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Letters to the editor

Thank you for your July 1974 Editorial which reminded my associates and me of our position in the "World of Architecture."

The egalitarian approach over the years has been so appalling that it has reached into our everyday "life style" (note: cliche).

The public impression (or lack of it) has been a direct result of our humble attitude. There is nothing humble about what we do and pride of profession, yes, and even ego should become a part of our "style.

It was not until I started working overseas many years ago that the pride in one's accomplishments was restored.

For many years I have carried a news report about Mr. Wright, which has always amused me, but also reminded me that Architects are special people, and their contributions are a part of our life in these United States. For Mr. Wright never forgot (nor let anyone else forget) who he was.

Bravo to an Editor who tells it like it is.

E. Araben, president
E. Araben Associates, Inc.
Architects and planners

Your Editorial July 1974 is great. I'm sick too of gloom peddlers.

Bill Caudill

The Editorial in your magazine's issue of July 1974 was cogently presented as a critique on our architectural profession, yes, and even ego should become a part of our "style."

Regardless of my personal feelings toward living now in a community of the future, I am convinced that the success of the planned communities will depend on a great degree on how successfully architects and planners can enable residents of these communities to pursue the desirable life during the development period. If the present trend toward scarcity of land, fuel, drinking water and building materials continue, planned communities may soon become a matter of necessity rather than desirability. Until that time, however, the viability of a planned community will depend upon its ability to attract and hold individual and corporate citizens. To do so, it must offer its residents some clear advantages over neighboring communities.

Newness, by itself, is short-lived. Thus the new community and its developers are faced with the problem of providing both the expected services and amenities and the new town advantages before there is an adequate tax base to support them. In the absence of these services and amenities, there is little incentive for residents to stay. A forest of For Sale signs hinders both the social development of the town and the marketing of new construction.

The mercantile establishment of Park Forest South includes a bank, a gas station, an ice rink and several convenience stores, but no supermarket. A town of 5,000 (and growing) should be able to easily support a supermarket. One is planned, but its projected size is too large for the Village now. Soon, we'll need the larger store. Meanwhile, we have to drive 4 to 8 miles each way to buy groceries and the Village loses taxable sales revenue if it needs to provide the expected municipal services. We also lose the community identification which a local store can help to establish. While this example may be unique to Park Forest South, it illustrates the kind of problem which a new town may encounter, and which must be solved if the new town is to succeed.

I would like to suggest that a brief discussion of what might be called the present/future dichotomy would make an appropriate epilogue to your Building Types Study on new towns. The matter of developing the new town in such a way as to make it a desirable community during its growth period seems to be missing from the discussion. If you feel that such a discussion would be in order, and if you feel that the experience of one who lives in a new community and who has served in its government would be illuminating, I would be happy to contribute to it.

Bruce P. Barnes
Park Forest South
Illinois

Calendar

SEPTEMBER

OCTOBER
2-6 Twenty-fifth anniversary meeting of the National Trust for Historic Preservation, Portland, Ore. Contact: National Trust for Historic Preservation, 740-748 Jackson Place, N.W., Washington, D.C. 20006.
7-9 Third Annual Architects in Industry Seminar, LaQuociffe Executive Seminar Center, Palm Beach, Fla. Sponsored by the AIA. Contact: Maurice Payne, AIA, 1735 New York Avenue, N.W., Washington, D.C. 20006.
18-19 Designers' Saturday, tour of 24 contract furniture showrooms, New York City. Contact: Designers' Saturday, P.O. Box 1103, FDR Station, New York, N.Y. 10022.
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For more data, circle 4 on inquiry card
We replaced the sun in St. Mary's.

Around October, heat and light become precious in St. Mary's, Alaska. Winter comes early. It stretches down from the Arctic Circle like a giant sheet, blotting out the sun and smothering the warmth.

The people of St. Mary's must be ready. And, they are.

Two days after Christmas of 1969, the Mayor of St. Mary's flicked the switch of their new generating plant. The generators whirled and brought a new life to these Arctic people. And the power behind this new life was supplied by a 16V-71N Detroit Diesel engine... an engine which has performed flawlessly ever since.

Electricity came to St. Mary's, as it has to other Alaskan villages, through the cooperation and skill of a Detroit Diesel Allison distributor. This distributor was provided specs by the Alaska Village Electric Co-op. He then custom built the complete generating plant, including a second peaking and service generator powered by a Detroit Diesel 6-71.

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The installation of this new power plant has meant everything to the people of St. Mary's. A new fish processing plant has opened on the waterfront. The nearby airport uses it for vital navigational aids. And the generators will soon be used to power St. Mary's new 50-bed hospital.

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For more data, circle 6 on inquiry card
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"Concerns of a teacher of architecture" by Robert H. King

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ARCHITECTURAL BUSINESS

65 AIA survey of the profession, part 1: individual members
The 1974 survey of the profession was conducted by questionnaires mailed to all AIA members and processed by Case and Company. Part 1 deals with a profile of individual members; their ages, income, education and professional character. Part 2, later this year, will cover architectural firms, their size, organization etc.

71 Building costs
As bankers turn their attention to high-yield, short-term loans, mortgage money shrinks and the rising costs of materials further limits interest in housing. John Farley comments on cost control methods of builders and others.

73 Building activity
Shifting population profile and accelerated increase in the formation single-individual households as compared to family units have skewed the housing demand and built in some precautionary ideas about future demand. Jim Carlson puts a knowing finger on the pulse.
FEATURES

103 Interior design for dramatic spaces
Visual impact and functional efficiency mark a remodeling of these four commercial spaces in San Francisco:

104 Offices for Coca-Cola,
John O'Brien/John Armstrong, Barry Bruckoff Interiors, associated architects and interior designers.

106 Vidal Sassoon Salon,
Gordon Bowyer & Partners, Robert H. Hersey, associated architects.

108 Offices for Dymo Industries, Inc.,
Environmental & Planning Research, Inc., architects and interior designers.

110 Daniel Eastland Men's Shop,
Robinson and Mills, architects.

110 Today in China
A first-hand report, with text and pictures by RECORD editor Walter Wagner.

125 Three projects by Hoberman and Wasserman
Originally intended to serve the needs of the elderly, two housing projects were completed which produced results beyond "the call of duty" for that age group, and the activist participation of the architects produced an expansion of the third project's community-center function to benefit people of all age groups. Each project exemplifies both social consciousness and the ability to enhance its environment.

BUILDING TYPES STUDY 466

135 Religious buildings
Faced with dwindling attendance and feeling the current economic crunch severely, churches are responding in various ways. Some building programs have been curtailed completely. Others are renovating instead of building from scratch. Many congregations have merged in an effort to share their burdens. In all cases, the work—and the attitudes—of the architects who design churches have been undergoing significant changes.

136 Church of the Covenant
Cleveland, Ohio
by Richard Fleischman, Inc.

139 Assembly Church of God Mission
Santo Domingo, Dominican Republic
by Ernst Bliem

140 Temple Beth-El
Great Neck, New York
by Armand Bartos & Associates

144 St. Peter Claver
West Hartford, Connecticut
by Russell Gibson von Dohlen

146 Charles River Park Synagogue
Boston, Massachusetts
by Childs Bertram Etsckares

150 Northwoods Presbyterian Church
Doraville, Georgia
by Jack Durham Haynes

ARCHITECTURAL ENGINEERING

151 Clear, unobtrusive sound amplification for an open-plan school
A highly sophisticated audio-visual communications system in Branford, Connecticut Intermediate School gives ample sound in zones down to a small increment of classroom area, without disturbing interference.

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NEXT MONTH IN RECORD
Selection of A/E Firms
An Architectural Record Round Table to study ways in which public bodies, Federal, state and local, might better fulfill a client role in selection and commissioning of A-E firms will be reported in October.

Building Types Study:
Offices in the suburbs
Both speculative and corporate-headquarters buildings are sprouting in the areas around cities, and—while the flight to the suburbs may not be the best thing for urban areas—a whole new breed of building-type is being produced. Demonstrated considerations will include employee amenities and planning which recognizes the varying conditions of the local landscape.
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A classic design for today’s office environment.
The NCARB on internship: "the dark age" of architectural students

The "internship program," that gap between graduation from architecture school and eligibility to take the professional examination, is not—almost everyone would agree—much of a program. It's been pretty much a hit-and-miss proposition, and while many graduates have been fortunate enough to fall into good hands for this period of practical training, and thus get the broad experience they need, many have indeed been subjected to "the gap"—"the dark age"—in the making of an architect.

NCARB has now decided to do something about this "lapse"—and at NCARB's recent convention Charles Blondheim, architect of Montgomery, Alabama and chairman of NCARB's Committee on Internship, made an important and imaginative proposal for organizing, structuring, and monitoring these critical years in an architect's training. It seems such a sensible (indeed essential) program that the wonder is it wasn't dreamed up and installed earlier. But it wasn't, and so three more cheers to NCARB for tackling a whole broad spectrum of soft spots in assuring the competence of earlier. But it wasn't, and so three more cheers to NCARB for tackling a whole broad spectrum of soft spots in assuring the competence of members of the profession (see also August editorial).

Mr. Blondheim's paper summed up the internship problem well:

"The existing system of internship is vague, inconsistent, and uncoordinated.

"The candidate has little or no guidance from the groups and organizations involved, and the fact that he learns is often happenstance.

"The entire burden of training is placed on the shoulders of the intern.

"The organized involvement of NCARB, member boards, and the profession could probably be best described as casual.

"To rely solely on the (new NCARB) exam as a measure of competence is impractical. And yet training, because of its inconsistency and lack of an evaluation process, falls short of providing any standard of competency."

Mr. Blondheim's proposal for solving the problem include these "broad brush" ideas:

"We must develop a mandatory recording and monitoring system to assure that all candidates are in a controlled procedure.

"A sound, continuous and mandatory counseling system should be organized.

"A uniform, mandatory experience portfolio should be developed.

"Appropriate nomenclature, designating with dignity the status of the trainee, should be established."

Mr. Blondheim suggests this approach: Shortly before graduation from architectural school, the candidate attends an indoctrination seminar conducted at the school by a "staff counselor," a full-time employee of one or more NCARB member boards. This counselor explains the following program. The trainee also files with a member board and NCARB, receives his "portfolio" and other forms, paying a modest fee.

After graduation, the trainee enters full-time architectural employment, advises the board of his employer's name, requests assignment to a staff counselor, is assigned an NCARB identification number, and enters the official training program.

At his option, the candidate may join a "trainee organization" fostered by NCARB and AIA and its chapters.

The staff counselor interviews the candidate and his employer, and issues training guidelines to the employer, who becomes the student's "professional counselor." The trainee maintains frequent contact with the staff counselor, who begins a file on the candidate that is maintained through the internship period. The trainee begins compiling his portfolio and is responsible for its maintenance; and, with the advice of his staff counselor and professional counselor, undertakes continuing education development in areas of weakness or special interest.

Through the internship period, the trainee continues building his portfolio, inserting counselor reports and other data, and exhibits of his work: "design development drawings, sketches, selected working drawings, structural calculations, etc." He would pay an annual renewal fee of perhaps $25, primarily to cover costs of counseling and file maintenance.

Throughout each candidate's training period, the member board—through the staff counselor—would "maintain surveillance and evaluate trainee progress."

And thus, in due course, the candidate would apply currently before the member board and NCARB for admission to the examination—with portfolio in hand.

This portfolio—together with a possible "special design problem" which might be prepared by NCARB and handed out six months ahead of exam time—might just, Mr. Blondheim points out, "develop as the answer to the graphics exam."

In all, it seems to me, a very thoughtful proposal that deserves the most careful consideration by NCARB. Students, present and future, should be grateful for this answer to a most difficult problem. Once more, three cheers to NCARB!—Walter F. Wagner Jr.
Concerns of a teacher of architecture

Bud King was a high-school friend. He is now—after a passage of some years—Robert H. King, an architect with a general practice in White Plains, New York; and has for six years taught design and drawing at New York Institute of Technology in Old Westbury, New York. At a recent luncheon, he spoke so movingly about architectural education that I asked him to write his thoughts so that I could share them. And he did.

My observations of the school dilemma are first-hand, with the perspective of a teacher who practices architecture, and practicing architect who teaches. In my opinion, architectural education is like an intricate and obsolete old building that no longer works. Though tempted to tear it down and start all over, we are reluctant to condemn the old structure, and with it the familiar traditions of a more comfortable era.

Three basic problem areas trouble the schools, each one different but closely related to the others.

First, there is the curriculum question, which in many ways is more political than pedagogical. Then there is the economy and the whole financial crisis which threatens private colleges everywhere. Finally, there are the architectural faculties and the profession—the two more influential forces shaping student attitudes. While we may not like to think of ourselves as a Problem, we must recognize that we teach and exemplify by everything we do, or fail to do; and that, in a perfectly understandable way, we tend to pass along our cherished values to today's students for their use in some future context that nobody can accurately predict.

If all of these problems had a single heading, it would read Obsolescence. A long program of study is especially vulnerable to change and, today, even the rate of change is accelerating. To survive at such high speed, we must concentrate on what lies far ahead. Short-range vision is not good enough; short-range solutions won't touch the deeper malady in the schools. A closer look at these problems will demonstrate why.

• Curriculum: The requirements for a Bachelor of Architecture degree sound pretty much the same; from Florida to Oregon. A check of the course bulletins will show that each school carves up its 160 or so credits into Drawing, Design, Construction, Theory, History, Structural Design and Mechanical Equipment with electives and special studies to produce the "whole person." But, depending upon emphasis, local values and attitudes, faculty interests, and other variables, these similarities can be very superficial.

Now that the NCARB professional exam has been adopted by a majority of the states and is virtually a uniform national exam, it is fair to ask if every architectural student is being prepared to pass it. Of those who tried last December, in the Northeast region, only one out of three passed. That would seem to be a very high barrier, considering the intelligence and creativity of today's students. However, the exam tests for judgment, and that implies a uniform system of values. I believe that curriculum problems start here.

New ways must be found to make the study of architecture totally responsive to the barometers of the world we live in. This, of course, will require that those who teach stay responsive too. While we may not be able to predict the future, I believe we can see the larger outlines: increasing world population, growing scarcity of land and natural resources, gradual industrialization of the underdeveloped nations, and further dehumanizing of a precarious environment.

Today's students must be equipped for that kind of a future where their priorities, their technical skills, their social responsibilities will be urgently tested. As we plan next semester's curriculum, will we help or hinder their growth?

• The Faculty and Others Who Profess: For the student, impatient with make-believe design problems, and anxious to start real projects, the current work he visits on field trips or sees in magazines can have a tremendous impact. It is the experiencing of real buildings that teaches best. What we finally build, publicize and praise becomes a clear record of society's aspirations and values; a measurement of our consciousness level. It is the ultimate lesson and, unhappily, at times it seems more appropriate for the fifties than for the decades ahead. Tomorrow's architects will have their roots someplace else, and their buildings will reflect other values. We are in a state of transition and architecture is bound to change to meet new imperatives.

In our pre-occupation with static elements of form, rhythm and texture, we ignore the dynamic forces that are everywhere else reshaping our cultural perspective. A new aesthetic would seek to make architecture accountable to the behavioral, physical, and environmental sciences, to the dimension-warping influences of the Electronic Age, and to the persuasive demands for social justice.

Where these new vectors lead, no one can be certain, but they provide a framework for growth and seem pointed toward the coming century.

Architecture is at a crossroads. Recent changes in the licensing exams, and efforts to foster international reciprocity are signs of broader goals. I take pride in belonging to a profession that initiates a year-long, no-holds barred, evaluation of its schools and accreditation standards—as AIA, ACSA, NAAB, NCARB, and ACS/AIA are now doing. We have before us the possibility for real diagnosis and treatment. Let us hope we come up with something more than a face-lift.

—Robert H. King
As the new tapestry renaissance, unparalleled since the Middle Ages, spreads throughout the world, buyers look to the Aubusson region of France for tapestries of the highest quality. It is here that the centuries-old House of Pinton, premier Aubusson tapestry weavers, are located. Pinton produces such masterpieces as the 8 x 20 foot work (above) of Alexander Calder especially designed for the lobby of the IBM Corporation’s Headquarters in Armonk, New York.

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Jones, Mann and Associates. Dickson and Davis.
Fabricator: Bonitz Insulation Co., Birmingham.


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OFFICE NOTES

New firms
Turner and Dambrans Architects have recently expanded their offices and moved to 3300 Riverside Drive, Columbus, Ohio.

Sippican Consultants International, Inc., a recently incorporated consulting engineering group headquartered in Cambridge, Massachusetts, has formally announced its readiness to provide comprehensive engineering services for architectural, industrial and municipal clients on an international front. Three well-known and long established consulting engineering firms have been joined to form SCI. It will operate under the leadership of William J. LeMessurier, president of SCI, as well as president of the division that bears his name.

David Travers, former vice president and director of corporate planning for Gruen Associates has opened offices in Santa Monica. The new firm, David Travers & Associates, will offer business development and management consultant services to architects, engineers, planners and other design professionals.

Raymond Ziegler, FAIA, Peyton E. Kirven, AIA and E. J. Parrish, AIA announce the formation of The Raymond Ziegler Partnership, Architects, 525 South Virgil Avenue, Los Angeles, California. They were formerly associated with Allison Rible Robinson and Zeiger/Leo A. Daly.

Koerner Yakas Ben Amer announce the establishment of offices for the practice of architecture, planning and engineering.

William E. Swank and Associates, formerly Swank Gesler/Partners, will continue its international architectural and planning activities in Orange, California and will also open two additional offices in Denver, Colorado and Beirut, Lebanon.

Copelin and Lee, Architects announce that the firm name has been changed to Copelin, Lee and Chen, Architects. Mr. Lien Ching Chen has been named a partner in the new firm.

Jeffrey Gross, Architect announces the opening of his new offices at 2023 Wilson Street, Hollywood, Florida 33020.

New partners, associates, firm changes
Curtis H. Green has been elected president of Hammel Green and Abrahamson, Inc. Architects and Engineers, for the coming year at the firm’s annual meeting. Bruce A. Abrahamson has been elected vice president and M. Lee Dahlen secretary. Richard F. Hammel will continue as treasurer and chairman of the board.

SPECIAL NOTE
Due to the unprecedented response we’ve received about our first annual mid-August issue—“Engineering for Architecture” 1974—we have made reprints of the main editorial section of the issue available at $3.00 each. Write ARCHITECTURAL RECORD, A/E Reprints, 1221 Avenue of the Americas, New York, New York 10020.

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In the test, four experimental walls were constructed according to the design specifications of the FHA. The studs for the walls were selected from 250 UTILITY grade Engelmann spruce studs, the lowest grade capable of doing the job. This grade is lower in quality than Select Structural, No. 1, Construction, No. 2, Standard and Stud grades commonly specified for stud use. WWPA Quality Supervisors selected from pieces containing strength reducing characteristics such as knots. The purpose was to construct walls with less strength than would result with normal site use of Engelmann Spruce UTILITY grade studs.

To assure this, materials selected for test walls came from a computer study of 1,000 possible wall combinations. Therefore, units selected for destructive testing represented the weakest 1-1½% of all walls that could possibly be built from the sample.

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ARCHITECTURAL RECORD September 1974
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For more data, circle 22 on inquiry card
The $11.3 billion omnibus housing bill has been sent by Congress to the White House for President Ford's signature. The new bill provides, among other organizations, $8.6 billion over the next three years in community block grants, and provides for continuation of Section 235 and 236 subsidy programs for up to two years. The legislation is the first omnibus housing bill since 1968. Since the measure only authorizes funding for three years of a six-year program, separate appropriation bills will have to be approved each year. Details are offered on page 34.

The House of Representatives has approved an $11 billion mass transportation bill, cutting it—at the request of President Ford—from $20 billion. The bill continues Federal aid for mass transit capital funding, and also provides operating subsidies for the first time. The bill would provide $760 million for construction grants and operating expenses for nine U.S. cities with rail systems in operation or under construction. For details, see page 34.

Twenty-five cellular or foamed plastics makers have signed a provisional consent decree with the FTC, and have agreed to publicize the flammability dangers of those products used for building insulation and furniture cushioning. Details on page 34.

Industry comments on the proposed ASHRAE Standard 90-P on energy conservation are due September 30. Written by ASHRAE, after the assignment was relinquished by the National Bureau of Standards in February, the controversial document on design evaluation criteria "reduces extensively" the original NBS intent, according to one Bureau spokesman. (For a full discussion of the issue, see the Energy Conservation section (page 147) of ARCHITECTURAL RECORD's Engineering for Architecture, Mid-August, 1974.)

Newly revised FHA Minimum Property Standards became effective August 1, and they are said to encourage design innovations and improved building technology, with greater emphasis on the performance approach. The new documents apply to low-rent public housing as well as housing approved for mortgage insurance by the FHA, and are mandatory for housing built with assistance from the Veterans Administration, Farmers Home Administration, and HUD.

The first section of the portfolio for AIA Fellowship nominations is due October 1, 1974. The remainder is due on November 1. Candidates must have been corporate members for at least 10 years, and must have made a notable contribution to the advancement of the profession. Copies of the jury's criteria are available from Maureen Marx, at AIA headquarters, Washington, D.C.

October 21 is the deadline for submissions for the 1975 AIA Honor Awards Program. Entry slips, obtained from AIA headquarters in Washington, D.C., must be postmarked no later than September 16. Dates will be strictly observed. Projects must be works of architecture or urban design, executed anywhere in the United States or abroad by architects licensed to practice architecture in the United States, and completed after January 1, 1964 and prior to the submissions deadline. A registration fee of $30 per entry is due with the entry slip.

Frank Lloyd Wright's home in Oak Park, Illinois has been purchased by the Oak Park Development Corporation, and a newly-formed Oak Park citizens' organization. The house and studio at 428 Forest Avenue and 951 Chicago Avenue will be restored, and donations may be sent to the non-profit Frank Lloyd Wright Home and Studio Foundation, Box 1889, Oak Park, Ill. 60301. Wright designed the house in 1889 and lived in it with his family for 20 years. Another FLLW landmark is to be preserved: Unity Temple. See page 34.

