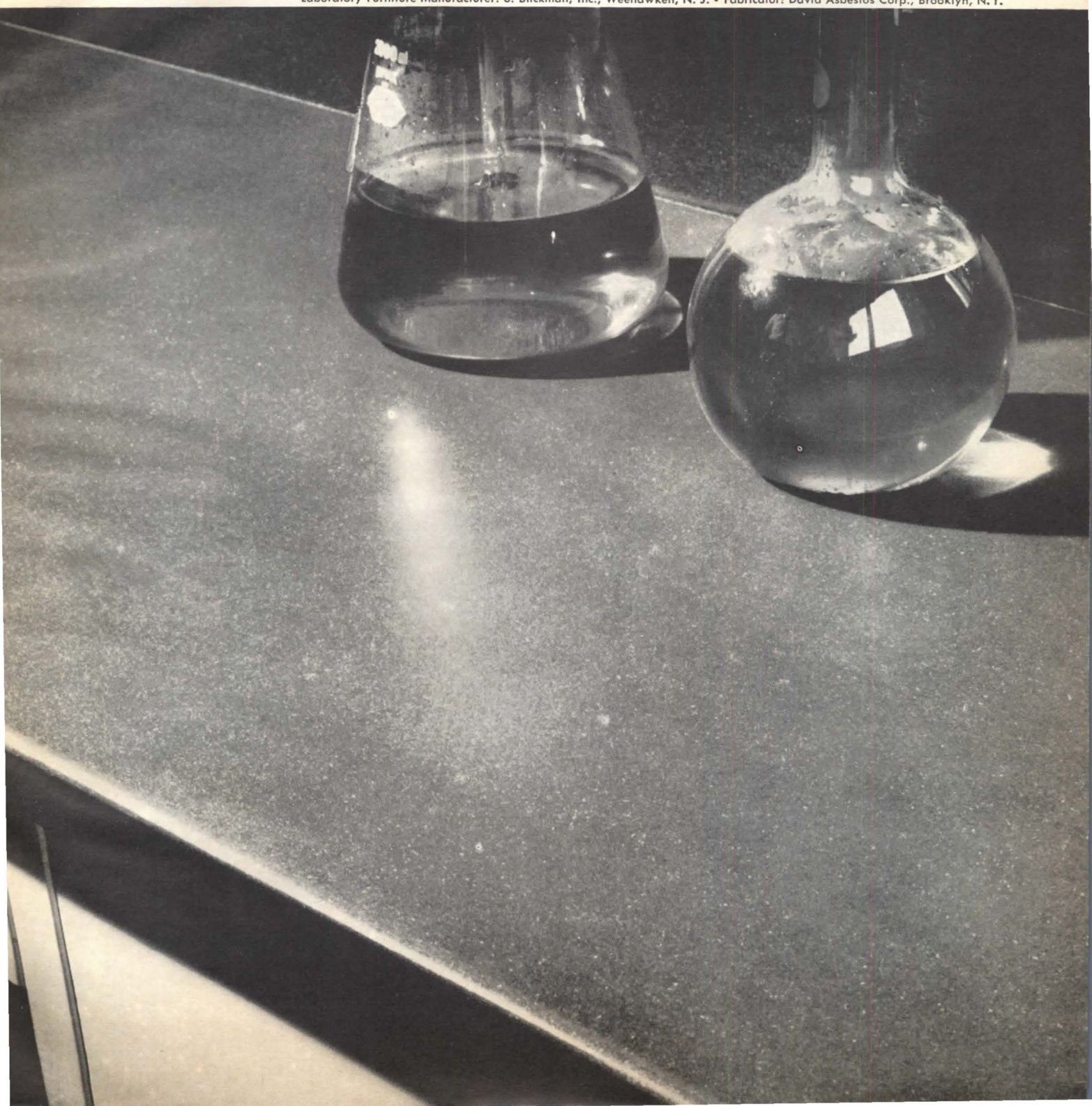

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ARCHITECT—Degree, Ohio license since 1957, age 34, family. 12 years experience, 9 years as Arch. Dept. head working on all phases including client contact, preliminary design, working drawings, specification writing, supervision and coordinating mechanical & structural. Job desire: Project Architect leading to association. Resume upon request. Box #350, PROGRESSIVE ARCHITECTURE.

ARCHITECT—Registered, B. Arch., 38, married. Co-designer Progressive Architecture First Design Award. Several years with Eero Saarinen & Associates in a position of special responsibility. Included in Fortune magazine article, "Young Architects on the Way Up", Fortune July 1966. Seeks responsible design position with progressive firm. Box #352, PROGRESSIVE ARCHITECTURE.

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EDUCATION—Position in basic or advanced architectural design beginning September. 1967 required by American returning from similar position in England. Credentials include B. Arch., MFA, 4 years office experience, 3 years teaching experience, various sculpture exhibitions. For further information please reply by Air Mail: John Maddocks, Department of Architecture, College of Technology, Oxford, England.

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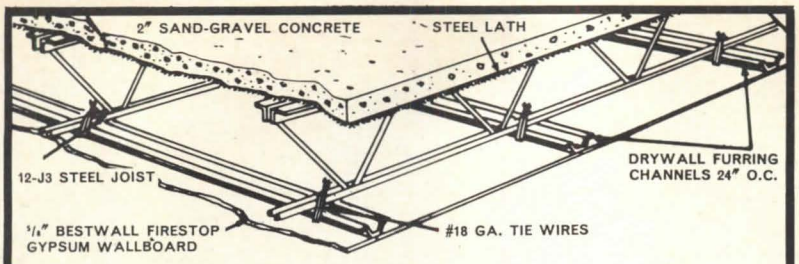


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