Hubert B. Owens was installed June 19 as president of the International Federation of Landscape Architects, at the organization's biennial congress in Vienna, Austria. Mr. Owens is dean emeritus of the School of Environmental Design at the University of Georgia. Among his activities, he has advised Mrs. Lyndon Johnson on the Beautify America program.

Federal land use legislation is likely to pass the next session of Congress, according to Gary Terry, executive vice president of the American Land Developers Association who presented his views at a recent meeting of developers in Denver. Also on the topic, 48 states are reported to have some land use activities in operation or under consideration. Details on page 34.

Richard H. Fox of Anniston, Alabama is the recipient of the 1974 $5000 LeBrun Travelling Fellowship, given biennially by the New York Chapter, AIA. The award is for six months' travel and study of architecture outside the United States. Mr. Fox who was selected from 17 applicants holds his B. Arch. degree from Auburn University. Steven J. Gottesman and Mark Kates, both of Brooklyn, New York, received honorable mentions in the competition for design excellence.
Hirshhorn Museum will open on the Mall in Washington, D.C., October 5.

The Hirshhorn Museum and Sculpture Garden above), designed by Gordon Bunshaft of Skidmore, Owings & Merrill, will open to the public October 5 in Washington, D.C.

A gift to the nation from Joseph H. Hirshhorn, the museum will house his collection of paintings and sculpture, works "tracing the development of modern art from the late 19th century to the present." In the inaugural exhibition, 900—375 paintings and 525 sculptures—from the permanent collection of European and American art will be shown, through September 1975. Among artists represented in the collection are: Auguste Rodin, Thomas Eakins, Henri Matisse, Pablo Picasso, Willem de Kooning, David Smith, Henry Moore, Mark Rothko, and Alexander Calder.

Located on the Mall, the building is a circular reinforced concrete structure, 231 feet in diameter with an inner open core. Raised 14 feet above the plaza on four massive piers, the four story building has an exterior of precast concrete with pink granite aggregate. The facade is broken only by a 70-foot-long balcony on the third floor, overlooking the Mall and sculpture garden, a multi-level terrace with reflecting pool.

The museum was created by an Act of Congress in 1966, which authorized acceptance of Mr. Hirshhorn's gift of the collection and $1 million for the acquisition of art. When the cost of construction rose, the $1 million gift was used to augment the $15 million appropriated by Congress for construction, which began in 1970.

The new museum will be under the administration of the Smithsonian Institution.

Carnegie-Mellon studies computer-aided design

The Institute of Physical Planning at Carnegie-Mellon University is developing a computer system that promises among other benefits, to allow architectural and engineering changes to be made during design in a very cost-effective manner. The CMU research project focuses on design documents for construction as well as design evaluation and engineering analyses.

For instance, if an architect decides he wants type-B beams where he has planned for type-A beams, the computer would change all design plans, including those for type-B beams in the structure, and would specify related consequences of the substitution.

A user of computer-aided design would be able to describe almost any type of structure or shape in details totaling hundreds of thousands of parts. Diagrams in two or three dimensions could be generated quickly. All necessary technological and building code requirements will fit into the computer language for use in design and engineering analyses.

Estimates are that the computer hardware will cost between $40,000 and $50,000, plus the expense of a staff to run and maintain the system, expected to be ready for practical implementation by 1976.

Congress votes no on Capitol facade

Congress voted no funds for restoring or extending the West Front of the U.S. Capitol Building in passing the final version of the legislative branch appropriations bill for the current fiscal year. Also eliminated at the last minute was a proposed $300,000 study of space needed on Capitol Hill.

The Senate had argued for inclusion of $20.9 million for the first restoration and the sum for the space study in conference committee sessions of the two bills but yielded to an adamant House position before sending the measure to the White House. (The entire bill contains nearly $707.3 million in fiscal 1975 funds, including just over $1.5 million for the Architect of the Capitol.)

The American Institute of Architects, which has supported restoration over extension of the West Front facade, expressed disappointment that Congress had again postponed action.

Fifty-eight states have begun some efforts in land use control

Fifty-eight states have at least begun state land use policy studies or have instituted land use controls to cope with specific statewide problems. This, according to Land Use Planning Reports in Washington, D.C.

Eleven states now have statewide land use acts. Measures passed this year in Colorado, Maine, Maryland, North Carolina, and Utah were less comprehensive than those passed earlier. States with land use acts already under way are Hawaii, Florida, Minnesota, Nevada, Oregon, and Vermont.

In addition to those 11, New York has a number of legislative initiatives that give the state broad authority over land use. States considering concrete proposals for land use legislation include California, Connecticut, Idaho, Illinois, Indiana, Iowa, Kansas, Massachusetts, Michigan, New Hampshire, New Mexico, Rhode Island, Washington, Wisconsin, and Wyoming. Some of these proposals, as in Michigan, Iowa, and Idaho, were narrowly defeated by state legislatures.

But even the states reluctant to move toward comprehensive land use legislation have found it necessary to institute controls over specific problems. Six states—Delaware, California, Washington, Rhode Island, New Jersey, and Maine—are actively pursuing programs to regulate land use in their coastal zones. Twenty-five others have applied for Federal coastal zone planning grants. Over 33 states have control over power plant siting, strip mining, wetlands and subdivisions. A 58-page report on these findings is offered by LUP Reports.
Arts park with 2500-seat theater opens in suburban Buffalo

Twenty-five plastics manufacturers have signed a consent pact with FTC

The master plan for Artpark, designed by Hardy Holzman Pfeiffer, contains recommendations for nature trails with markers pointing out historic spots, and for geologic trails and hiking paths along the Niagara Gorge with signs explaining the 400-million-year-old stratification.

The master plan for the theater was designed by J. Thomas Rosch, Director of FTC's Bureau of Consumer Protection. It is the first development from the agreement, since the FTC has accelerated efforts of local building code officials in developing regulations prohibiting the use of the materials unless confined within a firewall. Many local governments have already adopted such regulations.

The FTC has no recommendations for furniture cushion substitutes. However, he and other FTC officials suggested that fiberglass might be an adequate substitute for insulation purposes. But he said FTC had no recommendations for furniture cushion substitutes.

June 2, 1973, the FTC said an eight-month investigation had prompted it to issue a notice of intent to file a "class action" complaint against 26 major companies and two organizations. The FTC had also named the American Society for Testing and Materials, but has temporarily dropper the organization from this action. The staff of the commission, however, was instructed to continue an investigation of ASTM and "others" engaged in standards-setting and production certification activities that the commission thinks "may result in deceptive or unfair standards and certificates."

SPI's announcement said that by underwriting and cooperating with the research program, the industry is seeking to "provide data that will lead to a thorough understanding of all aspects of cellular plastic combustibility, plus improved test methods, thus enhancing consumer safety and confidence."


The master plan for Artpark, was designed by the American Society for Historic Preservation (ASHP), and was awarded to Hardy Holzman Pfeiffer in a competition for the development of Artpark, as a place to develop "arts and culture," and as a "living museum." The master plan is a combination of "arts and culture," and as a "living museum.

High wire artist chooses World Trade Center

Early on the morning of August 7, as hundreds jammed the streets below, a 25-year-old Frenchman named Philippe Petit walked a tightrope between the twin towers of New York's World Trade Center.

Mr. Petit made the walk—a distance of 131 feet, 1350 feet above the street—in about 45 minutes, during which he surrounded onlookers with a series of knee bends and other stunts, before turning himself over to the police on the roof of one of the 110-story towers. He was booked for disorderly conduct and criminal trespass. However, charges were dropped in exchange for a free aerial performance by Mr. Petit in a park for "the children of the city."

Asked why he did it, Mr. Petit—a professional stunt man—responded: "If I see three oranges, I have to juggle. And if I see two towers, I have to walk." But of course.

The House of Representatives approved a mass transit bill

The House of Representatives has approved an $11 billion mass transportation bill, cutting it at the request of President Ford from $20 billion in an effort to reduce inflation. The bill would continue Federal aid for mass transit capital projects, and provide for the first time operating subsidies. The House voted on the first major mass transit measure since 1967. Senate action on a transit bill is still in the committee stage.

The six cities would share a major portion of the total under the terms of the committee plan. Under a committee amendment, the Transportation Secretary would be guided by such factors as use, urbanized area population, previously approved projects and local fund commitments in determining the amounts each of the major cities would receive.

Eligible for the determined share of the $11 billion are New York, San Francisco, Atlanta, Chicago, Baltimore, Boston, Cleveland, Philadelphia and Pittsburgh.

Kaufmann Fund donates $250,000 for Unity Temple

The Edgar J. Kaufmann Charitable Foundation of Pittsburgh has offered a matching grant of $250,000 to provide endowment funds for Frank Lloyd Wright's Unity Temple in Oak Park. The Kaufmann preliminary offer is contingent on the ability of the Unity Temple Restoration Foundation to provide the necessary funds.
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Prototype solar home under way in Tucson

The Copper Development Association is the client for this "Decade 80 Solar House" (right) designed to prove out alternative power sources. Nucleus of the house is a solar energy collector copper roof system, glass-skinned and integrated with copper tubing containing water, the home's chief energy transport and storage medium. According to the CDA, everything in the 3000-sq ft house can be run on stored solar energy, which will replace approximately 60 percent of conventional home energy. M. Arthur Katch is the architect. The house will be studied for use of solar energy technology in home environments.

First phase of San Francisco area residential community moves ahead

Goetz, Hallenbeck & Goetze have designed the master plan and first phase of construction for Albany Hill (shown), Albany, California. Initially, 530 middle-income dwelling units are being built in three buildings clustered in varying heights, with 11- to 17-story structures rising from a three-level garage. Each building contains four to seven units per floor which scales down the individual parts of the development, and the angular relationships provide maximum view opportunities. The roof and portions of the top level of the garage are common spaces for recreational and commercial use. Eventually, the complex will contain 2500 to 3000 units in buildings up to 25 stories. Landscape architects are Sasaki, Walker Associates.

Combined usage places high school with offices

Rising at the corner of Park Avenue and 34th Street in New York is this combination high school-office building, a 44-story reinforced concrete structure designed by Shreve Lamb & Harmon Associates. The design places a 34-story office building over a 12-story school, each totally separated, functionally and mechanically. Siting the main tower diagonal to the avenue creates plaza spaces, while a 20-ft grade variation permits both office and school entrances to be at sidewalk level—one on 34th Street, the other on 33rd Street. The school will serve 1800-2500 students, and include community facilities.
San Jose branch library to commence this month

Herbert Cuevas has designed this 7200-sq ft branch library for the San Jose, California Library Commission. Designed for energy conservation, the facility features windows sized and located to prevent direct sunlight exposure, and overhangs and operable windows on the east and south to provide natural ventilation. Redwood and stucco are the primary finish materials.

African country adds hotel, apartment space

A 20-story addition to the Hotel Inter-Continental Kinshasa and an adjacent 24-story apartment tower is planned for a 14-acre site in Kinshasa, the capital of the African country of Zaire. Welton Becket and Associates designed the $18 million project in off-white concrete and glass, and sited the structures on a hill overlooking the city and the Zaire River. The apartment building will be stepped in four stages from 17 to 24 stories, with cantilevered balconies and flush windows.

Ground broken for Borough of Manhattan College

The permanent home for the new Borough of Manhattan (New York) Community College was begun recently in a renewal area that was, in the 19th century, a colorful center of commerce, and the city’s main produce market. This new building, designed by Caudill Rowlett Scott, is primarily masonry, with aluminum windows, over a steel frame. It is a seven-story building containing 683,000 sq ft for classrooms, labs, offices, library, daycare center, gym and student union. Completion is planned for fall 1977.

General Motors Building in Atlanta designed by Cooper, Carry & Associates

This 105,000 sq ft office building located in the northwest suburbs of Atlanta features a 3800-sq ft, four-story enclosed atrium (top) surrounded by offices. Clerestories introduce light into the atrium, and the triangular entrances (bottom) at opposite corners of the building gain shade and rain protection from the overhanging upper floors. Structure is poured-in-place boardform concrete, with bronze glass curtainwall enclosure. The project is budgeted at $5 million.

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Oklahoma City hotel and commercial center

A fifteen-story, 414-room hotel and commercial center comprise the $17 million Century Center designed by Hudgins Thompson Ball and Associates for downtown Oklahoma City. The solar bronze glass and precast concrete complex incorporates 140,000 sq ft of retail space, 309,000 sq ft of hotel space with parking for 720 cars. The Center is connected by underground passage to a convention facility located directly across the street. The Sheraton Corporation will operate the hotel facilities when construction is completed late in 1975. Specialty shops, theaters, restaurants and clubs will occupy the two-story retail mall. The fast-tracked project is said to fit into the I. M. Pei comprehensive plan for the business district of Oklahoma City.

New headquarters for Akron, Ohio firm designed by Perkins & Will

Construction is underway, with completion anticipated for spring 1975, on this headquarters office building for Coastal Industries, Inc. The building is a one-story split level scheme with open-office space. A skylighted atrium connects this space with the management group a half level below. The atrium also serves to connect entrances for visitors and staff on adjoining sides of the building. The structural system is exposed long span steel joists, with exposed mechanical and electrical systems. The exterior of the building will be an insulated metal sandwich panel system which can be removed to accommodate expansion. The Washington, D.C. office of Perkins & Will designed the 31,000-sq ft building.

Materials ordered ahead on Michigan office building

Alden B. Dow Associates, in designing this Dearborn office for J. Walter Thompson Advertising, arranged to have all materials bid on and ordered before ground was broken and the working drawings completed. Based on the architects' projections, this method saved 5 to 7.5 per cent on building costs. Since the client wanted a maximum number of offices with windows, the three-story building has a skylighted atrium in its center. To accentuate the building and de-emphasize the parking lot, the building sits on a 4-ft plateau of earth mounds.
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For more data, circle 26 on inquiry card
Winning design for super-port community shown

Architect Orval E. Sifontes of Hato Rey has won a competition sponsored by the Economic Development Administration of Puerto Rico for a special city planning project on Mona Island.

Mona, which is to be the site of a superport-oil refinery complex, is an uninhabited, dry, rocky island with relatively little vegetation, about 40 miles west of Puerto Rico.

Environmental considerations strongly influenced planning for Mona Island, both the port and industrial areas, and the city itself. The city is to occupy 280 acres with a density of nine housing units per acre, with a population of no more than 2,500 people by 1985. About 1,650 of the families are projected to have annual incomes of $7,000, 710, incomes of $10,000 and 140, incomes of $20,000 a year.

The plans called for 450 one-bedroom units with a maximum covered area of 500 square feet each, 385 two-bedroom units with 880 square feet each, 775 three-bedroom units with 1,100 square feet each and 40 four-bedroom units with 1,300 square feet each.

There would be 140 executive units ranging from 700 to 1,750 square feet each, surrounded by open park areas with adjacent city facilities, theaters, stores, commercial and tourist hotels, boarding houses, kindergartens and schools, churches, health, cultural and recreational centers, and a cemetery.

Sifontes’ winning design shows two city sections with 1250 housing units each, with city facilities between them and the tourist hotel below the city near the beach and sea. Covered walkways go from each unit to other units and the central city facilities.

Road and street entry ways were provided for ambulances, fire trucks, and other service vehicles, with the residents using bicycles, motorcycles or small electric automobiles. Buses would provide transport to and from industrial areas.

Sifontes’ design was awarded first prize February 9, 1974. Twelve architects made applications, but only five actually entered designs and three of these won prizes. In second place was a plan by architects Manuel de Lemos, Manuel Garcia, Roy D. Lyons and Thomas S. Marvel of Reed, Torres, Beaucamp and Marvel. Third prize went to engineer Charles Llenza of Tippets, Abbett, McCarthy and Stratton.

The jury was composed of architect Emilo A. Cerra, director of the new Center of San Juan Corporation and three other jurors. They found Sifontes’ open central areas surrounded by the serpentine housing units desirable, and praised the fact that except for service vehicles, the necessary transportation facilities were provided in front of the housing units and to the city facilities situated between the living areas.

The Economic Development Administration will consider the prize-winning plans but Sifontes will not necessarily be the architect used, a spokesman said. The Colegium of Engineers, Architects and Surveyors co-sponsored the competition.

Resort new town planned for Taiwan

Y. H. Peng, formerly with I. M. Pei & Partners, and now with the Honolulu firm of Wong, Wong & Peng, has designed this new town for 25,000 persons on the northern coast of Taiwan, 45 minutes from the capital of Taipei.

Sesame Township, being developed by Hwa Mei Civil Engineering Corporation will integrate low-, medium- and high-density housing with schools, commercial, recreational and other community facilities, and include a 500-room resort hotel with convention facilities.

Single family houses will be built of concrete block and concrete roofing and floors. All other structures will be in concrete with glass mosaic tile finishes.

The three stepped slab-blocks in the foreground of the rendering are a mixed use structure with terraced apartments at the front, and four floors of commercial office space at the rear. In between there will be a five-story skylighted concourse containing shops.

Continuous development of the scheme is planned over an eight-year period, with high-income single family housing and the hotel comprising the first stage, which will begin in 1975.

ARCHITECTURAL RECORD September 1974 41
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An architecture that communicated

THE ARCHITECTURE OF CHOICE: ECLECTICISM

If the rejection of the elitist notions of modern architecture by this generation of architects turns out to be for real, then a book like this one could help lay the foundation for a new understanding among architects about how architecture can communicate with people.

None of us whose involvement with architecture began after World War II has been—or encouraged—to know much about any aspect of twentieth century architecture that did not stem from Sullivan and Wright, Gropius, Mies and Le Corbusier. For us, the cause was Modern Architecture, and Eclecticism the enemy. Though conceived in dogma and born in propaganda, Modern Architecture has lived to become so many things derived from so many sources that "abstention from the historic styles" was just about the only thing that, as Mr. Kidney puts it, "tenously unified" what he calls "Modernism."

While they continued to eschew "the Styles," modern architects have been borrowing from and freely adapting historical antecedents since at least the middle fifities. But while they have more or less openly confessed to sources of inspiration ranging from antiquity to the age of Victoria, they have continued to keep a cautious distance from their Eclectic predecessors, like victors in a great struggle hard fought and dearly won.

And there has not been much in the literature of twentieth century architecture to encourage architects to take a fresh look at Eclecticism. As Mr. Kidney remarks, "In the propaganda that began in earnest a little before 1930 and that is echoed in most subsequent histories of American architecture—history being written by the winning side—there was a strong critical stress: Eclecticism was dishonest architecture, dishonest architecture in all aspects of its appearance, and using the historic styles as expressions of various cultural institutions; "Modernism, evolving from various sources including the aesthetic movement and dominant today—having many philosophies, many kinds of approach to form and materials, but tenuously unified by abstention from the historic styles."

The anonymous architecture built for the masses and for the middle classes is part of Mr. Kidney's story along with the work of the great—Richardson, Hunt, McKim, Mead & White, Cram, Goodhue and all the others.

Pietro Belluschi, who received the Gold Medal of The American Institute of Architects last year, was one of the first modern architects to warn that the victory of "Modern" over "Traditional" might have had its Pyrrhic aspects. In his own stunningly contemporary adaptations of the quiet vernacular traditions of Northwest architecture, he was perhaps least guilty among his colleagues of forgetting that people have psychic as well as physical needs; but in a 1951 speech at Reed College in Oregon, he expressed misgivings: "We have taken away from the man in the street all of the little fake green shutters, the cornices and the cartouches, but we have not given him back the equivalent in emotional value."

Now that "user needs" and the "psychology of space" have become fashionable as well as intuitive concerns of architects, perhaps the work of the Eclectics may be studied for the lessons in architectural communication and human response it might have to offer. This book would be a useful place to start.

—Jeanne M. Davern

Miss Davern is a freelance architectural journalist and editorial consultant who was formerly managing editor of ARCHITECTURAL RECORD.
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Before you pull the padding out from under another rug, read this.

Whenever your carpeting budget is up against the wall, the first thing you're tempted to do is pull out the cushion. Before you do, consider the underlying contributions carpet cushion can make to your next installation.

1. A carpet cushion more than doubles a carpet's acoustical properties. A carpet with cushion makes a room even more quiet. In tests to measure impact noise reduction, carpet only received a +14 rating, while carpet over cushion had a +25 rating. In a similar acoustical test measurements were taken for noise reduction. A carpet by itself measured a noise reduction coefficient of only 0.25, while the coefficient for a carpet over cushion was more than twice as great, 0.65.

2. Separate cushion makes a carpet seem thicker and more luxurious. It upgrades the carpet's underfoot feel and simply makes it feel better. Cushion also adds to the carpet's ability to lower the peak impact force when an object, such as a foot, hits it abruptly. In a quantitative drop test, cushion reduces the impact exerted on the floor covering by one-half when compared to carpet alone.

3. Carpet cushion can help retain heat. Cushion improves the overall thermal insulation properties of the floor covering. The heat loss factor of a floor covered by a low pile carpet and a cushion is about one-third of what it would be with the same carpet alone.

4. The initial cost of a cushioned carpet need not be more expensive. Instead of putting money into a sub-floor, you can put it into a cushion. A cushion plus carpet can mask surface irregularities so that a lower-grade, less costly finish on sub-floors can be specified. In addition, a lighter weight, less expensive carpet can be used since the more expensive face yarns aren't needed to provide cushioning. And there are no expensive labor costs involved in the removal of an old carpet, as there can be with glue-down installations.

5. Separate cushion makes a carpet easier to maintain. It lowers the maximum forces acting on the fibers, thereby reducing the pile crushing and the grinding action of imbedded dirt that can cut and fray fibers. That means a cushioned carpet — given a fixed maintenance cost — will look better for a longer period of time than a non-cushioned carpet.

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For more data, circle 41 on inquiry card
The energy crisis has triggered a ground swell of opinion against glass.

In the search for a scapegoat the recurring theme has become: get rid of glass.

Glass, we're told, wastes energy.

Glass buildings have been labeled "energy sieves."

Glass vision area has come to be thought of as a necessary evil (if, indeed, all that necessary).

Rash solutions are a dime a dozen.

And virtually all these solutions are just arbitrary prescriptions against the amount of glass used.

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Another fact is that in a typical 10- to 20-story building a mere 15% of the energy consumed goes to compensate for heat gained or lost through the walls and ceiling.

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KNOW THE FACTS.

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**The Equivalent Energy Benefit.**

Some people are saying that, to save energy, glass should comprise no more than 20% of the wall area. In addition to the obvious aesthetic and psychological shortcomings of this suggestion, it’s once again a case of talking about the wrong kind of glass.

![Graph](image)

Billions of Btu's required annually for heating and cooling as a function of the percentage of glass to total wall area.

To prove our point we conducted computerized research. Using a hypothetical office building 15 stories high, we plotted (see graph) the annual energy consumption of this building as a function of different quantities of different kinds of glass.

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*Nonvision wall areas in this study are presumed to be heavyweight construction (U=0.09).
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Style and beauty plus ruggedness make Ceco steel doors attractive to architects in Washington and throughout the country. Ceco doors meet every functional need. Use them as a "package" to accent your design. Ceco doors and frames are prepared for simple erection in minutes. And both are prepared for quick and solid attachment of hardware. Ceco doors and frames are tough and stable—won't warp, swell, shrink or rot. You gain the advantages of durability and trouble-free performance. Our Colorstyle doors have factory-baked quality finishes, kept fresh in poly bags. See Sweet's, or consult your local Ceco office.
AIA survey of the profession, part 1: individual members

Part 1 of the 1974 AIA Survey of the Profession summarizes 10,184 usable returns out of 10,495 returns of a 33-question form mailed in December, 1973, to 24,119 individual members. The summary was prepared by Case and Company, Inc., San Francisco management consultants, who had conducted an earlier (1970) study of business practices of architectural firms. Part 2 of the current survey of the profession, to be conducted later this year, will solicit additional data from all U.S. architectural firms. Replies to Part 1 were received from all states, Guam, Puerto Rico, the Virgin Islands and a few foreign countries in numbers roughly corresponding to AIA membership distribution.

It was considered a notable indication of interstate interests that about 48 per cent of members indicated that they hold NCARB certification. It was also shown that architects with NCARB certification average somewhat higher earnings than those who are not certified for interstate reciprocity.

AIA membership personal characteristics

The typical AIA member, according to tabulated returns, is married, male and about 46 years old. He has had about 5.5 years of college and postgraduate work (or full time equivalent) and has worked in several organizations. About two-thirds of the members have ownership interests.

While the average age of all members is 46.2 years and the biggest age group (18.4 per cent of members) is between 30 and 44, 3.0 per cent are under 30, and 12.7 per cent are over 60. See Table 1: Age distribution of membership. Minority members (2.5 per cent of total) range in age from 37 to 44 years and average 42.4 years old.

Of all respondents who gave both their age and ownership status, about two-thirds of those who said they are owners are between 30 and 50 years of age. Approximately 29 per cent of firm owners are over 50 years of age and 4 per cent are under 30.

Most (92 per cent) AIA members are married and a "typical" member, according to the survey, has three dependents (i.e., spouse and two children).

Of the 10,099 respondents who indicated their sex, only 92, slightly less than one per cent, note that they are female. But 175 persons, who otherwise answered most of the questions, declined to give their sex or marital status. The survey does not postulate a "lib-fac-tor" at work here, but does note, that in the 1970 U.S. Census, 2,133 women indicated their occupation as "architect." This was 3.7 per cent of the total number of persons (57,081) reporting this occupation on Census forms at that time. If the AIA survey sample is representative of the entire membership, the 92 responding females would extrapolate to 222 members in all.

The average age of women AIA members responding to the survey questionnaire is 45.5 years, and about 66 per cent of those members are classed as owners of their firms. The 1970 U.S. Census reports that the median age of women classed as "architects" is 38.8 years.

It should be noted that the 1970 Census figures apply no qualifying criteria to the occupation designation other than self-declaration, and that the Census data include a number of persons of both sexes in the 16 to 20 year age group. The implication is that education and registration requirements were not applied. (A count by ARCHITECTURAL RECORD of registered architects in all U.S. states and possessions, based on latest available rosters as of October 1973, shows a grand total of 38,423.)

Educational and professional background of members

The following questions comprise one section of the survey questionnaire: What are the educational and professional educational and experience backgrounds of AIA members? With what kinds of organizations are members affiliated, and are they owners or non-owners? What titles are used to identify members in their firms and what typically are their actual job functions?

Respondents were first asked to classify themselves as "owners" or "non-owners." Ownership is defined as having at least a 5 per cent interest in the organization; 6,966, or 71.0 per cent of the respondents answering this question indicate that they are owners. There are 61 responding women owners, constituting 0.9 per cent of the total number of owners (and 66 per cent of women responding), while 325 owners constituting 4.7 per cent, indicate they are members of minority groups. If the above figures are projected to the total AIA membership it would indicate that there are approximately 154 women and 805 minority members with the status of owners in the AIA.

The average respondent who classifies herself as an owner has 5.5 years of college and postgraduate work (or full time equivalent) and has earned 1.2 degrees on the average.

Owners have been in the profession an average of 22.7 years whereas non-owners have an average of 18.9 years of professional experience.

The average owner has worked for 5 firms, organizations or agencies, including his present affiliation. An average non-owner, on the other hand, has worked for an average of 5.3 firms.

Type and size of organization

Slightly over 38 per cent of the responding owners are sole proprietors. Owners who indicate that they are partners or corporate firm owners account for about 30 per cent each of all owner categories. Only a very small number of owners identify themselves as associated with other types of organizations as Table 3 shows.

Table 2 indicates the distribution of specific degrees. Note that non-owner respondents have an average of 5.6 years of college and postgraduate work (or full time equivalent) and have earned 1.2 degrees on the average.

Owners have been in the profession an average of 22.7 years whereas non-owners have an average of 18.9 years of professional experience.

The average owner has worked for 5 firms, organizations or agencies, including his present affiliation. An average non-owner, on the other hand, has worked for an average of 5.3 firms.

Table 2: Professional education

<table>
<thead>
<tr>
<th>Field</th>
<th>Bachelor's</th>
<th>Master's</th>
<th>Doctor's</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Architecture</td>
<td>5,508</td>
<td>80.5</td>
<td>842</td>
</tr>
<tr>
<td>Engineering</td>
<td>370</td>
<td>5.4</td>
<td>39</td>
</tr>
<tr>
<td>Planning</td>
<td>23</td>
<td>0.4</td>
<td>92</td>
</tr>
<tr>
<td>Other</td>
<td>934</td>
<td>13.7</td>
<td>77</td>
</tr>
<tr>
<td>Total</td>
<td>6,837</td>
<td>100.0</td>
<td>1,050</td>
</tr>
<tr>
<td>Did not answer</td>
<td>563</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Age distribution of membership

<table>
<thead>
<tr>
<th>Age Range</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-24 years</td>
<td>26</td>
<td>0.3%</td>
</tr>
<tr>
<td>25-29</td>
<td>256</td>
<td>2.7</td>
</tr>
<tr>
<td>30-34</td>
<td>1,094</td>
<td>11.4</td>
</tr>
<tr>
<td>35-39</td>
<td>1,650</td>
<td>17.6</td>
</tr>
<tr>
<td>40-44</td>
<td>1,774</td>
<td>18.4</td>
</tr>
<tr>
<td>45-49</td>
<td>1,703</td>
<td>17.7</td>
</tr>
<tr>
<td>50-54</td>
<td>1,235</td>
<td>12.8</td>
</tr>
<tr>
<td>55-59</td>
<td>637</td>
<td>6.6</td>
</tr>
<tr>
<td>60-64</td>
<td>542</td>
<td>5.6</td>
</tr>
<tr>
<td>65-70</td>
<td>380</td>
<td>4.0</td>
</tr>
<tr>
<td>71 and over</td>
<td>300</td>
<td>3.1</td>
</tr>
<tr>
<td>Total</td>
<td>9,621</td>
<td>100.0%</td>
</tr>
<tr>
<td>Did not answer</td>
<td>563</td>
<td></td>
</tr>
</tbody>
</table>
Good design needn't cost more.

A prime example is our Medalist Decorator line. Here's a line of heavy duty spec grade wiring devices that can cost less than conventional looking wiring devices of comparable grade. Yet they are so well designed that they can be specified for installations in a variety of environments.

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Responding non-owner members are spread over a large, 35 per cent of other organizations although the first three types, sole proprietorship, partnership, and private corporation account for 67.8 per cent. See Table 4.

Among the other types of organization which respondents are vocationally affiliated with, in addition to those listed in tables are: Hospital consulting firms, research laboratories, aerospace, and professional associations. As tables show, about 9.8 per cent of AIA members are employed by governmental agencies.

Fully 97.6 per cent of responding owners indicating firm size are in firms with under 100 employees; 83.2 per cent are in firms with less than 20 persons. On the other hand, only 37.7 per cent of responding non-owners are in firms with less than 20 employees, while 27.6 per cent are in firms with over 100 employees; 62.3 per cent of non-owner respondents are in firms with over 20 people. Distribution of both owners and non-owners by firms of different sizes is shown in Table 5.

As might be expected almost all (98.4 per cent) of responding owners come from architectural backgrounds. However, other disciplines or functional areas (notably: engineering, planning, interior design, business administration and landscape architecture) do have representatives among owners in the AIA.

Other backgrounds mentioned by responding members include such areas as finance, personnel, law, general arts, general contracting, food service and other consulting.

Responding non-owners occupy a variety of positions with project architect, construction administrator, designer, researcher and job captain predominating.

Owners indicate that they perform a variety of job functions regardless of title. Of 25 possible broad categories of job functions the average owner indicates that he spends at least 10 per cent of his time in over six distinct job functions, including: architectural design, administration and office management, new business development/client relations, preparing and writing specifications, drafting and development of working drawings, etc. While the type and rank of many functions is not surprising, certain functions seem somewhat anomalous for the title reporting them. For example, 44.9 per cent of construction service coordinators say they spend over 10 per cent of their time on design. Non-owners perform 5.4 job functions on the average, devoting over 10 per cent of their time to each. This observation may reflect the dominance of members of small firms in the survey sample.

Job functions for selected non-owner positions are identified and compared. While certain position titles may be different, the job content, or specific functions performed, are identical, although the order of importance apparently varies. For example, project architect and project manager essentially perform the same functions, but not in the same proportion. About 82 per cent of the responding project architects mention the design function as a major part of their work, whereas only 36 per cent of the project managers consider this to be a major function for them.

Evident from the responses to the survey question concerning job functions as they relate to position titles, is the observation that there is considerable ambiguity as to the specific content of certain common positions found in all architectural firms.

How members relate to AIA activities and publications

Members were asked a number of questions regarding activities, programs and publications of The Institute. These covered both existing AIA activities and areas where attention might be usefully focused in the future.

Respondents participate in a variety of professional and community activities and in a number of other professional organizations as shown in Table 6. This question was not answered by almost 30 per cent of those returning the questionnaire.

<table>
<thead>
<tr>
<th>TABLE 6: RELATED PROFESSIONAL ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIA Activities</td>
</tr>
<tr>
<td>Chapter activities</td>
</tr>
<tr>
<td>Community activities</td>
</tr>
<tr>
<td>Other professional organizations</td>
</tr>
</tbody>
</table>

A relatively small number of respondents participate in more than one activity. Almost nine per cent participate in AIA activities at both the regional and local level while less than 4 per cent participate at all levels—local, regional and national, or at the national and local level. Some respondents who do not take part in any AIA activities at any level do participate in at least one community activity. Approximately 12 per cent indicate this extra-professional involvement.

Over a quarter of the responding architects maintain membership in another professional organization in addition to their AIA affiliation. A few of the responding members indicate that they belong to more than one other professional organization. This amounts to approximately three per cent of the total number of respondents.

Approximately 1,135 members, or 11 per cent of the total number of survey participants, mention belonging to such organizations as: American Society of Civil Engineers, Guild of Religious Architecture, American Society of Planning Officials, and other similar groups of professionals.

Evaluation of AIA programs

Respondents were asked to evaluate current programs, activities, and services of The Institute. Responses were tabulated as "very helpful," "useful," "of no interest" or "not familiar." The tabulation is summarized here.

A marked high percentage of the Institute's programs are unfamiliar to many of the respondents. Of the 39 programs, 28 are unfamiliar to over 20 per cent of the membership. Ten are unfamiliar to over 45 per cent of the responding membership.

Respondents' evaluations of specific AIA professional practice aids currently available show that users think very highly of The AIA Handbook of Professional Practice with almost 95 per cent of those evaluating this publication rating it as either good or excellent. Other aids rated favorably by those who were familiar with are the following (over 75 per cent of users indicating that they are good or excellent): Practice Aids articles in AIA Journal; Methods of Compensation for Architectural Firms; Profit Planning in Architectural Practice and Masterspec.

It is remarkable that so many of the responding members are unfamiliar with some practice aids. Eight practice aids are not known.
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to at least 50 per cent of those answering the question. These are: Computer based financial management system; Emerging Techniques of Architectural Programming I & II; research survey; continuing education cassettes; Development Building: The Team Approach; and Professional Construction Management.

The membership was asked to evaluate potential new practice aids and new or expanded areas of assistance to architects. Among opinions of those responding the following ranked high in the order of preference: Small-office practice manual, business development manual, construction cost control system, man-hour data bank, energy conservation information, research on new areas of service, and an annual or biennial wage survey.

A small number of respondents (373) made suggestions for potential practice aids or future areas of assistance in addition to those listed above. Those mentioned most frequently, although not in large numbers, are: Legal assistance, development and financing, public relations and advertising.

AIA membership and the profession of architecture

Several questions in the survey were concerned with the profession of architecture. Architects were asked to list the top five problems of the profession. They also were asked to express their opinions regarding the impact and influence of the architectural profession on society as well as to evaluate the contribution of the profession to the improvement of the built environment. In addition, two questions were concerned with the respondent's assessment of his progress toward his career goals and how he rated his status in the profession as of now.

The top five primary problems of the architectural profession, in order of importance, according to those who participated in this survey are: Design quality, adequate compensation for services, public relations, business development and production efficiency. These were followed by: Professional liability, client relations, education and professional training, business and financial management, and construction administration.

Other problems that received some mention in the top five included: Consultant relations, government relations, personnel relations, employee concerns and a few others. A number of problem areas that were written more than once by respondents are: Cost control, impact on quality of environment, lack of professional Construction Management.

Over-all, about three-quarters of both owners and non-owners responded. The membership was asked to evaluate their career progress. Typical comments follow:

"Comparative effort in other fields produces far greater results in terms of accomplishment and status."

"Only slow progress due mainly to my own lack of business training and acumen, changing times and the increasing complexities of our profession."

"Happy with title and responsibilities at current employer but unhappy with office practice, and pay, both of which reflect common practice in established offices as I have seen them."

"I was conscious it was a long haul to make it, so to speak, in the profession of architecture."

"I'm ready for retirement and would not want to go through it again."

The bulk of both owner and non-owner responses concerning job security, earnings, social status and job satisfaction fall in the "satisfactory" bracket. Only job satisfaction for owners scored more "excellent" ratings than "satisfactory"—all other areas scored lower than "excellent". There are a considerable number of respondents—both owners and non-owners—who rate their current status as "unsatisfactory" insofar as earnings and job security are concerned. The area of job satisfaction for non-owners also has a fair number of AIA members rating this as "unsatisfactory". It probably comes as no surprise that personal earnings of both owners and non-owners is considered to be unsatisfactory by a high percentage of the respondents.

Comparative survey of remuneration of AIA members

Other surveys have revealed that the earnings of architects are generally below that of other professionals. In an effort to ascertain accurate levels of remuneration for AIA members, and to compare these levels with other characteristics of members, respondents were asked to provide confidential information concerning their income for the years 1972 and 1973. This section summarizes and analyzes this information about architects' income.

The elements of members' annual personal income for the two years reported show these averages for owners and non-owners combined:

<table>
<thead>
<tr>
<th>Table 7: Element</th>
<th>1972</th>
<th>1973</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average salary, wages, or draw</td>
<td>$21,790</td>
<td>$23,380</td>
</tr>
<tr>
<td>Average cash bonus or profit share (where paid)</td>
<td>7,120</td>
<td>7,920</td>
</tr>
<tr>
<td>Average other professional income (from services only)</td>
<td>6,210</td>
<td>6,690</td>
</tr>
<tr>
<td>Total average annual income</td>
<td>24,680</td>
<td>26,630</td>
</tr>
</tbody>
</table>

For each element of remuneration the total of all amounts reported in the survey was divided by the number of persons providing the amounts. Not every respondent gave a figure for each line or year in the table on the form. Hence it is not possible to add up the first three elements in any one year to arrive at the total annual income. Services of "Other Professional Income" include part-time teaching, consulting and expert witness services.

Average annual incomes for owners and non-owners are analyzed separately, according to firm size. Total annual income for all AIA members appears to have increased, on the average, about eight per cent from 1972 to 1973. The most recent comparable information relating to salary trends in commerce and industry, as obtained from AMSA's Executive Compensation Service covering about 30,000 executive positions, indicates a range of about five to seven per cent increases in income in supervisory-to-top management for 1973 over 1972.

Considering salary and wages income of AIA members for 1973 only (omitting bonus payments and other professional income) it is noted that this element of compensation for AIA members increased about 7.3 per cent over 1972. The average total income of AIA members did not quite keep pace with inflation—in fact, 1973 income in constant dollars was about 1 per cent lower than in 1972. Nevertheless, AIA members fared better than other typical business executives during this period relative to inflation.

These data also have been broken down by owners and non-owners since in many firms owners receive a modest draw, or salary, during the year and receive additional remuneration out of profits, if earned, at the end of the year. Thus owners' data for the profit-sharing elements of compensation show that about 30.7 per cent of their income is derived from this source. Non-owners average about 12 per cent in this category of income.

Total annual incomes of all women members responding in this survey averaged $15,450 in 1972, and $15,850 in 1973, almost identical to the average annual income of individuals occupying the position of job captain. However, examination of the raw data reveals that there are a number of women members who work on a part-time basis. When their earnings data are omitted from this analysis, the average total annual incomes of women members becomes $17,264 for 1972, and $18,833 for 1973. The increase in annual income between these two years is then 9.1 per cent which is higher than the average increase enjoyed by all members of the AIA.

Personal remuneration by size of firm

Data comparing owners' average incomes by firm size show that the level of income increases dramatically as the number of firm employees increases, although there is some leveling off when a firm size of over 100 persons is reached. The one- to five-man firm owner averages $20,000 to $25,000 annual income, rising steadily to $42,000 at 35 to 50 people and leveling at $50,000 to $53,000 over 100 people.

Plotting these data on a chart would reveal an interesting dip in the almost steady rise
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Or, write Holophane Service Center, Dept. AR-9, P.O. Box 16525, Denver, Colorado 80216.
TABLE 8: AVERAGE ANNUAL INCOME

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>20 to 24</td>
<td>$15,840</td>
<td>$17,820</td>
<td>$15,485</td>
<td>$15,860</td>
</tr>
<tr>
<td>25 to 29</td>
<td>$16,380</td>
<td>$17,940</td>
<td>$14,120</td>
<td>$16,450</td>
</tr>
<tr>
<td>30 to 34</td>
<td>$19,310</td>
<td>$21,450</td>
<td>$16,070</td>
<td>$18,060</td>
</tr>
<tr>
<td>35 to 39</td>
<td>$21,960</td>
<td>$25,150</td>
<td>$18,890</td>
<td>$22,690</td>
</tr>
<tr>
<td>40 to 44</td>
<td>$27,330</td>
<td>$29,410</td>
<td>$20,820</td>
<td>$23,210</td>
</tr>
<tr>
<td>45 to 49</td>
<td>$29,710</td>
<td>$30,180</td>
<td>$21,450</td>
<td>$23,200</td>
</tr>
<tr>
<td>50 to 54</td>
<td>$29,780</td>
<td>$30,980</td>
<td>$22,010</td>
<td>$23,450</td>
</tr>
<tr>
<td>55 to 59</td>
<td>$30,890</td>
<td>$31,860</td>
<td>$22,650</td>
<td>$23,320</td>
</tr>
<tr>
<td>60 to 64</td>
<td>$28,730</td>
<td>$29,910</td>
<td>$21,830</td>
<td>$23,090</td>
</tr>
<tr>
<td>65 to 69</td>
<td>$27,570</td>
<td>$27,950</td>
<td>$22,310</td>
<td>$21,400</td>
</tr>
<tr>
<td>70 and over</td>
<td>$24,770</td>
<td>$23,490</td>
<td>$16,900</td>
<td>$17,310</td>
</tr>
</tbody>
</table>

The analysis of personal earnings revealed some interesting findings in this survey. Persons holding Master's degrees in Architecture earn only slightly more than those with Bachelor's degrees, whereas those holding Doctor's degrees in Architecture earn about 17 per cent less than those with the basic degree. It is understood that the Doctor's degree in Architecture has been available for only a relatively few years, so the age factor visible in Table 8 is probably at work here.

Average annual incomes arranged according to type of owner (proprietor, partner, corporate, etc.) shows that average corporate owners' incomes range from 17 per cent to 48 per cent higher than partnership owners. Of the six types of owners analyzed, three (associate, stockholder, other) have been able to increase their real income while the other three (sole proprietor, partner, officer) have been unable to keep pace with inflation.

Average annual incomes arranged according to the titles of owners show that business development and administrative executives average somewhat higher income than project principals and design directors.

Non-owners were asked to indicate the position title which best described the work they were currently performing, and their incomes in 1972 and 1973. Response is averaged in Table 9.

The "Other" category includes such titles as: associate office manager, hotel architect, university architect, medical facility planner, and regional park administrator.

Personnel benefits, a growing factor

The importance of employee benefits, formerly termed "fringe benefits," has been growing pace in the profession in recent years. The value of these benefits has also grown until they now range on the average between 25 per cent and 40 per cent of direct salaries and wages.

The average number of holidays with pay reported is 7.3 days. Average paid vacation period is 14 days (probably 14 calendar days), and average sick leave with pay is 11.7 days.

Among "other" types of insurance furnished some members are: dental, family medical, health maintenance systems, travel, auto, key man and partnership. Some respondents wrote in professional liability and valuable papers forms of insurance, but these are not normally considered employee benefits.

In addition to the standard benefits listed in the survey, some organizations provide: automobiles for employee use, paid licensing and registration fees, pay for time off for jury duty and reserve military duty, sabatical and other leaves of absence, recreational travel allowance, parking space, pay for seminars and educational programs. "Free coffee and cokes" is also typical among the "other benefits" written in by respondents.

The scheduled work week for 90 per cent of the respondents is between 36 and 40 hours. The actual work week, however, for 59 per cent of the architects is over 40 hours; 13.5 per cent of the respondents admit they work over 50 hours, and about two per cent work over 60 hours per week on the average.

Examination of the raw data regarding working hours reveals that of the total number of respondents who work over 45 hours per week, on the average, 77 per cent are owners and 23 per cent are non-owners. Of those working over 50 hours per week, on the average, 83 per cent are owners, and 27 per cent non-owners. It is observed that architects work longer hours, on the average, than persons in commerce and industry. Furthermore, it is apparent that many persons in the architectural profession do not enjoy the commonly provided employee benefits as extensively as persons employed outside the profession.

Copies of the complete survey, Part 1, are available from AIA and contain detailed exhibits and summaries of points made here.

ARCHITECTURAL BUSINESS
Case closed.


For more data, circle 48 on inquiry card.
Short money, high prices throttle housing

The initial issuance of short-term floating interest notes by banking interests and industry threatens to shut off completely the trickle of mortgage money now available.

Builders and architects across the nation are beginning to diversify. With an abundance of unsold new homes on the market and mortgage money virtually nonexistent the home improvement field is attracting the most attention. Prices of building materials continue to rise daily and it is almost impossible to submit a bid on a project. We have reports that some far-sighted builders are banding together to stockpile building materials to meet projected demands. Although this results in an additional warehousing requirement not normally confronting the builder, this cost is passed directly to the consumer and more often than not represents a significant saving over current material prices. Many builders interviewed are employing relatively sophisticated methods of cost control such as "last-tracking" projects and use of a Critical Path Method to ensure maximum efficiency and lowest possible costs.

There seems to be no short-range relief from the current high interest rates and no immediate downturn in material prices in sight. The dark cloud of the present housing recession has as its silver lining the prospect of continuing efforts toward cost control on the part of the builders, designers and—judging by recent pronouncements—the Ford Administration.

John H. Fairley, senior editor Dodge Building Cost Services

HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL NON-RESIDENTIAL BUILDING TYPES, 21 CITIES

The following are the average building cost indexes for the period of 1930 to 1969, inclusive, for 21 cities.

<table>
<thead>
<tr>
<th>Metropolitan area</th>
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Costs in a given city for a certain period may be compared with costs in another period by dividing one index into the other; if the index for a city for one period (200.0) divided by the index for a second period (150.0) equals 1.33, then the costs in the one period are 33% higher than the costs in the other. Also, second period costs are 75% of those in the first period (150.0 = 200.0 = 75%) or they are 25% lower in the second period.

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Linea by thonet

Rich, regal and rectilinear in gleaming chrome. A most contemporary reason to believe that to create is Thonet. See it at any Thonet Center of Design. New York, Chicago, Los Angeles, Dallas. Or write Thonet Industries, Inc. 491 East Princess Street, York, Pa. 17405 - (717) 845-6666.

For more data, circle 49 on inquiry card.
Shifting trends in household formation

Anyone who spends any time working with demographic data has grown accustomed to the prospect that each revised set of Census Bureau population projections, likely as not, will contain a new series with still-lower birth and fertility rate assumptions. It wasn't too long ago that population estimates of between 240 and 250 million people by 1980 were still considered plausible. Today, with the nation just grinding past the 212 million mark, figures of between 220 and 230 million for 1980 appear much more realistic, with the lower end of the spectrum being given the better odds.

These lower projections are largely due to the fact that the institutions of marriage and childbearing are being postponed or rejected entirely by many segments of the young-adult population today. The postponement or rejection of these institutions, though, coupled with the generally high standards of living the nation has enjoyed over the recent past, has given the young-adult population a measure of choice and flexibility unprecedented in modern times. This has had other effects on the demographic profile besides lower overall population growth. One has been the surging growth of "primary individuals"—household heads living alone, or with nonrelatives.

While Census Bureau projections of total population have typically been on the high side of reality in the recent past because of the larger-than-anticipated declines in birth and fertility rates, projections of new household formations have generally been on the low side. The number of primary individual households today, for instance, 15 million, was not going to be reached until 1980, according to Census projections made as recently as two years ago.

In effect, primary individual households, which typically account for 20 per cent of all households, were responsible for 40 per cent of the growth in the total since 1970. And, breaking it down still further, primary individuals under 35, who comprise roughly 20 per cent of all primary individuals, accounted for nearly half of the growth in that group.

One factor, here, of course, is that the "young-adults" group we've been discussing, contains within it all of the famous post-World War II baby boom generation, the major growth component of the population generally. And, in the recent past, of course, factors like the release of many young-adults from military service following the end of the Vietnam War, the reduced tax rates given single individuals, and the lowered restrictions on off-campus living now in effect at many colleges and universities have served to reinforce this trend—almost to the point of distortion.

The figures show that the forces which propel the growth of primary individual households are not a monopoly of the young, however. In every age group of the population spectrum, growth in this household component has been significantly greater than the growth of primary family households.

These trends, of course, have an effect on many segments of general economic activity. The wants and needs of the primary individual household frequently differ from those of the traditional husband-wife families. This is true with respect to life styles, environment, and choices as to where to live geographically.

Space does not permit a discussion of all of these factors, but let's consider one that is highly important to the construction industry—housing demand.

A full 90 per cent of all primary individual households are composed of only one person. There are an estimated 13 million households of this type today. Typically, the one-person household tends to rent rather than purchase a home. Nearly 60 per cent of the households of this type were renters according to the 1970 Housing Census. This contrasts with the total housing stock, where only one-third of the units are rental units.

The impact is much more pronounced if we look at change over time, however. Between 1960 and 1970, more than two-thirds of the net growth in all renter households was accounted for by the one-person component. And, by all indications, growth since 1970 has shown a similar trend.

A primary characteristic of the one-person household that should be critically evaluated, particularly with respect to this current era when everything seems to be in short supply, is its tendency to occupy an unusually large amount of housing space. With only one million one-room rental units in the housing stock as of 1970, compared to 6.4 million one-person household renters, utilization on a per-room or per-square foot basis is well above average.

On the other hand, over half of the one-person rental households enumerated in the 1970 census occupied units that rented for less than $100 a month. This accounted for one-third of the total available units renting at that price. This low rent can be due to one of two factors: The units are a bargain, meaning the one-person households are generally better off economically; or the units rented are below the average in desirability. Data on plumbing characteristics and the like indicate that the latter situation is more to the point. Compared to all households, these tend to be below average in quality.

A key factor of the one-person household has been its tendency to run counter to the trend in areas where total population generally has declined, or grown relatively slowly. In selected major metropolitan statistical areas that experienced population declines between 1960 and 1970, the number of two-or-more-person households fell, while, in every case, the number of one-person households actually increased. To the extent that this pattern holds true generally, the one-person household can be viewed as a major force of sustaining the over-all level of housing demand in these areas. But, this is a puzzling phenomenon to explain in economic terms. Especially since many theories of population movements attribute population declines in specific locales to the fact that the area's youth, individually, drift away to seek greater economic opportunity elsewhere.

The one-person household has within it the potential for generating considerable instability in the over-all level of housing demand also. This is particularly true when we consider that it has currently taken only 13 million adults to occupy 13 million housing units, while nearly 200 million people reside in the remaining 60 million units. If social attitudes were to suddenly change, and, rather than going it alone, male one-person households decided that its again fashionable to form primary families with female one-person households, or vice versa, a lot of rental units would suddenly be sporting vacancy signs on their doors.

While the near-term prospects of this happening do not appear great in the current social context, the overriding characteristic of the one-person household, its flexibility, can also be a threat. Should his economic position deteriorate, as in a general economic contraction, say, the one-person household will be much more prone to give up his independent status temporarily by moving in with a friend or relative, than would other household types. As it accounts for a larger and larger portion of the total spectrum, the one-person household's potential to create instability in the housing market will be a factor to reckon with.

James E. Carlson, manager, economic research
McGraw-Hill Information Systems Company

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INSULATION SEE THROUGH

Blue Cross and Blue Shield of North Carolina's Service Center, Durham, N. C. Architect: Odell Associates Inc.
HIGH-PERFORMANCE GLASS REFLECTS SAVINGS IN ENERGY.

Blue Cross and Blue Shield of North Carolina's new Service Center does more than reflect and complement a beautiful setting—it's a comfortable and energy-efficient structure as well.

LOF's Vari-Tran® 1-108 reflective glass in Thermo-pane® insulating units in combination with slanted walls resulted in a substantial reduction in needed cooling equipment.

If the building had been designed with traditional vertical walls of 50% clear glass and 50% masonry cavity, it would have resulted in a solar heat gain through the walls of 3,300,000 Btu per hour. Clear ¼" plate used in 100% glass vertical walls would have resulted in 6,000,000 Btu per hour solar heat gain. The final design, combining Vari-Tran with slanted walls, reduced solar heat gain to only 2,400,000 Btu per hour—a 60% reduction in energy load compared to the latter figure.

The use of Vari-Tran in Thermopane insulating units reduces heat loss in cold weather as well.

With Vari-Tran and Thermopane, annual fuel savings are precisely calculable and convincingly impressive.

In these days of high energy costs, a total energy concept of design must consider all construction materials.

Our highly qualified architectural representatives will be glad to help you save energy dollars with our high-performance glass. Write Dan Hall, Libbey-Owens-Ford, 811 Madison Ave., Toledo, Ohio 43695.

For more data, circle 50 on inquiry card
Corridor Washfountains take the horseplay out of washup.

Washfountains in the corridor do away with the things kids get into when they're not being watched. With vandal-proof Bradley Washfountains in the corridor, students get in and out of toilet rooms quickly. Wash where they can be supervised. The 54" semi-circular Bradglas Washfountains made of reinforced polyester project only 35¼" from the wall. Serve four students at a time with only one set of connections. Clean, contemporary lines. Five borrowed-from-nature colors. Durable, non-porous, fire-safe. Won't chip, peel or crack. Won't swell, shrink or warp. Comparable to steel on a strength to weight basis. See your Bradley washroom systems specialist. And write for latest literature. Or call (414) 251-6000. Telex 2-6751. Bradley Corporation, 9109 Fountain Boulevard, Menomonee Falls, Wisconsin 53051.
Come Hail or High Water
Tapered FOAMGLAS® Insulation
Gives Positive Drainage

The best way to get proper slope for positive water drainage is with Tapered FOAMGLAS Insulation. The blocks come pre-tapered ½ inch per foot to provide proper water drainage and an excellent base for built-up roofing.

Pittsburgh Corning guarantees that Tapered FOAMGLAS Roof Insulation will not absorb moisture, will retain its original insulating efficiency and compressive strength and will remain incombustible for 20 years when applied in accordance with the written guarantee.

Tapered FOAMGLAS Insulation, which is available for prompt delivery, provides one-contractor responsibility for the roofing insulation and built-up roofing. And, the new Tapered II system cuts installation time and material waste.

Learn more about the Pittsburgh Corning guarantee and the unique inorganic closed-cell construction of FOAMGLAS Insulation. Send in the coupon below.

MAIL TO: Pittsburgh Corning Corporation
Department AR-94
800 Presque Isle Drive
Pittsburgh, Pennsylvania 15239

☐ Yes, I'd like to know more about Tapered FOAMGLAS® Insulation and its guarantee
☐ I would like to see a Sales Representative

Name __________________________
Title __________________________
Company ________________________
Address _________________________
Telephone ________________________

For more data, circle 52 on inquiry card

PITTSBURGH CORNING®
We're producing redwood lumber at near record levels this year. But demand also is near an all-time high. And that can mean temporary shortages. There are two good ways to beat the problem. First—Check with your supplier to see if an alternate grade or size is available. The most difficult grade to find is "Clear All Heart"—the top of the line. The next grade—Clear—is more readily available, and a good many customers prefer it for the color variation it provides. (That's Clear in the picture). Second—Work closely with your supplier. Give him all the lead time you can so he can work back through the distribution chain in anticipation of your needs. And let him know your specification requirements—including use. It may be that your dealer can find an alternate that will work for you. In the meantime, we're doing everything we can to make sure you get the redwood products you need. And we've invested heavily in forest management practices that increase wood supply now and for the future. In the long run, mother nature is on our side. Redwood is the fastest growing of all the commercial conifers. We'd like to send you a free copy of our forest resource and redwood exterior literature. Just write to Simpson Timber Company, 900 Fourth Avenue, Seattle, Washington 98164.
“Our residents are happier with Maytags and we have a lot less headaches," reports Mr. Botnick.

At Indian Valley, 18 Maytag Washers and Dryers bring a smoother, more trouble-free laundry operation.

Built by Irving Botnick and Associates, Indian Valley is a quality community of 300 town houses on 25 landscaped acres in the college town of Kent, Ohio.

Four years ago they replaced another brand of machines with 18 Maytag Washers and Dryers, giving them a total of 103 Maytags in their various housing complexes, according to Mr. Irving Botnick, President.

“Breakdowns are a source of irritation to residents and I know my problems are appreciably reduced with Maytags,” he states. “Complaints are few and calls for refunds are very rare.”

Also contributing importantly to the success of his laundry operation, according to Mr. Botnick, is the dependable service of the local Maytag Route Operator.

Of course, we don't say your experience will be exactly like that reported by Mr. Botnick. But dependability is what we try to build into every Maytag Washer.

Find out what Maytag dependability and the great acceptance of the Maytag name can do for you. Mail the coupon now.
The most beautiful roofing material you can use just happens to be the best insulation, too.

Red Cedar shingles and handsplit shakes are twice as resistant to heat transfer as asphalt shingles. Three times more resistant than built-up roofing. In fact, red cedar out-insulates such roofing or siding materials as asbestos-cement shingles, slate, aluminum and architectural glass.*

Red cedar deserves close consideration for architects and builders concerned with the energy conservation of their structures. Its unique cellular structure makes it even more insulative than many other woods.

And the traditional overlapping application method effectively multiplies cedar's resistance to heat transfer. Add to this the design flexibility and durability of red cedar on residences and commercial structures. It's no wonder the most beautiful roof and sidewall covering you can possibly use is also the most efficient.

For more details, write Red Cedar Shingle & Handsplit Shake Bureau, 5510 White Bldg., Seattle, Washington 98101. (In Canada 1055 West Hastings St., Vancouver 1, B.C.)


Red Cedar Shingle & Handsplit Shake Bureau
One of a series presented by members of the American Wood Council.

For more data, circle 140 on inquiry card
We’ve got everyone in Glen Valley surrounded.

How did we encircle an entire community of townhouses in Houston, Texas? With GAF* Timberline* roofing. And Stratalite* siding. And just why did the builders choose GAF? They wanted the homes to have the warmth and charm of wood. With none of the problems of wood.

GAF Timberline, a heavyweight asphalt roof shingle, looks like natural wood shingles. Yet provides the freedom from maintenance of asphalt. And a self-sealing adhesive keeps each shingle in place even in the strongest winds.

GAF Stratalite Thatch Siding with the durability of stone, looks just like natural wood shake shingles, too. Which not only makes it a great looking siding, but a handsome accent as well.

Both GAF Timberline and GAF Stratalite are highly resistant to weather and wear. So they won’t warp. Crack. Shrink. Or Split.

Good looks. Carefree maintenance. And the GAF reputation. You couldn’t ask for more beautiful surroundings.

For more information call your GAF distributor or write: GAF Corporation, Dept. AR94, 140 West 51 St., New York, New York 10020.

For more data, circle 54 on inquiry card.
Next time someone says you must sacrifice overhead beauty if you want a functional ceiling—or vice versa—you can answer with one word. The word is Celotex. And it makes the very notion of an either/or choice between looks and utility seem old-fashioned. Start with that name, and you can choose a ceiling system with wide design possibilities. Without giving up beauty. Perhaps a non-directional patterned Celotex ceiling tile for a monolithic effect; or a Celotex reveal-edge lay-in panel for a bold contrast; or a design tile for that special interior.

The same reliable name will help you satisfy noise control requirements, because Celotex ceiling products can deliver Noise Reduction Coefficients to .90. Time rated ceiling assemblies? You can get U.L. time ratings of one, two or three hours with Celotex.
Where the plan calls for complete environmental control, check Celotex Vari-Tec™ systems—sound control, lighting and air handling all provided for in one beautiful, integrated ceiling system. Which brings you back to where we started: beauty. Your Celotex ceiling can be beautiful as well as functional. Our success in delivering this valuable combination has made Celotex as popular with architects as with contractors, building owners and managers. Consult the Celotex Acoustical System catalog. You'll find it in Sweet's Architectural and Industrial Construction Files. Or, contact your Celotex commercial ceilings representative.

For more data, circle 55 on inquiry card.
Q: CAN A CARPET SURVIVE MORE THAN 100 HOSPITAL STAINS & THEIR SOLVENTS?

Carpets of Acrilan® fiber can take a lot of punishment. Carpets labeled Acrilan 2000+ can take a phenomenal amount, because they contain the only solution-dyed acrylic fiber made: Acrilan® acrylic solution-dyed fiber.

This means that the color is built into the fiber, not just applied to the surface. So chemical spills would have to eat their way right through the fiber in order to affect the color.

We tested Acrilan 2000+ carpet with more than one hundred hospital stains, including the toughest. Then we tested it with the solvents for these stains! The results were amazing; the carpet looked bright and clean as new.

This color-fastness also makes Acrilan 2000+ carpets the most fade-resistant you can specify, perfect for sunny locations. 2000+ is a Weatherometer rating, which means that the carpet shows no visible fading after 2000 hours of blazing noonday sun. Compare this to the 40-hour industry rating for normal carpets. And then compare it to some of our Acrilan 2000+ colors that rate up to 6000 hours!

Obviously it also performs well in high-traffic areas, where normal vat-dyed fibers can have their color worn off by abrasion.

We believe Acrilan 2000+ carpets to be the most practical for hospital installations. And there are many hospital administrators who agree. For more information, case histories, specific installations and help in specifying, write to Monsanto Textiles Company, Contract Carpet Group, 320 Interstate North Parkway, N.W., Atlanta, Ga. 30339.

A: ACRILAN 2000+ CAN.
Make a scene in public places
Meet safety and fire protection code requirements and make a beautiful scene of it with C-E Mississippi Wire Glass.

Mississippi patterns are so attractive, they actually inspire more than the ordinary uses of wire glass: New beauty for doors, windows, glass interior wall sections, exterior walls of glass, even large areas of overhead glazing.

Not all wire glass is listed “fire retardant” by Underwriters’ Laboratories, Inc. C-E’s Mississippi is: A direct descendant of the original Mississippi Wire Glass which served as the basis for the very first fire protection standard in 1899. Today, as it has for 75 years, this product continues to set the standards of performance by which all others are judged.

C-E Glass is a natural source of technical information concerning architectural glazing requirements. A C-E consultant will be happy to discuss the many possibilities for the dramatic use of C-E Mississippi Wire Glass.

Write or phone C-E Glass, 825 Hylton Rd., Pennsauken, N.J. 08110. (609) 662-0400.
The Quantum System separates space into work modules. And makes them work.
The lateral file has always been the space saving answer. Now it is more. Now it is the Quantum System. The Quantum System is a dynamic system of filing, storage and work modules with unlimited possibilities for increasing office efficiency.

Consider attractive, aesthetically correct space dividers that also contain filing, wardrobes and storage cabinets. Add to these, work modules with provisions for communications centers and writing or machine surfaces. You now have some idea of the versatility of the Quantum System.

The entire Quantum System and how it can work for your clients is detailed in our new brochure. Ask your GF representative for a copy, or write: GF Business Equipment, Inc., Youngstown, Ohio 44501 or Toronto, Ontario.

Office Furniture Systems
GF Business Equipment

For more data, circle 58 on inquiry card
Wood windows: a beautiful way to conserve energy.

The energy crisis has finally hit home. Every home in the country. So, the homebuyer of the 70's is giving higher priority than ever to housing that does the best job of conserving energy. And because windows often occupy as much as 30% of an outer wall, homebuyers are looking carefully at the insulation they provide.

A window should insulate. That's the most important thing consumers look for in a window. It was true before anybody was talking about the energy crisis. And it's truer still today. We've spent five years and $40,000 studying consumers' homebuying plans and preferences. And every time, our research showed that they give the highest priority to a window's insulation capability (and the lowest priority to its initial cost).

Factors Most Important in Window Selection

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Wood windows keep the warm in. And that translates into savings. After a house is fully insulated, you can cut the remaining heat loss by 30%—just by choosing wood windows with insulating glass. That translates into important heating bill savings. And regardless of fuel prices, the savings add up year after year.
In a 16-window Chicago test home, the savings ranged from $88.40 to $124.25 last winter, depending on the type of fuel.

### Home Heating Cost Comparison

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<th>Type of Window</th>
<th>Gas</th>
<th>Oil</th>
<th>Electric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single glass in aluminum sash*</td>
<td>$289.50</td>
<td>$348.68</td>
<td>$406.91</td>
</tr>
<tr>
<td>Single glass in wood sash</td>
<td>260.59</td>
<td>313.85</td>
<td>366.29</td>
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<tr>
<td>Insulating glass in aluminum sash*</td>
<td>225.59</td>
<td>271.70</td>
<td>317.08</td>
</tr>
<tr>
<td>Insulating glass in wood sash</td>
<td>201.10</td>
<td>242.21</td>
<td>282.66</td>
</tr>
<tr>
<td>Annual savings with insulating glass in wood over single glass in aluminum</td>
<td>88.40</td>
<td>106.47</td>
<td>124.25</td>
</tr>
</tbody>
</table>

*Without a specific thermal barrier

Figures based on insulation manual developed by National Association of Home Builders Research Foundation. 1,400 sq. ft. home, fully insulated, 6600 degree days.

Wood windows are rated best for insulation quality. Just ask a consumer how he rates wood versus metal windows. We did. And our research showed that 54% rate wood windows as excellent insulators, while only 44% say the same about metal windows.

#### Rating Insulation Quality Very Good

<table>
<thead>
<tr>
<th></th>
<th>1968</th>
<th>1970</th>
<th>1972</th>
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</thead>
<tbody>
<tr>
<td>Wood Windows</td>
<td>47%</td>
<td>50%</td>
<td>54%</td>
</tr>
<tr>
<td>Metal Windows</td>
<td>45%</td>
<td>41%</td>
<td>44%</td>
</tr>
</tbody>
</table>

You can help beat the energy crisis. Don't wait for your clients to ask for wood windows. Specify them. And then use that savings in energy consumption as an important example of the long-term value of the homes you design.

Our new brochure tells how wood windows reduce home heating costs. It includes a step-by-step explanation of how window insulation works, and a detailed report of actual test results from homes all over the country. Write for your own free copy today. We'll also send you a copy of the latest findings from our consumer research.

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ARCHITECTURAL RECORD September 1974 97
Alcoa EZ Wall. A vertically textured facing that adds zest to wall surfaces.

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The choice was clear. Slone's decided on a carpet made with Enkalure II soil-hiding nylon.

And from the wide range of patterns and colors available, they easily found the one that was perfect for their new color scheme.

They chose "Sampson" by Criterion. The special multilobal construction of Enkalure II causes light to actually bounce off the fiber, keeping the colors looking bright and clear, even when the carpet is dirty.

Furthermore, Enkalure II has no deep grooves to trap dirt. Conventional nylon fibers do.

A grueling test by Nationwide Consumer Testing Institute proves that no nylon hides soil better than Enkalure II.

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**8 to 20 feet. Plain or fluted.**

Nord uses only select Western hemlock and Douglas fir, specially seasoned in Nord's own kilns. Columns are individually turned on specially built lathes, then sanded smooth, carefully inspected, and wrapped in polyethylene to protect against moisture and dirt. They come in eight stock heights, 8 to 20 feet. Eight stock diameters, 6 to 20 inches. Plain or optionally fluted.

**Classic proportions.**

Nord's design is classic. Lines are clean and simple. And Nord builds entasis into every column shaft. Entasis, the mark of a fine column, is the slight curving of the column shaft. It keeps the lines graceful and in proportion.

**Lower prices, faster shipment.**

Nord uses the same traditional processes associated with fine custom work. But because Nord produces only standard styles and sizes, prices are much lower than you'd normally pay for custom columns.

And because Nord columns are manufactured to inventory, you can count on rapid shipment to all parts of the country.

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Nord is the largest manufacturer of stile and rail doors in the world. It's a family-owned company with a solid reputation for quality architectural products, in quantity, on time.

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Multi-occupancy business buildings by the nature of their individual leases connote individualized space design for tenants. Whether the building is old or new, the design of the interior space is as important to the efficient operation of the tenant’s business as it is to the impact of his firm on its customers. More and more architects, seeing this challenge as opportunity, have added interior design to their services. Shown on the following pages are four recently completed business interiors: two offices, one in an old, one in a new building; a beauty salon; and a men’s shop successfully operating in minimum space.
NOSTALGIA AND CONTEMPORARY DESIGN FOR NEW OFFICES IN OLD WAREHOUSE

Unused space in a company-owned warehouse was transferred into the bright, colorful offices shown here, using a small budget (equal to three years' rent of the previously occupied offices) and ingenious design. Most of the budget was used for mechanical and electrical improvements—acoustical control, air conditioning and lighting. With the exception of new chairs and new work station-conference tables, the furnishings are from the old offices, brought into harmony with the new surroundings by hiding them behind bold Marimekko banners and the new work station partitions. The open plan, of which the freestanding work stations are an important element (serving as partitions between spaces assigned to middle management) was accepted by employees with some misgivings during the design stage. But actual experience with the good lighting, bright colors and spatial volume of the new quarters has dispelled initial doubts. Colors—red on trusses, yellow on ducts, and green on one wall—derive from the familiar colors of company advertisements; graphics, using the company logo, evoke simultaneously both nostalgia and contemporaneity.

Light in the old warehouse was from skylights which did not fit the design for the new offices. Canvas awnings hide them and admit softly diffused light throughout the work space.
SIMPLE, RESTRAINED AND SOPHISTICATED INTERIOR FOR A HAIR STYLING SALON

With restraint and a limited palette of colors and tones—brown and white—and just a few materials—stainless steel, plastic laminates on counters and cabinets, vinyl covering on walls, terrazzo floors—the architects for this hair styling salon in downtown San Francisco have achieved the distinctive look which their client asked for. Inasmuch as Vidal Sassoon introduced the crisp, classic look to hair styles, he requires that his salons reflect his design sense, and this San Francisco salon, like others in this country and in Europe, is in this vein. He believes, for instance, that hair styling is no mysterious act, and therefore the processes involved should be visible. This salon makes these processes visible not only in the shop but from the street as well, through location of work stations within full view of passers-by. There are no screens or partitions; the plan is open and uncluttered. Cupboards and counters are custom designed by the architects and locally made. The only graphics or decoration consist of mounted photographs and, of course, the good looking, stylized logo.

Lighting is especially effective, particularly in the women’s section on the first floor: track lights are directed toward a baffle, painted white, which bounces it off to the customer and to the counter of each work station. Brown and white, accented by stainless steel, is also used in the men’s second floor section.
OPEN PLANNING WITH PRIVATE CONFERENCE AREAS IN HEADQUARTERS OFFICES

These offices for the world headquarters of a dynamic young company in the field of visual communications are on one of the 55 floors of a new office building in downtown San Francisco. Using to advantage the awkward spaces created by the irregular outline and very large core of the building, the designers not only provided work spaces of varying degrees of privacy but, in the narrow areas next to the service core, an employee lounge with a spectacular view to the Bay on the north and on the south a library. Executive offices are semi-private, with glass walls, but for private meetings there are conference rooms in several parts of the office which are available to all. Each executive office has a built-in work counter along one wall with architect-designed mobile file and storage that fit underneath, and a conference table and chairs, instead of the usual space-consuming desk and files. Junior executives occupy freestanding work modules with low partitions.

Graphics in the reception area and in the offices are made up of photographic reproductions in color of signs found in San Francisco. These are cut into many shapes and mounted in a variety of forms and ways for display on walls. Extensive use of wood for paneling and of reflective foil for covering columns and ducts is accented by colorful furnishings.
A FREESTANDING ELEMENT IN EXISTING SPACE TO TRANSFORM AN OLD BUILDING

This small men's shop in San Francisco's Jackson Square occupies "made space" within existing space on the ground floor of an old (and undistinguished) building. Since the shop's owners were precluded from changing the exterior of the building in any major way—Jackson Square was declared an historic district about the time that the remodeling was decided on—the architects suggested using an entirely new, freestanding element within the building, which would be visible from the street and would affirm to potential customers the contemporary wares offered within. This element is a wooden vault 80 feet long and 17 feet wide, of milled vertical grained Douglas fir boards, mitered and turned down at the ends. The simple form of the vault, and its dimensions, not only offset the multiplicity of items implicit in merchandising but, in combination with the skillful lighting, create an illusion of space greater than the actuality. Hanging rods and shelves along the wall are interchangeable. Dressing rooms are in the rear, to the left; offices are at the right rear behind the vaulted sales space.

Max Urbahn started the whole thing in 1972 when he was president of the AIA. It is the custom and habit of AIA presidents to take a trip the year after their term, and Max wrote, without knowing whether there was such a person or such an organization, to the President, Chinese Society of Architects, Peking, People’s Republic of China, suggesting a visit of American architects to China. In August, 1973, a cordial letter agreeing to such a visit arrived, and after extensive arrangements by Max, AIA executive vice president Bill Slayton, and Ieoh Ming Pei, who left China to attend college 40 years ago, 16 of us found ourselves—on April 8th of this year—at the border of China some 40 miles inland from Hong Kong. We walked halfway across a narrow bridge, were met by a young fellow in green khaki and a red star on his cap who can doubtless say “Passport, please!” in 87 languages, and walked on into China for a three-week visit. We were the first group of architects to visit China since the Revolution in 1948, though individual architects had managed visits earlier.

Max Urbahn of New York City was tour leader and, in Chinese terminology, our Principal Responsible Person; Bill Slayton was his deputy. Others were Jim Foley of Columbus, Ohio, NAAB president; Sam Hurst of Honolulu, former dean at USC; Chick Marshall of Norfolk, Virginia, president-elect of AIA; Wally Meisen, assistant commissioner of GSA; Bob Madison of Cleveland; I. M. Pei of New York City; Eileen Pei, his wife, who was also born in China; Arch Rogers, AIA president; Dan Schwartzman of New York City, member of the UIA board; Jack Warnecke of Washington; George White, Architect of the Capitol; Harry Weese of Chicago; travel consultant Sidney Nyhus; and myself.

One is tempted, after such a
rare experience, to carry on as an “expert” on China; and I’ll try to resist the temptation. We talked mostly with other architects; though we did visit a few homes. There were no meetings with government officials. And despite the valiant and tireless efforts of our interpreters (plus the Peis, who proved fluent in both southern and Peking dialects), communication of any idea approaching the abstract is intensely difficult. Thus, this article is mostly pictures, so you can “see for yourself” some small part of what we saw and I believe the pictures give a fair and “typical” view of China.

Before reporting “the facts” from my notes, let me offer a few personal observations and opinions: Visiting China is, of course, a unique experience—it is nothing like, I would suspect, any other country in the world. It is quite a beautiful country, with rugged mountains, lovely lakes, and is, with 800 million people to feed, intensely cultivated. In the flat areas, and especially in the south, the land is heavily irrigated, cultivated up to the very edge of roads and buildings. In its green precision, the farm land reminded this Easterner of Wisconsin.

The people were universally cheerful and friendly. We were treated as guests, and indeed were permitted to pay only for personal goods and gifts. More importantly, we were treated as friends—greeted at each airport or railroad station (even, as in one case, at three in the morning) by a delegation of Chinese architects. Except in “sophisticated” Peking and Shanghai, we were objects of friendly curiosity. On early morning walks through the streets, any of us soon collected a crowd of 50 children; and groups of adults often gathered across from our hotels in the evening (photo, upper right). We often waded into such crowds, beginning with the universal gesture of saying hello (“Ni hao” in Chinese) to small children, then grinning and shaking hands with the father or mother standing behind. In plants

Shanghai, with 12 million people housed in low- and medium-rise buildings is most crowded of all. The photo above was taken in mid-afternoon, not “rush hour.” The bicycle parking lot outside Peking’s 80,000-seat round stadium, right, is perhaps an extreme example—but the streets in every city are crowded with bikes (all black), which travel in a reserved outside lane. There are few automobiles and all are used for officials or visitors—below is “Chairman Max” Urbahn’s car, traveling outside Shanghai. All roads are lined both sides with trees planted since the Revolution. Children marching along road are on excursion for a day in the fields.
Shops stock a wide variety of clothing, fabrics, sewing machines, meat, dry goods, groceries, baskets, simple appliances, even musical instruments. Stores below housing, upper left, are in Min Hong, a new town of 100,000 outside Shanghai. Shops in other small photo, upper left, are in Shanghai. Crowd in photo above, taken from steps of our hotel, gathered in the main square of Shen-yang (formerly Mukden, in Manchuria) to see foreign visitors—still a rarity in the north. Shen-yang is China's Pittsburgh—with many steel mills and the only bad air pollution we saw. Crowd at left was school children visiting Martyrs' Park in Canton on their weekly excursion—this photo was taken on a weekday morning. At right, mothers applauded as we leave from visit to housing project in Sian. Such greetings and farewells were commonplace—some of us were quite put out not to be greeted by applause and smiling faces as we arrived in Seattle on the way home. Photos below show denseness of housing typical in cities. This is all pre-Revolutionary (pre-1948) housing—in traditional Chinese style in Peking (below left), European style in Shanghai (below right). Tall buildings are office buildings. Again, note trees planted everywhere!
or schools or at apartment projects (as in small photo at right, page 113), we were greeted with smiles and hand-clapping.

The people are Puritanical in their honesty (there are no locks on doors in China except in hotels in major cities, and we never locked ours), in their obvious devotion to work (the pace in factory or field is steady and intense), and in habit (all China is asleep by 10 o'clock). We saw no beggars or drunks, though the Chinese smoke more cigarettes than we do. Everyone appears healthy and well fed, though we saw no obese Chinese. The children are like children everywhere—bright, running everywhere; and their colorful dress makes a sharp contrast with the somber blue, grey, and Khaki "Mao suits" worn by all adults. Women wear their hair short or in short pigtails, use no jewelry or make-up.

Make no mistake, China is a Communist country. Devotion to Chairman Mao Tse-Tung and the Communist Party seems complete and sincere—indeed seems to be the driving force behind everyone and everything. "Serve the people" is not just a slogan in China; it is a way of life, and people seem to give up (or at least submerge) any personal ambition to "serve" where they are needed. You can request a kind of job or additional training (for example, college); but you may not get it—depending on the needs of the people. Job location and housing are assigned—though the reluctance of many young people to move to the Western frontier is well known. On the other hand, it is fair to say that there was no military or police "presence" anywhere we visited—the police are not armed, and military guards at embassies wore only pistols.

Architecture: we saw signs of a new style emerging

Many of the buildings designed during the years when Soviet advisors dominated Chinese architecture (that is, until 1966) have a pomposity and scale that would be more in place in downtown Moscow than downtown Peking or Canton. But one could argue that some of the newer buildings, if they do not show the style and exquisite scale and detailing of traditional Chinese architecture, are at least lighter and brighter and more human. The new addition to the Tung Fang Hotel in Canton (top, page 116) would not...
Another popular park is the Empress' Summer Palace in Peking, originally built in 1700s, most recently rebuilt by last Empress Dowager in 1888. While the furnishings are Victorian, walkways (left) are rather more Chinese, recently and beautifully maintained. Bronze lion (with small friend) above guards Forbidden City; lion at right stands in ranks of dozens of stone sculptures, increasingly large and fierce, guarding the road to the tombs of the Ming Dynasty. Tiger Hill Pagoda in Su-chou (right) was built in 961 A.D., is surrounded by a lovely park which is—again—crowded every day. But the most extraordinary views of China's heritage were the Lungmen caves (bottom photos) carved into the cliffs along a river outside Lo-yang. These Buddhist shrines were carved around 500 A.D., when Lo-Yang was China's capital city. The photos show the largest of thousands of figures set into the cliff face. Then there is the Great Wall, which we visited near Peking, at a point reachable by bus and hair-raising mountain road. Here the wall has been restored as a tourist attraction. There are cafeterias and picnic grounds, and parking lots for buses which bring families in hordes. If built in the U.S., the wall would stretch from New York to Houston. No pictures prepared any of us for the actual sight.
look out of place in a Western city, and its garden and pool, and its roof-top garden, are really very pleasant. The hotel for visiting Chinese in Canton (bottom left, page 117), I found delightful.

As in all work, there is little opportunity in China for the hand of a single brilliant architect to emerge. Each city in China has its own society of architects, and after a project has been committed (by the local government if it is small—say a housing block; or by Peking if it is a major project) a group of architects is assigned the design. Each submits his own ideas. Those are combined into a small group of choices, which are then submitted to the people who will use the building—the factory or office workers, the residents scheduled to move in, the teachers and parents of a school—who “criticize” the proposals. Finally, after what we would call many compromises, but they look upon as desirable “criticism by the people,” the design is completed and construction begins. Despite the many inputs, the design process seems to be a fast one—in most cases we asked about, “design time” was on the order of one to three months. Significantly, design offices are typically set up on the site of the future building, and the architects stay on the job during construction, often making changes “suggested by the workers” during construction. Their role, the architects insisted, was not to “supervise,” but to “help the workers”—and all younger architects spend one month a year laboring as a construction worker. This practice not only gives architects practical experience—but is designed to eliminate any feelings of “elitism,” which is the cardinal sin in China.

There are, we were told, about 6000 architects in China, loosely bound together by their societies. Architectural students (like all who request higher education) are chosen, after two years of manual work in factory or commune, or two years of Army service, by their “peer group”—others in their production brigade.

The architecture: nothing for us to learn, but nothing for the Chinese to be ashamed of.

The Tung Fang Hotel in Canton is the building most foreigners see—for it houses all visitors to Canton’s huge trade fair. Drawings for the new portion of this hotel were shown in RECORD’S earlier article on China in October, 1973. The roof terrace, above, overlooks the city. Rooms are all single loaded off long corridors for maximum breeze (Canton is hot!), and the pool and garden, left is a pleasant place to relax with a Chinese beer (which is excellent) in a quiet, protected oasis away from all the hubbub.

Housing for foreign diplomats in Peking was completed this spring. Three-bedroom, two-bath apartments have balconies overlooking embassies in this area. This project also adjoins the International Club, with meeting rooms, gymnasiums, indoor tennis courts, an outdoor pool, and table-tennis rooms where our interpreters roundly defeated all American takers. Entry hall of club has an extraordinary (and extraordinarily large) silk tapestry.
Housing project above in Peking is typical of urban housing throughout the country—four or five stories high, red brick, red tile roofs—with modest decoration in the form of precast balconies or brick corbeling. As soon as a project is completed, the courtyards are closely planted with trees to produce a green, park-like setting.

Two public buildings in Shanghai: at top "Cultural Square," a meeting hall seating 12,400 under a space-frame roof spanning 400 feet. The roof was welded on the ground, and the building was completed in 84 days. The domed stadium just above is nearing completion, will seat 18,000. Construction time: 18 months.

These two buildings, both in Sian, show modest experimentation with form. The unit with precast arches is a housing project, the unit below an office building with stores on the street level. Again brick construction; all work done by hand but with apparent skill and care.

This hotel on a hillside just outside Canton has just been completed. All one story, it has small apartments opening off a meandering walk. A stream has been diverted to run through the complex, and plantings are beautiful.

The Great Hall of the People in Peking has some extraordinary interiors: left is the main assembly hall, above is one of 30 great rooms—one each for the 29 states of mainland China (this one for Szechwan) and Taiwan.
or army company. This practice—rather than the traditional examination—was initiated after the 1966 Cultural Revolution (which, wildly oversimplified, was an uprising by the students of China, supported by Mao, in protest over what they saw as a rebirth of "elitism," or of "looking down on the peasants and the masses of working people.") Whether this system will bring forth the best qualified—as architects, doctors, or managers of any sort—is of course a serious question, which well-educated Chinese discuss only reluctantly and guardedly.

Housing: an incredible accomplishment in 25 years
As is well known, many of China's hundreds of millions lived, before the 1948 "Liberation," under conditions of desperate poverty. We met one man, now a diesel engine mechanic, who spent the first 17 years of his life without ever stepping off the 7- by 21-foot sampan on which he was born. In several cities, hovels of the sort in which millions lived are preserved—quite frankly as a reminder by the government of "the way it was." China's architects told us that building housing for this vast multitude has been, and will be, a three-stage process. First, simple shelter—typically a small house with bamboo-and-mud walls and a thatched roof—was the priority. They are now nearing the end of Phase two: The architects believe that almost everyone—except perhaps in the small towns of the far west—now lives in a permanent building with heat, running water, electricity, and toilet/shower. As the interior photos opposite show, the standards are far below anything acceptable in the U.S. Wiring is surface-run; toilets, showers, and often kitchen facilities must be shared—typically by three families. And families usually live in a single room, perhaps 13 or 14 by 20 or 22 feet, which some families have divided by simple partitions. But it is at a minimum "safe, decent, and sanitary"—and many families we were welcomed in a half-dozen

Many Chinese live in "pre-Revolutionary" housing that has been rehabilitated. The houses above are along a canal in Su-chou, typical of housing in smaller cities. The picture at the right was taken from the upper floors of a pagoda in Sian, shows small courtyards formed by tightly packed houses. In Peking, four photos just above; houses—some of them hundreds of years old—built around courtyards have been remodeled. Single units of the rambling houses now serve a family. The interior are modest but clean, with heating, electricity and running water. Toilet rooms off the courtyards are shared. In the house above, partitions have been built to create a bit of privacy.
Houses in country village outside Sian (top) were of mud block, with oddly contemporary "modified shedroof" form. "Row housing" just above is at farm commune outside Shanghai. Each family had several rooms, with handsome wood floors.

It is hard to over-emphasize the importance of trees (photos below). The day construction is complete on a project, trees from nurseries outside the city are planted, soon offer treehouse views from all units and give a lot of welcome shade.

Typical housing in Peking is brick, five story walk-up, with small balconies. Buildings are arranged in long rows, not staggered patterns that would create more interesting courtyards.

Families with two children or less live in a single large room—typically 13 by 20 feet; and three families may share 1) an extra common room, sometimes set up as a living room, sometimes as a storage room; 2) a simple kitchen, here with gas stove but often with charcoal pots; 3) a toilet room and 4) a shower compartment. Units have heat, running water, and electricity. Most rooms needed paint, but were spotlessly clean.
housing projects in various cities) had brightened their living space with flowers, paintings, colorful fabrics and world maps (which are nearly as ubiquitous as photos or statues of Mao). Everyone had a radio.

In Phase three the present very-high level of housing production will continue (while we got no meaningful figures on volume of construction, we observed new housing being built everywhere in every city we visited). But these houses will have more space per family, with individual kitchens and baths—and as families move into these, the older units will be remodeled to the new and better standard.

In the cities, four- or five-story red brick buildings were almost universal. In the country, one-story row housing was the pattern—with all units placed quite densely to conserve land needed for farming (see photos and captions, pages 118 and 119).

First education, then “productive work”

Education in China is compulsory and universal. It can begin as early as age three. Families can place their children in nursery school from ages three to six. Kindergarten begins at seven, and children then attend school until age 16—reaching a level of education which seems comparable with our high school sophomores; and including, since our detente with the Chinese, study of English (which the children speak with American, not English, accents). Conversations with boys who came up and asked if they “could practice English with us” (girls...
Schooling is universal, compulsory, and apparently of high quality

At left, with the brightly colored art typical of such schools everywhere, is a nursery school in a remodeled courtyard house in downtown Peking. Right, a middle school in Shanghai. Children poured out onto balconies to see the visitors. With heavy emphasis on physical education and gymnastics, all of the girls in the schoolyard could do "no-hands" cartwheels. Below, a class off on its weekly excursion marches through Peking's vast Tien an Men Square outside the Great Hall of the People, which can hold one million people for rallies. This was as close as we saw to militarism.

Elementary school rooms are simple, but bright and clean. These children of a commune outside Peking were studying English, reciting (as seems to be the custom) at the top of their voices. Nursery schools have sleeping quarters since, at parents' option, children can stay all week—though many come home each night. Since both parents typically work, children can enter nursery school at three, must enter kindergarten at age six. Children are poised and cheerful, delight in dances (right) which tend to praise "working for the people." These girls are "happy sunflowers growing at the People's commune."
didn’t) revealed that they had a good general knowledge of world geography and knew where the major U.S. cities were. While reluctant to ask questions (which seems to be impolite in China), they responded to openings we offered about world events, and seemed surprised at our descriptions of our houses and automobiles. No one could believe I commuted 50 miles to New York City each day.

After graduation, children may request their choice of “factory, farm, or army”—which is granted if possible, though “the needs of the people” come first. After two years of work, young people may apply for additional technical training, or for college—which again is granted not only on the basis of school performance and apparent aptitude—but on “attitude.”

Chinese planners in Peking obviously intend no further concentration of industry—we heard many times that work will be spread around the country, breaking up the heavy concentration in the east. When new industrial facilities are needed, they are placed in satellite communities perhaps 20 to 30 miles outside the cities; and as we have read in this country, thousands and thousands of people are being required to open up new lands in the west.

There is also a major effort underway to mechanize the hardest labor on the farms—plants around the country are busily producing tractors and rice-transplanting machines; and some of the communes have a good deal of such equipment, though many still use draft animals—and the sight of a farmer plowing behind a water buffalo, as the rice fields were tilled thousands of years ago, is not a rare sight.

As the communes are mechanized, the Chinese have no intention of permitting the mass exodus to the cities that has marked so many other civilizations. They intend—indeed are beginning—to set up small industrial plants at the commune. We saw such plants producing farm instruments, radios, cameras, and other light industrial goods at the communes we visited; staffed by commune members no longer needed in the fields.

At least some of the communes—and both we visited—were astonishingly large and populous. One outside Shanghai employed 42,000 people on 7,000...
Many of China's industrial plants are vast, the machinery a bit ancient and the buildings rather 1920-ish. But they produce! Above, a textile plant in Sian; a transformer plant in Shen-yang, where coils are wound by hand; and the inspection area of a textile mill in Shen-yang. Right, a steel furnace in Shen-yang is tapped. Workers have a six-day, 48-hour week; and normally live in housing located within walking distance of the plant. Plants have food service, infirmaries, and most have courtyards for rest periods which are—again—heavily planted with trees. Workers are encouraged to devise work-simplification ideas; but there is little priority on more highly productive and automated equipment since China (to say the least) has plenty of labor.

Under Chinese system, foremen and plant managers are chosen by the workers.

The arts and crafts of China are still produced as they were a thousand years ago—except now the work is done in a factory. Above, the entrance to a pottery factory outside Canton. The workers, right above, work in brightly lighted rooms, and many of the workshops have beautifully tended window boxes. Far right, above, an artist transfers the outlines of a painting to silk. Such large embroidery hangings can take three or four women a year to complete. At right, perhaps the most extraordinary embroidery we saw (Sam Hurst is as boggled as I was). This embroidery of fish is two-sided—and equally perfect on both sides. At left, an elderly artist teaches the art of painting inside tiny bottles, as I.M. Pei looks on.
acres; another outside Peking was nearly as large.

The equipment in the industrial plants we visited appeared obsolete, but not inefficient—though little was done “automatically.” The drive for automation or labor-saving is clearly not critical, or perhaps even desirable, in China where—if nothing else—they have a huge and stable workforce.

Most interesting were the craft factories (photos and captions, bottom, page 123) where the arts of pottery, lacquer carving, jade and ivory carving, silk embroidery, and cloisonné are kept alive.

There, workers produce art—by hand as they did traditionally—often under the critical eye of an older master craftsman. Work of lower quality is discarded or sold for domestic use; the best work is for sale abroad, and is one of the ways China gets hard currency for the purchase of Swedish steel mills, French oil refineries, and American Boeing 727s—for which, we’re told, the Chinese pay cash. (We flew in a Boeing, so new the ashtrays were still clean, from Canton to Peking.)

The construction industry—like other industry, and for the same reason (plenty of labor)—is surely not mechanized or highly engineered. Housing is hand-laid (and hand-made) brick and tile, with some pre-cast floor plank of a size easily placed by hand. Even the jet runway at Peking was made of concrete blocks—perhaps six- by three-feet—obviously placed by hand. We saw one lift-slab project—but it was an experiment by the university in Shanghai. Yet they are capable of building steel space frames spanning 400 feet—as in the “cultural palace” (top right, page 117)—and building a big domed stadium. But again, labor is the key to production—the enormous Great Hall was built in eight months by using three crews of 2000 men per shift!

We hope that a reciprocal visit of Chinese architects to the U.S. is in the offing—they were formally invited by AIA president Arch Rogers and the president-elect Chick Marshall. Perhaps they will not see much that they can use—though surely they would be as fascinated by our country as we were by theirs. It will be difficult to be as gracious hosts.—Walter F. Wagner jr.

Sophisticated engineering is well understood but not much used

The ultimate one-point perspective at right is the approach to Nanking’s Yangtze River Bridge, one of their proudest achievements. Lightweight concrete trusses of many forms are used in plants. Cranes, mostly operated by women, are used on higher-rise work—here pouring concrete on an experimental slip-form job. The dome is a structural model for the roof of Shanghai’s new round stadium.

Above, a space frame for a new gymnasium in Shanghai. Scaffolding, even for large buildings, is bamboo—and most jobs have safety nets draped over this framework. At left, an apartment house plan from China’s architectural magazine, which is published bimonthly. They also have a two-volume “Architectural Graphic Standards,” and current copies of all U.S. architectural magazines. One university had RECORD back to 1908.
On the following pages are two residential projects designed for the elderly and one community center that started out to accommodate only persons of that age group—but grew into something quite different. The architects have had to work within the limitations of tight budgets and prescribed programming, but they have managed to accommodate the needs of the real users. They have also recognized the differing requirements of the areas in which the buildings would be built—helping to determine or reinforce local character. Each project is related more closely to its contextual considerations than to preconceived ideas of an architectural "statement." In each case, a statement had grown out of real needs.—Charles Hoyt
Providing more than normal facilities for 197 efficiency and one-bedroom apartments for the elderly built under the Federal 236 program, Scheuer House is a tribute to the determination of its architects and sponsors, The Jewish Association for Services for the Aged. It is also a determining influence on the character of the area in which it is built.

Unlike the fenced-in private community immediately to its west, the city-blocks on the other three sides of the project are undergoing a radical transition from vacation cottages to high-density residential use. New York City's Coney Island Urban Renewal Area (the western half is shown to the right) was created in 1967 to turn around a process of local social and physical deterioration by the construction of new housing for a mixture of tenants with varying incomes. Proximity to the ocean and boardwalk was an attractive factor. Architects Hoberman and Wasserman became active in the area through the patronage of the New York State Urban Development Corporation, one of the governmental agencies participating in the City's efforts. They are updating the entire plan for the area, and their concern over the eventual urban character that will emerge has been expressed in three individual projects.

Site 5-6 was (urban renewal plan and RECORD, April, 1971) developed with moderate-income apartments and was the architects' definitive effort here. As opposed to the City's earlier projects, the building was brought forward to the street for as much of its length as possible. A sense of "urban-space" created by compressed human activities and heightened interaction was encouraged on the public sidewalk, while the interior of the site was defined as space for the residents. The building's profile was stepped down to provide visual variety and recognition of the heights of existing buildings in the vicinity. Similarly, Site 9—or Scheuer House—has a step-like profile, and the building is used to define public and semi-private space. But the approach here is modified (see caption).

As in the case of Lambert House (RECORD, January, 1974), the sponsors here were able to find supplementary monies to build more than the basic facilities provided in the FHA 236 funding. Accordingly, the project includes a cafeteria, craft room, library and visiting-nurse space for the residents and the aged in the surrounding community. Communal balconies are provided for each floor and are visible in the photos, opposite and preceding page.

The plan embodies the architect's insistence on natural light in corridors (in this case, by using a single-loaded segment). The construction is traditional in New York City: poured-in-place concrete, without edge beams, and brick veneer of eight- by eight-inch tan-colored units. The window framing is dark anodized aluminum. The need for pilings was produced by the sandy soil, and the one construction innovation is the use of prefabricated bathroom-plumbing stacks. Construction costs were $5,516,403 for the 159,000-square-foot building. An extension is planned to duplicate the existing tower toward the north.


The building is used to partially separate the street from semi-public residential spaces on the site's interior. But rather than carry this approach to its conclusion by placing the new construction on the lot line, part of the residents' outdoor areas has been provided on the main-street side of the building (photo opposite). This gives better sun orientation and satisfies the elderly's normal desire to watch the comings and goings of the general public. High walls replace the urban-planning aims of a building hugging the street and provide security. The contained seating area is raised from the sidewalk level to minimize the wall height in that space, and the wall is pierced by grilles for further visual connection.
AGNES MORLEY HEIGHTS

As does the Scheuer House on the preceding pages, this building more than meets the needs of a potential 223 elderly residents and was built with Federal funding by the Greenwich, Connecticut, Housing Authority. However, no additional construction monies were available here. This is straight public-housing, sympathetically placed in a neighborhood of large single-family houses near the shopping-center of the affluent suburb. The building-massing problem was almost the antithesis of Scheuer's in that the architects' aims were to create an unobtrusive-as-possible character with minimal impact on the surrounding neighborhood.

Although the Housing Authority had had an allocation of 100 units of housing for the elderly for several years, high local land-costs and low allowable densities precluded purchase under Federal guidelines. It was only after the architects, along with others, worked with the local Planning and Zoning Commission to produce special zoning for elderly projects, that a feasible density of 60 units per acre could be achieved. Allocation for an additional 50 units was obtained when the present affordable site of two and a half acres of rock out-cropping was made from backyards on the interior of a block which was completely ringed by detached houses (site plan, right). One house was removed for access, and the typical 80 foot set-back which prevailed on the remainder was established as the location of the street-wall of the new building.

Despite a good screen of existing trees, which were to be preserved, it was determined that a height of five stories, required to accommodate the programmed apartments would be overbearing on the community scale. Accordingly, the ground floor was partially depressed below the sloping grade (apartments at ground level are located on the downhill side and ancillary services occupy the remaining areas), and the ends of each wing are reduced in height by one story (photo opposite, bottom).

There are two remote entrances and elevators related to the parking and pedestrian access. Diversification of facilities decreases the one-way traffic aspect of many buildings where the extremes of centrality and isolation at the corridor ends are pronounced.

Working under the vagaries of Federal programs, the architects were given six weeks from time of preliminary approval to the time drawings were to be sent for construction bidding. Local prototype costs had just been introduced (as opposed to the former unworkable fixed allowances), but these were based on the minimum speculative construction in a given area. Even so, the architects provided the unusual amenities here for the cost of $20,600 per unit. The construction is masonry bearing wall with concrete-plank floors and poured-in-place balconies. The veneer consists of red four-by-eight-inch "econo-bricks" (the largest size for labor savings in many areas), and the walls achieve their present homogenous quality by the use of colored mortar. Much of the paving is also brick.


A ground coverage of 20 per cent was located in a central position on the site, and a low profile and segmented exterior walls were planned to minimize the visible bulk. Two views from the entrance drive illustrate the screening from the street provided by existing trees (top photo) and the configuration of the building, whose stepped heights become apparent on approach. The communal terrace for the residents (far right, each photo) is located on the street-side of the building for the residents' views of neighborhood activities, and—unlike the high street-defining walls at Scheuer House—a slight mound of lawn and shrubbery are the only barriers to the public view. The landscaping has accentuated a natural appearance and includes stone retaining walls by a local mason and rock out-croppings from the original site-configuration.
The corridors gain natural light through windows at their ends and are interrupted by communal seating areas at each elevator lobby (bottom photo). The community room is shown in the center photo, and a view into the court, created by the two wings away from the street, at the top. The almost equal numbers of efficiency and one-bedroom apartments are alternately distributed along the building's peripheral walls which gain visual interest by their 30 degree slant, (plan below) except on one side which maintains a more traditional appearance because of the need to respect an easement. Each apartment has a balcony and the efficiencies are oversized by Federal guidelines. The recessed balconies at the interior corners of the building allow both rooms of a one-bedroom apartment to occupy the lightless space that would normally occur in such locations by sharing outlooks onto the common exterior area.
TOMPKINS PARK

While the New York City Board of Estimate had appropriated monies for a community center for the aged within an existing green-space, a Parks Department program (designed to make its new facilities responsive to the users) allowed an expansion of purpose because of discussions between community groups, the city and the architects. Local performing-arts groups, other cultural organizations, social functions and community meetings also needed accommodation and the building that emerged was a cultural and recreational center for users of all ages. While Hoberman & Wasserman involved themselves in the discussions with the city on behalf of the local residents, they would not describe the activist role as an easy one.

The original plan for this two-square-block area was designed by Frederick Law Olmstead in the late nineteenth century, and—until recently—the park was surrounded by pleasant and substantial townhouses of the same era. The type of inhabitants has changed in the Bedford-Stuyvesant district, and local government is in the process of massive construction of new housing intended to eliminate the buildings associated with the present poverty—if not the cause.

When the architects received their commission, little of the original park as planned by Olmstead remained, and as it was designed for promenading it did not fit current community needs. Still, the building was placed to emphasize the original plan’s axis, existing radial-walks were retained and a new fence, cutting off the western half, was eliminated. A playground, designed by Vollmer Associates, was a later-day addition and was incorporated in the new site plan.

The final program for the building called for about 12,000 square feet of enclosed space plus an outdoor amphitheater. In order to reduce the potential impact of a large building-volume on the neighborhood’s badly needed green space, the architects buried more than half of that volume under the grade and sloped the outdoor areas at the two ends down to the depressed floor levels. One slope accommodates the concrete benches of the amphitheater. The depressed area at the other end of the building provides an exit from the indoor theater at the lowest level, access to the toilets (placed for both park and building users) and an outdoor lobby during performances. The visible building mass was fragmented by a courtyard separating the various elements and transparency was created by the use of large lights of shatterproof plastic.

The poured-in-place concrete walls were formed with depressed vertical-ribs to provide texture and make the surfaces less attractive to graffiti artists. The latter function has been only partially successful despite daily cleanings and an applied chemical-surfacing. “There is something just too attractive about a concrete wall,” says architect Hoberman. The total construction cost was $1,500,000 including extensive site work.

The final plan designated about 10 per cent of the building's area for the social functions of the elderly and an equal amount for a teenage center (photo below). The photo at the bottom shows the auditorium, and the photo at the right, the amphitheater. The sloping roofs are covered in terne and accommodate clerestory windows designed to admit light to the amphitheater stage and the elderly and teenage rooms. The resulting shapes provide spatial variation within and a sculptural quality to the building's profile. The aircraft-hanger doors, which seal the amphitheater stage when not in use were painted with a design by Norman Hoberman which was included in the construction contract by means of a drawing to be executed by the building painters. The paint is the same as that used for airplanes and was chosen for durability. Transparency in the building mass above grade was achieved by use of large lights of shatterproof plastic.
RELIGIOUS BUILDINGS

An age-old search for images that suitably express our changing values

Beyond the technical accomplishment they demonstrate so emphatically, the high vaulting and soaring buttresses of French and German Gothic cathedrals gave exquisite expression to their builders view that God was mysterious, awesome, distant and unapproachable. Griffins and other demonic creatures stare down from gargoyles and column capitals to remind the unpenitent of the fate awaiting them in the hereafter. A century or two later, the Renaissance churches of Italy reveal a different perception. Their rich gilding, plush velvets and emphasis on the mundane seem—to modern eyes at least—to suggest that, for Renaissance Man, God had become the Number One Merchant Prince, a rank or a rank and a half ahead of the Medici. As if to reinforce this idea, Italian painters of the period tirelessly depicted scenes of departed Doges being introduced to the Diety in azure realms beyond the clouds.

If we smile just a little at such paintings today, it is with a humor tempered by admiration. And when we troop through Châtres or St. Peter's—occasionally leaving our cigarette wrappers or orange peels behind, we are nearly overwhelmed by the fullness of artistic flowering these incredible structures represent. Most of all, perhaps, we cherish the clues these buildings yield about the collective values, joys and sorrows, fears and hopes of those who built them. Also present, at least by implication, are evidences of the socio-religious ligaments binding man to man, man to Church and Church to God. Then, as now, these ligaments are the very soul and substance of designing for worship.

Today, when the established churches are in a period of retrenchment, when attendance at services is down and new construction is flagging, many thoughtful churchmen are trying to redefine the role of the church—any church—in society. Younger ministers and rabbis, many of them products of the social turbulence of the '60s, are seeking their ministries in the streets among the underprivileged, the addicts, the rootless. Storefront churches are becoming a commonplace in cities across the country. Nearly all churches are expanding their social programs by providing facilities for community use: crafts, day care, drama groups, programs for alcoholic and/or drug rehabilitation. Some New York-area synagogues have been sponsoring “Las Vegas Nites”—fund-raising entertainments which have extended the traditional church bingo into more serious gambling.

Churchmen today, like architects, talk more and more about “people-oriented spaces”—flexible, multi-purpose spaces that will have something approaching seven-days-a-week use. They also talk about shared space (or “synergistic churches” as they are sometimes called) in which congregations would not have their resources frozen in specialized buildings. Whatever shape these new spaces take, neither height (as at Châtres) nor opulence (as at St. Peter's) are likely to be important design features. The value systems they represented no longer seem tenable. Churches, say many experts, can no longer be designed as monuments to a saint, a beloved pastor or even a mystery of faith.

Out of this shifting ethos, no Châtres or St. Peter's are likely to emerge. These were the culmination of centuries of architectural energies. The world moves too fast now. But signs of change, signs of ecumenicism, signs of expanded service are present in most of the churches shown in these pages. What other signals are visible, the reader will want to judge for himself.—Barclay F. Gordon
Six years ago, the University Circle Development Corporation initiated plans for a religious center on the Case Western Reserve University campus in Cleveland. The first buildings completed on the site were the Hillel Foundation, a Jewish center, and an addition, by Richard Fleischman Architects Inc., to the existing Church of the Covenant parish hall designed by Ralph Cramm. Fleischman's addition consists largely of educational space—rather open in plan—for youngsters engaged in an ongoing program of religious education. Standing in forceful contrast to Cramm's neo-Gothic structure, the new addition is expressed in sharply faceted forms of concrete and glass.

When these centers were operational, the Bishop of Cleveland commissioned Fleischman's firm to extend the ecumenical concept by designing a Roman Catholic center across the plaza and eventually to be known as the Hallinan Center. Two flexible areas were required in Hallinan Center: a large hall where Chaplain and students can meet to plan for worship, fellowship or related recreational activities and a small space to be used as a lounge and counselling area. The photo, page 138, shows the architect's solution with the small space on the balcony overlooking the larger space below. In contrast to the Church addition, the exteriors employ very extensive glazing to create a transparent quality from the plaza that, hopefully, acts as an open invitation to potential users.

The connective tissue linking all the buildings is a multi-leveled plaza, much of it designed by Fleischman's firm. It is free and playful in design, but reflects the diagonal geometry of the new buildings and expresses symbolically the important ecumenical character of the entire complex.

ECUMENICAL CENTER, Cleveland, Ohio. Architects: Richard Fleischman Architects Inc. Engineers: Gensert Peller Associates (structural); Andrew Psakis (mechanical); Ralph Linton (electrical). Landscape architects: John Litten & Associates.
The angular geometry of the project shows up most forcefully in plan. The two Fleischman projects face each other diagonally across the UCI Plaza. The plaza has also become part of a major pedestrian artery linking portions of the north and south campuses. And as a result of this spirit of urban cooperation the plaza has become accessible to both the university and the surrounding community.
Assembly Church of God Mission: an exquisite response to function and climate

This extraordinary handsome small mission church in Santo Domingo, Dominican Republic was founded by the Houston-based Assembly Church of God. The structure was designed by Austrian architect Ernst Bliem while he was a visiting professor at the University of Houston's architectural school. Morning and evening services are held each day in the small sanctuary and, during the day, the space serves as a lecture hall for the mission's students who are preparing for the ministry.

The structure is 8-in. concrete block, stuccoed and whitewashed. Concrete beams, cast on top of the walls, carry a roof structure of wood trusses, painted white which, in turn, support a roof deck of asbestos cement sheets. The floor is a slab dressed with terrazzo which has been turned up, in a nice detail, to create a curb at the meeting with the wall. Screens built integrally with the walls in some sections provide natural ventilation and diffuse sunlight in a way that creates an aura of luminescence.

The mission is set on its site to create two outdoor spaces: a formal entry court with baptismal pool at the front and an active play space at the rear. The sculpture, photo below, is by the architect. Though some assistance was provided by the R.W. Johnson Construction Company and by Apex Engineering, Inc., both of Houston, most of the construction was carried out and supervised by local carpenters and masons.

The Assembly Church of God Mission is a beautifully designed structure, responsive to its tropical setting, modest and economical. The cost, including some of the sitework, was $10.20 per square foot.

Craig Kohner photos.
Temple Beth-El: spatial flexibility is still a paramount design concern

At the heart of the program for this Long Island Reform synagogue addition was the requirement that the new sanctuary function equally well for small daily congregations, bar mitzvahs and weddings, and for overflow congregations on High Holy Days. From a practical point of view, this meant anywhere from a few dozen worshippers up to 1900 or more. Architects Armand Bartos & Associates studied this requirement carefully and responded with a scheme that not only accommodates various numbers easily but vigorously expresses the various uses of this flexible space.

The components of the sanctuary are permanent main floor seating in two sections—one in a diagonal relationship to the bema, balcony seating above (including a projected section extending down to the main floor), and temporary seating under the balcony and in the social hall which may be opened through a sliding partition to become part of the main space. The front aisle of the balcony continues around the whole space, unifying it by providing the visual ligament that links all its elements. Also providing unity is a broad, suspended ceiling that follows the pattern of the pews below and conceals lighting fixtures and air conditioning supply ducts. Between the suspended ceiling and roof structure, over the bema, Bartos has introduced a canted skylight that brings daylight down to highlight the ceremonial area. A matching skylight (photo right) illuminates the rear wall of the balcony and aids in giving the whole sanctuary a clear spatial definition.

The building is framed in steel; dressed in brick. Interior walls are finished in white, textured plaster. Seats are upholstered and aisles are carpeted. Both the pews and the suspended ceiling are light oak. The total effect is lively but disciplined, quietly luxurious—at least in terms of its detailing and level of finish—but not in the least pretentious.


Main entrance is reached from the street by a stair set between the existing building and the new sanctuary. The visitor enters through a low vestibule (photo left) into a spatially exciting main reception space enlivened overhead by stairs leading to balcony seating. Photo (opposite) describes the relationship between inside and out. Skylight, at rear of balcony, illuminates the main avenue of circulation.
Flexibility is clearly expressed in the plans. Permanent seating includes 392 on the main floor, 133 in the diagonal side section and 364 in the balcony. In addition, a movable partition under the balcony may be opened to provide 370 temporary seats. When overflow crowds are anticipated, the social hall may also be opened to provide 620 more temporary seats, giving a grand total of 1900. All are within 100 feet of the bema and have unobstructed sight lines to the ark and pulpit.
St. Peter Claver:
simple but powerful images
for the revised liturgy

The gently-sloping roof forms, the natural materials, the domestic scale and detailing are all part of a conscious effort by architects, Russell Gibson Von Dohlen to respond to the quiet residential neighborhood in West Hartford, Connecticut that surrounds the new Church of St. Peter Claver. Working with fieldstone and with cedar planking for finishes both inside and out, the architects have designed a remarkably handsome church, the heart of which is a dramatic sanctuary framed with a laminated timber roof structure connected at its joints by heavy steel plates. A series of nine skylights over the nave suffuses the center of the space with a combination of artificial and natural light (photo opposite).

In response to the design dictates established by Vatican II, the seating fans out in a quarter circle around the altar, all pews are proximate to the sanctuary, and no altar rail or other visual obstruction separates the celebrant from the congregation during services. Even stained glass, at sides and rear, is used sparingly. The simple volumetric expression and the highly restrained use of religious ornament are also signs of Vatican II reform and impart to this religious space a heightened sense of simple faith. Only a pendant bronze crucifix, with Christ's head turned upward, reminds the worshippers of the resurrection and life to come.

One result of this simplification is that St. Peter Claver's congregation has a church in which a few natural materials predominate. Floor plane, walls and ceiling structure read with elegant clarity and no design elements are visually thrown away in needless competition with other elements. All the elements receive their true—and properly proportioned—visual value.

The church contains 10,000 square feet, the nearby parish hall an additional 6,000 square feet, and a future rectory another 5,000 square feet. The unit cost for work completed to date is approximately $30 per square foot.

The parish complex consists of a church, rectory, and multi-purpose hall. In the site plan, the church assumes the central location of primary focus and is flanked left and right by the other two structures. The rectory, to be built later, will be isolated by an access road from the other two. Though the site planning seems sensible, and the wish to preserve the natural character of the site is commendable, one wishes the parking requirements had not been so heavy or that some system of off-street parking had been practical.
Charles River Park Synagogue: a David among the Goliaths of Boston's rebuilt West End

In the late 1950s, when urban renewal was still an acceptable euphemism for bulldozing, large areas of Boston's West End were condemned and cleared. Among the structures lost to this once thriving working class community was the old North Russell Street Shul—a synagogue that has served more than half a century as a center of worship for a 1500-member Orthodox congregation. After protracted court battles, the congregation finally received from the city compensation adequate to a new building program and commissioned Childs Bertram Tseckares Associates, Inc. to design the new structure shown on these pages.

The site selected is on Martha Road and is surrounded by towering blocks of apartments. To ease the transition between a busy downtown street and a sanctuary of quiet contemplation, the architects developed a series of interlocking screen walls at the entrance. These walls, in an act of architectural "decompression," deliver the visitor through a landscaped courtyard and into the building's entry vestibule. The main sanctuary which can accommodate 250 worshippers, is located under a sloping translucent ceiling that reaches a height of 25 feet at its upper end. A social hall, separated from the main sanctuary by a concealed sliding partition, satisfies the need for overflow space at special services or High Holy Days.

The 5000-square-foot building is faced with fluted masonry blocks both inside and out. The cambered, curving walls and self-conscious forms are designed to center attention on the synagogue itself and detach it visually from the massive rectilinear forms of surrounding buildings.

Following Talmudic tradition, the tablets over the ark (photos below and right) are square shaped and fashioned of stone from Galilee. The eternal light is contained in a black metal holder designed by the architects, and hangs over the tablets. Photo (bottom right) shows a small ceremonial courtyard used in good weather for weddings and at Sukkoth, the fall harvest festival.
Northwoods Presbyterian Church: old and new sensitively joined in this rural Georgia community

When the congregation for the Northwoods Presbyterian Church in Doraville, Georgia decided to expand its facilities, architect Jack D. Haynes was retained to design the addition. His budget was $250,000 and the program called for a new sanctuary seating 500 worshippers, new classrooms which will double during the week as kindergarten space, and parking for 150 cars.

The original structure consisted of a square fellowship hall surrounded by classrooms and on all sides by a narrow porch. Haynes retained the existing building, converting the north porch into circulation space that serves a new semi-circular sanctuary that centers on a raised altar platform. Two floors of new classroom space have been added in a split level arrangement to the east elevation of the existing building. New educational space, should it ever become necessary, can be added in similar increments to the building’s other elevations. A bell tower on the east side of the new sanctuary completes the addition.

Construction materials are simple and economically assembled—stuccoed concrete block for bearing walls, bar joists for supporting upper floors and roof. Over the sanctuary, Haynes has used a radial pattern of fir 2x8s. This ceiling, suspended from the roof structure, screens out ductwork and diffusers located above and painted flat black. It also serves as an architectural device to focus attention on the area of the altar.

What lifts the Northwoods Presbyterian addition above many similar projects is the naturalness and simplicity with which old and new structure have been sensitively joined. There is dignity and elegance here but they have not come—as they sometimes have elsewhere—at the expense of liturgical function.
Unobtrusive sound reinforcement for an open-plan school

A highly sophisticated audio-visual communications system in Branford, Connecticut Intermediate School gives ample sound in small, modular areas with clarity—not cacophony. All open-plan schools face the potential problem of sound emanating in one teaching area disturbing students in an adjacent area. Typical solutions to this problem include: 1) the use of as much space between teaching areas as is economically and architecturally feasible, 2) carpeting on the floors, and 3) sound absorptive ceilings. Carlin, Pozzi & Associates, architects for the Branford Intermediate School, Branford, Connecticut (see RECORD, June 1973), and their acoustical consultant, Ranger Farrell & Associates, used all of these measures. At Branford there was a specific challenge, acoustically, because the educational program called for the heavy use of prerecorded teaching and audio-visual materials in the open spaces.

Small groups listening either to teachers' voices or to audio-visual materials, do not necessarily create sound interference. But as groups get larger (typical Branford classes range from 25 to 30 but can be as high as 100), the sound disturbance becomes larger.

In order to contain sound within a specific area and yet maintain adequate sound levels for comfortable listening, the consultants decided to install ceiling-mounted loudspeakers every 15 feet in both directions, to be used in conjunction with live or prerecorded teaching materials. These speakers can be seen in the photograph as the numbered boxes below the ceiling plane. It was reasoned that because of the low ceilings, and hence the proximity of loudspeakers to students, different program materials could be fed to each loudspeaker without disturbance from one coverage area to another. The fact that all speakers are oriented directly downward further confined their coverage. All loudspeakers within each of the 18 teaching zones are painted the same color. Within each teaching zone the speakers have...
been grouped into subzones, all speakers in each being identified by a single number.

The first drawing shows schematically how the system works acoustically. Directly beneath each loudspeaker the signal level originating from a teacher's amplified voice, a motion picture projector, or a tape recorder is more or less uniform. Off to the sides, the signal level decreases until it is equal to or below the general ambient or activity noise, and beyond a given point it becomes inaudible. Another signal, over the next zone's loudspeakers will not cause interference.

In the planning stages it was thought that the smallest module would be that covered by one loudspeaker, and the largest, the whole school. However in the final design, in order to reduce control complexity, the smallest module is that covered by two loudspeakers, and the largest, by 20 to 28 speakers.

The drawing, below, right, shows the type and number of inputs that can be fed to the loudspeaker system. The inputs are from two locations: one in the dial-access office, and one within each teaching zone. At the large-zone panel, either one of two programs is accessible from the dial-access system for distribution to the subzones within each large zone. At any time, a choice can be made from a bank of 12 television programs with both audio and video signals, 240 audio-taped programs, and two radio programs for channel A and channel B at the zone control panel. Local equipment, including wireless microphones (used by the teacher for larger groups so that raised voice does not cause intrusion), motion picture projectors, or sound-film-strip projectors, can be fed into the large zone control panel by the teacher. Up to three local programs can be disseminated to subzones from the control panel, so it is possible to have as many as six audio programs playing within any large zone.

Audio and video signals also can be transmitted from the dial-access room to carrels in the instructional materials center (see photo).
Large-scale lounge seating and lacquered tables

A large-scale component lounge seating system (below) composed of numerous rectangular configurations and offering potential for ganging, features a body of polyurethane over steel. The basic armless unit is available with one or two arms, with special back elements said to form internal corners, and is complemented by an ottoman. All units gang at their recessed feet. Upholstery is offered in a selection of vinyls, fabrics and leathers. Shown at right are two tables from a series in natural wood and highly polished polyester lacquer elements, assembled in "puzzle-like relationships" according to the manufacturer. Square and rectangular dining-conference tables and a low coffee table comprise the series. Tables and seating are joined by a series of small-scale lounge seating (not shown), with companion tables, all part of the B&B Italia Collection. • Atelier International, Ltd., New York City.

Made-in-the-Thirties furniture revived

Metal furniture of the late Thirties is now revived in handcrafted polished chrome steel or weatherproof baked polyurethane colors, wrapped with polypropylene white, black or yellow cord. The line can be used as indoor or outdoor lounge furniture, and can be seen in Atlanta, Dallas, Los Angeles, San Francisco and Seattle showrooms. • Benedetti Corp., Los Angeles, Cal.

European drafting furniture available in U.S.

Bette artists' furniture, winner of European industrial design awards, is now offered in the United States. Shown top is "Stabilis" with central leg construction. The stand incorporates a system of springs, which are said to offer easy counterbalance adjustment. Working height is adjusted by foot pedal, and inclination is controlled by a small hand lever. Shown below is "Archetito," made of square steel; it adjusts for height from 29 to 41 in. Maximum angle inclination is 25 degrees, and front and rear adjustments are independent. The table may be completely disassembled for transporting, and comes in white, gray, black, yellow, orange, red and green. • Sam Flax, Inc., New York City.

For more information, circle item numbers on Readers Service Inquiry Card, pages 231-232.
VINYL WALLCOVERING / The product can be applied directly to concrete blocks with a minimum of surface preparation, and features a deeply-embossed, textured pattern. It is available in rolls 54 in. wide, and the finished weight is 34 oz. • The General Tire & Rubber Co., New York City. Circle 303 on inquiry card

HARDBOARD PLANKS / Shown here are horizontally-installed planks, each a 16 in. by 8 ft mini-tally-installed planks, These pre-finished hardboard planks can be installed over any solid substrate. General Tire & Rubber Co., New York City. Circle 303 on inquiry card

SANITARY ALUMINUM CEILING / Called Hygeni-cell, the product is said to eliminate peeling and falling paint chips and offers no breeding areas for bacteria and other microorganisms. It is coated with a high-gloss white, baked enamel finish that is guaranteed for 20 years against chipping, cracking or peeling. Made from tongue and grooved interlocking aluminum panels, the ceiling system is caulked with silicone sealant. • Alcan Building Products, Warren, Ohio. Circle 305 on inquiry card

HOPSACK TEXTURED CARPETING / The hopsack texture resembles that of a woven velvet in appearance. Pile yarns are continuous filament Anso nylon and a conductive element has been added to reduce static electricity. The carpet carries a five-year guarantee, and is available in 15 stock colors. • Burlington House Carpets, Atlanta, Ga. Circle 306 on inquiry card

ACYRILIC COATING FOR TANKS / A water-based acrylic protective coating is a one-coat self-priming rust inhibiting product that protects against acids, salt spray, chemicals and abrasion, according to the company. It is available in 15 colors, including OSHA colors. • Prufcoat, Cleveland, Ohio. Circle 307 on inquiry card

NUBBY TWIST CARPET / The design of this carpet is executed in 100 percent Anso continuous filament nylon in a 1/10 gauge textured loop construction. With continuous dyed three-ply fiber tufted 10 rows per inch with a 3/16 in. high row, 1/8 in. low row pile height and a 32-oz. face weight, High Mark is said to be durable, and is available in 11 stock colors. • Welco Carpet Corp., Calhoun, Ga. Circle 308 on inquiry card

WALL FIXTURE / The Valencia wall fixture measures 13 1/2 in. high, 5 in. wide and extends 9 1/2 in. The unit accommodates one medium base bulb up to 60 watts. The 1/4 in. thick clear acrylic may be complemented by a polished brass or pewter finish. • Georgian Art Lighting Designs, Inc., Lawrenceville, Ga. Circle 309 on inquiry card

AUDIO-VISUAL SYSTEM / A compact, low-cost audio-visual system that permits lighted rooms during presentations is completely self-contained requiring shallow installation space. The built-in non-glare rear projection screen is flanked by projection equipment. A remote control panel operates all elements, and projectors are accessible from the front of the cabinet. • Jerome Menell Co., Inc., New York City. Circle 310 on inquiry card

TRACK LIGHTING / A four-circuit track can handle four different types of electrical services and in terms of control, each circuit can be separately switched or dimmed. The four-circuit track includes a built-in raceway, push-in connectors and an expanded line of lampholders and accessories. • Halo Lighting, Rosemont, Ill. Circle 311 on inquiry card

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COATING SYSTEM INTEGRITY TEST RESULTS

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POLLUTION RESISTANCE TEST RESULTS

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ASTM B-117-64 SALT FOG TEST PROCEDURE: Samples continuously exposed to 5% salt fog at 95° for 1000 hours. Results: PVF showed few #8 blisters at 500 hours, medium dense #4 blisters at 1000 hours; SMP showed ASTM #9 few blisters at 500 hours, #8 medium blisters at 750 hours, medium #6 blisters at 1000 hours; no blisters on Galbestos. Significance: Galbestos resists corrosion and other forms of environmental attack. Galbestos coating system has superior film continuity and integrity.

KESTERNICH TEST PROCEDURE: Expose panels to a specified number of cycles, each consisting of 8 hours in an enclosed cabinet holding 2 liters distilled water and 2 liters each of dry sulphur dioxide (SO2) and dry carbon dioxide (CO2) at 104°F (40°C), followed by 16 hours of drying at ambient temperature. Results: After 20 cycle PVF showed blistering ASTM #8 to #9 few, SMP showed blistering ASTM #8 dense. No blisters on Galbestos. Significance: Galbestos has superior resistance to the airborne pollutants, sulphur dioxide and carbon dioxide.
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- Patios & Balconies
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- Bathrooms
- Living Rooms
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- Family Rooms
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Most carpets for hotels, offices or other contract uses have some sort of static control system. However, most of these systems do not keep the static out permanently. Our system does. For we not only engineer static control into Dow Badische fibers and yarns, we performance-test the carpets made from them in our lab—to make sure no shock has slipped in during construction.

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We also put carpets through seven other tough lab tests for tuft bind, flammability, light fastness, compression and abrasion resistance, delamination, wearability and appearance retention. They are only entitled to carry our well-known Performance Certification label if they pass them all!

The next time you specify contract carpets, look for the ones that carry our Performance Certification and Zefstat labels. They will never give anybody a shock treatment. Write for our Contract Carpeting Selection and Specifications Guide.

Dow Badische Company
Create’ Center
Williamsburg, Va. 23185
(804) 887-6573

CREATE™ is a service mark of Dow Badische Company.
Zefstat™ is a trademark of Dow Badische Company.
Our cities can work better today ...and tomorrow.

Modern ways to transport people.
Cities are having a rebirth, largely because developers are taking a new look at the tremendous investments in urban property. And modern mass transit ideas are helping make this rebirth happen. The automated, computer-controlled vehicles that have helped move people safely and conveniently through airports, are now being applied to the needs of downtown areas, colleges, industrial complexes and recreation centers. Westinghouse is helping make it happen.
Buildings designed to use less energy.
New buildings are saving energy these days by using existing heat ... from the lighting systems ... to cut heating loads. Circulating water or air picks up the lighting heat and redistributes it throughout the building. In summer, the same system carries the heat out of the building to cut air conditioning needs. Total energy savings can amount to 10% or 15%.

Better lighting for better safety.
New Westinghouse Ceramalux™ high-pressure sodium lamps for residential streets deliver twice the light of ordinary mercury vapor lamps for 10% less power, helps discourage street crime. Ceramalux systems are being installed now in New York City, Washington, D.C., and dozens of other cities.

Westinghouse Electric Corporation
Pittsburgh, Pa. 15222

helps make it happen

For more data, circle 102 on inquiry card
Three ways to ruin your roof.

Edging damage is involved in 80% of all roof losses.

Recently, Factory Mutual Systems studied 145 roof losses. They found that perimeter failure and edge damage were involved in four out of five of these losses. If you want your roof to last, you must do something about these three common roof edging problems.

Ignore roof movement, and you'll have problems.

Whenever two structural planes meet, there is movement in different directions and at different rates. Exterior walls move laterally in response to thermal expansion and contraction. Roof decks move in a direction perpendicular to the wall movement. This differential movement literally tears apart laminated felts.

There's no way to stop movement, but you can use a system that accommodates movement in all directions. Our 'Tremline' edging system lets you live with movement. Tremline's easy-to-snap-together components are designed to be free-floating. They accommodate thermal shock and structural movement along the entire roof perimeter.

Use exposed fasteners or ones that puncture the membrane, and in comes trouble.

Alternating expansion and contraction often causes exposed nails to pop, nail holes to enlarge and leaks to begin. Thermal changes and ice pressure pull on exposed fasteners, making the problem even worse.

If you use fasteners that puncture the roof membrane, water can leak in. The insulation can get wet and become ineffective. That's just the beginning of trouble and the beginning of the end of the roof.

The Tremline system uses no exposed fasteners or ones that puncture the membrane. So you have two less problems to worry about.

Don't isolate the roof membrane from wall movement, and you'll have headaches.

Movement between the vertical and horizontal surfaces of your edging is one of the most difficult movements to live with. The best way to do it is to isolate the roof membrane from wall movement.

Tremline's reinforced elastomeric sheeting functions as an expansion joint. It provides a flexible watershed or dam from the metal fascia to the roof membrane.
One beautiful way to preserve it.

Tremline: the trouble-free roof edging system.

A patented system, Tremline has more than seven years of proven performance and meets insurance wind requirements (approved by Factory Mutual Systems).

No exposed nail heads or fasteners.

The only fasteners are located under the cant strips. They can't puncture the membrane.

The membrane is unbroken.

Elastomeric sheeting works as an expansion joint by absorbing movement between roof and fascia.

Fascia sections are free-floating, designed to take movement in stride.

The Tremline edging system does away with most of the problems that ruin roofs. Tremline is uniquely beautiful, too. It gives a clean line appearance to the roof edge.

The Tremline edging system is only one of the ways we can solve your weatherproofing problems. For over 45 years we've been caring for buildings with some 15 job-proven glazing and caulking sealants such as MONO®, DYmeric®, and Lasto-Meric® plus our unique TREMproof® waterproofing systems. Your Tremco man can recommend complete waterproofing systems that are exactly right for your job.

So talk to us. Contact your Tremco rep. Or Tremco, Cleveland, Ohio 44104. Toronto, Ontario M4H 1G7.

THE ALWITRA EDGING SYSTEMS FROM TREMCO.

For more data, circle 103 on inquiry card
FOR A NATURAL BEAUTY IN ANY CONCRETE CONSTRUCTION,
use Medusa White Portland Cement. Used naturally
or color tinted, this extremely versatile true white cement meets the architect's
creative needs — moldable to any shape, design or texture. And
Medusa White is dependable and permanent. When
specifying or using white cement, insist on Medusa quality — developed and
improved by the originator of white portland cement since 1907.
Medusa would be pleased to work with you. For brochure
containing specific examples of white cement construction,
write Medusa Cement Company, P.O. Box 5668, Cleveland, Ohio 44101.
Exclusively yours with Air-Wall partitions: the luxurious decor, outstanding sound retardation and long-life of carpeted panels, all at an attractive price comparable to vinyl surfaces. New “First Dimension” Series won’t scratch, become marred or unravel even when bumped by chairs, carts or tables. Carpeting on both surfaces provides a full height tack board surface; nail or tack marks will not show. Colorfast and easy to keep clean with all conventional methods.

Ask your R-W Salesman to show you color swatches and tell you about the economical pricing.

For more data, circle 114 on inquiry card
NEW...a more effective way to analyze and manage the cost impact of your design decisions...

When are the key cost elements of a building project really "locked in"? In the early stages when you make major design decisions, of course. Simply put, early design decisions are crucial cost decisions...

And yet, until now, there have been no aids to help you understand and manage the cost implications of your designs. Until now, you could only look at costs (often after decisions had been made) through guesswork, through detailed unit costing of alternates, or some combination of the two.

Many architects have come to realize that such inaccurate and time-consuming methods render them incapable of managing costs. That's why our entirely new method of cost impact management is worthy of your attention.

Announcing

1975 DODGE CONSTRUCTION SYSTEMS COSTS

Published specifically for architects—with emphasis on the data architects use and need most.

You'll undoubtedly be reading quite a lot in your professional publications about this completely different type of reference. It provides to-the-minute cost data on hundreds of alternative assemblies within the different systems that could be used for each functional part of a building—superstructure, floors-on-grade, exterior walls, partitions, interior wall finishes, floor finishes, roofing and ceilings. Also provided are accurate factors by building type for floor finishes, roofing and ceilings. Also provided are accurate factors by building type for floor finishes, roofing and ceilings. You can do this now without guesswork. All the alternative solutions are presented in one authoritative, convenient source.

You can also use this book to (1) compare average building systems costs to your design; (2) "shop" for alternative assemblies within a particular system; (3) make preliminary estimates; (4) check out change orders; (5) analyze area overages or underages.

If, for instance, your design solution results in your exceeding your budget but you want to stick to the exterior wall you've selected, say, you can "trade off" by going to less expensive wall finishes, partitions or ceilings. You can do this now without guesswork. All the alternative solutions are presented in one authoritative, convenient source.

ACT IMMEDIATELY AND SAVE $4.00 (or more)

Copies of the 1975 DODGE CONSTRUCTION SYSTEMS COSTS will be available September 1st. By sending in your order with payment now (before September 17th) you can save $4.00 from the regular price of $33.80. In addition you avoid the $1.35 postage and handling charge on invoiced orders.

When you begin to use Dodge Construction Systems Costs, you may well feel like the man who has been making fires by rubbing sticks together and who discovers the match.

IMPORTANT—This Is Not A "Unit Cost" Book—IT'S MUCH MORE

Unit cost books, which give thousands of detailed labor and material rates for everything that goes into a structure, serve a different purpose. They do not help when you're trying to quickly understand the cost implications of different structural systems.

DODGE CONSTRUCTION SYSTEMS COSTS permits you to analyze and manage the cost impact of major decisions at the crucial early stages. It should not be compared (or confused) with our own Dodge Manual, with the R. S. Means' publication, or with any other unit pricing aid.

Published and Compiled by the Leading CONSTRUCTION COST AUTHORITIES

Extensive market research conducted by Dodge Building Cost Services (already a noted publisher of construction cost data and part of McGraw-Hill Information Systems Company) revealed a major informational void and prompted development of this new design analysis aid. Working with Dodge Building Cost Services and the Development Department of Sweet's Construction Services is the noted construction cost management firm of Wood & Tower, Inc., Princeton, N.J. All data is updated and processed through Wood & Tower's computer facilities. The McGraw-Hill Information Systems/Wood & Tower team is one you can rely on for accurate, meaningful construction costs data.

When you begin to use Dodge Construction Systems Costs, you may well feel like the man who has been making fires by rubbing sticks together and who discovers the match.

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YES, please send me _______ copy(ies) of the 1975 Dodge Construction Systems Costs at the special Pre-Publication price of $29.80.

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For more data, circle 125 on inquiry card
Help protect people from the horrors of fire and smoke . . .

specify FENESTRA all steel doors

Smoke and deadly toxic fumes account for about 80 percent of fire victims, according to documented fire records.

Every door in your building should serve as a fire barrier . . . but in addition it should protect life by minimizing increased generation of smoke and toxic fumes to the atmosphere.

Some doors do restrict the passage of flame — however, under exposure to intense heat they can decompose, thereby adding to the content of smoke and toxicity. These doors may utilize craft paper, certain plastics, or foam as a structural core. Wood doors are big violators.

Steel cannot generate toxic gases and is non-combustible. Fenestra's all-steel inner grid system assures maximum protection against fire as well as smoke and toxic fumes.

And you can get the style of doors and frames you need with this protection, when you need them, right from your nearby Fenestra distributor.

At Fenestra, we think safety. Think Fenestra when you think safety. Call your local Fenestra distributor today. He's in the Yellow Pages under "Doors-metal" or call 814/838-2001. Or check Sweet's . . . 82/Fe.
A seven-year wear guarantee on its heavy-duty Densylon sponge-bonded carpet has been instituted by Commercial Carpet Corp. If the carpet is properly installed and maintained and the surface pile in any given area wears more than 10% within seven years, such area will be replaced by CCC with carpet of comparable quality and color. Densylon's built-in, Permabonded sponge rubber cushion is guaranteed without time limit against deterioration and loss of resiliency. Get maximum wear-life from your carpet at minimum life cycle cost by writing or calling CCC today about Densylon's seven-year guarantee.

Commercial Carpet Corporation, 10 West 33rd Street, New York, N. Y. 10001 AR-9-74 (212)695-2323
How to achieve slope to drains when you insulate the roof deck!

Few things deteriorate a roof and cause leaks faster than ponding water. That's why roofing experts, architects and engineers unanimously agree that roof decks should slope to drains. The efficient, economical way to accomplish this is with All-weather Crete Insulation! This unique material not only provides the finest insulating value of any poured fill insulation, but it can be positively sloped to drains, all in the same operation. All-weather Crete is applied hot and dry (even in freezing temperatures) and compacted to form a smooth, seamless, sloped to drain deck which is ready for roofing immediately - no curing is necessary. It speeds construction!

No wonder All-weather Crete is also a top choice for plazas where slope to drains is critical. Compare the life/cycle costs of All-weather Crete with other methods. None can surpass it in the thousands of dollars saved through energy conservation and roof life longevity. Get the facts — contact your local All-weather Crete applicator or Silbrico Corporation, 6300 River Rd., Hodgkins, Ill. 60525, (312) 735-3322.
When it comes to safety, we're not afraid to flunk any product that can't cut it.

Surprisingly, perhaps, there are times when the sum comes out less than the parts. A system, such as a floor and ceiling assembly, can fall short of prescribed fire resistance requirements, even though it contains materials previously classified by UL, if such materials are classified for use in other ways. We rate the complete construction assembly to determine how long it will retard the passage of heat and flame. A drawing and specification of the acceptable assembly, and its hourly rating, are published in our Fire Resistance Index.

What we do, as an independent third-party, is originally test and evaluate products, materials and designs with an eye to specific hazards and performance standards. Any product or material meeting these recognized requirements is eligible to bear the UL Classification Mark. The manufacturer's name is then published in UL's Classified Product Index, Fire Resistance Index, or Building Materials Directory for the benefit of jurisdictional people, safety experts, building inspectors and contractors.

Then we counter-check to see that his products continue to merit UL classification through our Factory Follow-Up Service with periodic unannounced visits to the maker's plant by UL inspectors. UL Inspectors pull products off the production line for testing and evaluation. When required, product samples are also secured from the open market and thoroughly examined to verify that they conform to applicable standards.

Why are manufacturers, here and in 36 other countries, so willing to go along with us? Because they know no matter how extensive their own factory testing, there's really no substitute for the credibility of testing and evaluation by the world's largest independent, not-for-profit safety testing organization.

Underwriters Laboratories Inc.
An independent laboratory testing for public safety.
Chicago and Northbrook, Ill., Melville, N.Y., Santa Clara, Cal., Tampa, Fla.
At UL, safety's the only axe we have to grind.

For more data, circle 119 on inquiry card
More and more leading architects are specifying our Eberhard Faber-Board panels for some of the biggest jobs going up today. Like the new Sears Tower and Standard Oil building in Chicago. And the World Trade Center in New York. They're versatile.

Eberhard Faber-Boards are applicable for new or present construction or renovations. They're the visual aid panels that really aid communications. Because they're three communications areas in one. The surface lets you write with Eberhard Faber-Board color markers because it's white. Lets you project without distortion because it's lenticular. And lets you post or schedule without hang-ups because it has magnetic capability. For a kit with sample material, information on types, sizes and all specifications on the visual aid panels of the future, write today.

For more data, circle 120 on inquiry card.
Here—within the pages of a single book—you’ll find the information and help you need to prepare for the December, 1974 Architectural Registration Exam. This 186-page Test Guide is the only one sponsored and recognized by the NCARB, the organization that prepares the examination.

New—and expanded—this edition draws its material directly from the December 1973 exam. The questions are the same ones confronted by the candidates who actually took the exam—all the test information for all four parts is reproduced in the Guide.

EXCLUSIVELY THIS TEST GUIDE FEATURES:

- INSTRUCTIONS AND QUALIFICATIONS for applying for the new professional Examination as well as the equivalency examination.
- The 1973 EXAM—with questions and answers from the actual examination which tested candidates knowledge and judgment in environmental analysis, architectural programming, design and technology, and construction administration.
- RESULTS OF THE 1973 EXAM—how the candidates did nationally, by region and state... what the candidates thought of the exam... what they thought of their education/training.
- WHAT THE NEW EXAM WILL BE LIKE—with answers to such questions as: How is the new examination structured?... graded?... scored?... Is guessing a good idea?... Is there a predetermined pass/fail point?... What scores will be reported and to whom?... Will credit be given for passing individual parts?
- A GLOSSARY OF TERMS AND IDEAS with which candidates must be familiar with to deal effectively with each problem area.
- A BIBLIOGRAPHY OF RECOMMENDED READING AND REFERENCES encompassing the periodicals and books of special relevance to candidates for the Professional Examination.
- INDISPENSABLE INFORMATION FOR ALL CANDIDATES, describing the philosophy of the new Professional Exam, the new exam and the law, and how the NCARB intends to help the professional after registration.
- REQUIRED READING FOR ALL PRACTITIONERS by shedding light on the whole institution of registration and licensing as a professional prerequisite. Architects already in practice, both here and abroad, can benefit professionally from having their own copy.

RECOMMENDED BY LAST YEAR’S CANDIDATES

Candidates who bought the first edition in preparation for the 1973 exam readily endorsed the Test Guide as a practical and useful tool in their studies. The expanded 1974 edition is of the utmost importance to anyone taking the Professional Exam and will be of professional interest to all educators and practitioners.

The first edition of the Test Guide was completely sold out and paper and printing commitments will also limit the second edition. To ensure that you’ll receive your own copy, send your order and payment to:

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Please send ____ copies of the Architectural Registration Handbook

Name ____________________________  City ____________________________

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Full payment of $21.00 per copy (plus 50¢ postage) must accompany your order.
Three years ago in Nashville, Tennessee, the Malone Market, built with conventional construction methods, burned to the ground before fire trucks arrived. The store was out of business for seven months. It was rebuilt using prestressed concrete double tees, girders, and concrete masonry walls. Fire struck again following a series of three explosions that blew out the windows. This time, because prestressed concrete was used, the fire was isolated to the back of the store near the incinerator where it originated. The 12 people in the store all scrambled to safety. Although smoke damage occurred following this second fire, the store was out of business only 31 days.

Prestressed concrete helps save lives and property if fire strikes

For more information about fire-safe prestressed concrete building components, write to:

"Fire-Safe"
Prestressed Concrete Institute
20 North Wacker Drive
Chicago, Illinois 60606

In a letter to the builder following a major fire at the Fountainhead Apartments in Westboro, Massachusetts, the owner said: "The firemen reported that because of the Class I construction techniques...it was possible for them to contain and control the fire within one dwelling unit. No one was hurt, and we were inconvenienced only with the temporary loss of one unit while it was being redecorated, with all other apartments continually occupied. A fire of similar intensity in a building constructed with materials other than concrete would have caused a real tragedy endangering many lives and destroying the entire structure."

ARCHITECTURAL RECORD September 1974

For more data, circle 121 on inquiry card
HEALTH CARE EQUIPMENT CATALOG describes and illustrates Jewett's comprehensive line of stainless steel refrigerators and freezers for hospital and lab installation as well as autopsy and morgue equipment. The line includes free-standing, counter-top, under-counter and wall-mounted models. The new 8 page brochure includes metric as well as English dimensions and temperature ranges. Write: Jewett Refrigerator Co., Inc., 2 Letchworth St., Buffalo, NY. 14213.

For more data, circle 122 on inquiry card

SEND FOR A COMPLETE NEW 1975 catalog and samples of famous Melflex Products Company molded rubber stair treads and flooring material. New 1975 catalog detailing the Melflex molded rubber stair tread and flooring line is now available. A complete offering of square nose and round nose stair treads in selection of six most popular rubber and vinyl styles including matching flooring and cove risers.—All in nine decorator colors are featured. Several types of floor mats and matting material are also listed in this Melflex 44th Annual Catalog. For catalog and samples, circle 123 on inquiry card.

PHOTO-EZRA STOLLER - ESTO

From Park Avenue to a posh polo field is the travel scenario of PepsiCo's headquarters. Aerofin Heat Transfer Coils (supplemented by window induction units) provide environmental control of seven contiguous buildings, totaling 400,000 sq. ft., and contributing to the increased productivity of 1200 workers. High-performance, high-exchange coefficients make Aerofin coils the industry standard. Need technical fan/coil system answers? Aerofin has help. Call or write our offices in Atlanta, Boston, Chicago, Cleveland, Dallas, Los Angeles, New York, Philadelphia, San Francisco, Toronto, Montreal.

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CHUTE-FED REFUSE PACKER SYSTEM ENDS HIGH RISE INCINERATOR PROBLEMS!

NEW LOW-INVESTMENT DISPOSAL SYSTEM COMPACTS AND STORES MORE REFUSE IN LESS SPACE WITH LESS COST!

Now builders and owners can say good-bye to smoky, sooty incinerators and the headaches of meeting strict air pollution standards.

New Dempster high-speed compaction systems meet refuse output of even the largest building. Chutes carry refuse to packers where it's compacted into enclosed containers and picked up by a local private hauler.

For expert counsel in planning a total system for your new building, write today for the name of your nearby Dempster Refuse Consultant.

Free brochure and literature available.

Compacted waste material is emptied into disposal truck. Refuse container is returned immediately for more service.

Yes, I'm interested in chute-fed packer systems.

(please check)

☐ Need information right away. Have Dempster Representative call.

☐ Please send literature. AR-9-74

☐ Please send name of Dempster Consultant.

☐ Send name of dependable refuse hauler near me.

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For more data, circle 126 on inquiry card
Most doormats say "welcome" to dirt.
Pedigrid keeps out 80% of it.

C/S Pedigrid recessed foot grilles are right in step for easy maintenance, safety, beauty. In fact, 80% of all dirt, mud and water stops right at your doorstep!

The recessed entrance grid system consists of separate, replaceable strips of deep pile Acrilan and nylon set securely in structural aluminum rails. They wipe the shoe clean as it passes over the treads. Dirt or mud drops between the treads into the catch basin below. Easy to maintain. Available in 3 styles and 17 colors. Other types include abrasive, serrated aluminum and vinyl. Write or call for new literature.

SAMPLES AVAILABLE.

CONSTRUCTION SPECIALTIES, INC.
P.O. Box 380, Muncy, Pa. 17756/(717) 546-5941
725 Twin Oaks Valley Rd., San Marcos, Ca. 92069
A J-M asbestos roof saves energy.

A built-up roof can take a lot of asphalt. Or it can take a lot less. That's the one big advantage of using J-M asbestos roofing felts. It makes possible a smooth surface roof—one that doesn't need a poured asphalt-gravel protective surface. Use asbestos roofing felts and you save a lot of asphalt. Save asphalt and you're also doing your part to conserve petroleum, a vital energy source.

A J-M roof ... a systems approach to quality.

A quality built-up roof is no better than its component parts. And no better than the techniques used to put them together. That's why it's so important when you specify a roof, to consider every aspect of the system, if you expect true value and lasting protection when the job is done. And that's why a J-M built-up roof makes sense. You benefit from the experience of over 100 years in the roofing business—on J-M quality in a complete line of roofing products built to work together—and on the skills of the J-M team of roofing specialists.

A J-M roof means single-source materials responsibility.

Because J-M makes everything that goes into a built-up roof, you can have Johns-Manville quality all the way—from the deck up. From vapor barrier to top dressing, you're assured of components made to go with each other. And when those materials are applied in accordance with J-M specifications, the result is "from-the-deck-up" dependability. Plus, another important benefit: Clear-cut responsibility for the performance of the materials used in the finished assembly. And that can be a real advantage in case follow-up is needed after the roof is completed.
SPECIFYING A ROOF IN A PERIOD OF RISING PRICES.

Because of the energy crisis, prices of all petroleum-derived products—and that includes the bitumen used in a built-up roof—are rising. As a result, a roofing manufacturer cannot guarantee prices for as long a time as normally transpires between the submission of a quote and shipment of materials to the job. For that reason, it is imperative that the specifier and building owner alike allow for that situation and accept the inclusion of escalation clauses in bids. This gives the contractor the flexibility to adjust prices over which he has no control and enables him to make a fair return on a job bid in good faith.

A J-M roof includes Expand-O-Flash, the original prefabricated roof expansion joint cover.

When we say J-M can supply the total roof, we really mean it. J-M built-up roofing products line includes Expand-O-Flash, a name you've come to respect in flashing. Expand-O-Flash expansion joint covers are prefabricated at the factory. They come to you ready to install.

They're available for all types of expansion joints, including corners, outside corners, tees and crossovers. They permit three-way movement while retaining a weather-tight seal.

For long-lasting roof protection, be sure your roof specifications include Expand-O-Flash expansion joint covers.

For assistance of any kind with a built-up roofing problem, contact your J-M District Office. Or contact Dick Ducey at Johns-Manville, Box 5108, Denver, Colorado 80217. (303/770-1000, Ext. 3740.)

The single-source built-up roofing system.

Johns-Manville

For more data, circle 135 on inquiry card

For ARCHITECTURAL RECORD September 1974 219
STEEL FRAMES FOR HOSPITALS: BECAUSE THERE’LL BE SOME CHANGES MADE!

A hospital is a very special kind of building. Through the years it must be able to adapt to many functional changes—to enlarge outpatient areas, to accommodate new equipment or new facilities, or modifications to the mechanical system. These are some of the reasons why steel is proving to be the most practical and economical structural framing system for hospitals.

Steel allows sufficient design flexibility to meet the constantly changing needs of medical facilities. Steel frames also mean competitive costs and minimum erection time.

A fine example of imaginative and economical structural steel design is the new 409-bed Presbyterian Hospital in Oklahoma City, Oklahoma. This hospital offers patient care to the general public and a full teaching program for medical students attending the adjacent University of Oklahoma campus.

The new facility consists of two distinct building units: an eight-story NURSING TOWER and a three-story Diagnostic/Treatment Center. Because of the difference in function, the tower requires shorter spans and lower floor-to-floor heights than the necessarily longer spans and deeper trusses of the three-story Center. However, both of these units use a form of interstitial space design.

This technique provides a building framework that is essentially a series of structural sandwiches or full height service levels between patient floors. Within these intermediate spaces (service levels) certain equipment and virtually all mechanical, electrical and communication lines, and distribution and collection systems are housed and maintained. Thus achieving an absolute minimum of servicing interference with normal hospital functions.

The Center has 7'-0" deep interstitial spaces, while the NURSING TOWER has only 3'-6" deep spaces: The reason for the deep trusses (where men can work efficiently) is that the functions of the Diagnostic/Treatment Center require frequent alteration due to changing
modifications and advances in the technology of health care delivery. Conversely, the nursing function is relatively static requiring only limited access to the interstitial spaces—and that is why the height requirement of those levels is less.

The interstitial space design is a developing concept. Over the past 6 years, 35 hospitals and clinics are known to be using this system. They are finding it effective in reducing maintenance and operating costs because of the inherent flexibility of interstitial space design—functions can be modified or replaced at will. We'd like you to know more about structural steel framing for hospitals and other medical facilities—and how it can accommodate long-range needs. For a copy of the Presbyterian Hospital Structural Report (ADUSS 27-6220-01), or for any other information, contact a USS Construction Representative through your nearest U.S. Steel Sales Office, or write: United States Steel, Room C317, 600 Grant Street, Pittsburgh, Pa. 15230
With 1,800 hungry children to feed, you don’t want refrigeration equipment that tests your patience.

Making lunch for an energetic group of high school students is a full-time job. And a complex one. One that requires a variety of food service equipment to help you get the job done and take advantage of the efficiencies that are built into today’s food service systems. Equipment selection, however, is an equally complex job. Because there is so much available. And because the equipment you select has to satisfy you, and the people who work for you, and the students that you serve.

Every piece of Nor-Lake refrigerated food service equipment is designed to do a job, consistently and conveniently, day in and day out. Week after week. Month after month. Year after year. With doors that open easily and close tightly. Insulation and compressors that control in-use temperature variation. Designs that maximize storage and minimize cleaning. We make them that way because Nor-Lake equipment is used, day in and day out, by people who can’t settle for anything less.
Keep light out of sight with Paracube® Louvers

Sometimes a good lighting louver should just do its job quietly and stay out of sight. Especially when the job demands high intensity lighting, low brightness and visual comfort.

Paracube does it with mirrors—over 18000 perfectly formed parabolic mirrors per gridsize panel!

Under illumination this produces a true physical phenomenon. Regardless of lighting intensity, the panels appear dark at normal viewing angles. Brightness is under control.

Paracube panels are injection molded in one piece from either polystyrene or virgin acrylic materials. The specular metallic finish is protected by a coating of clear acrylic lacquer for permanency. Available in silver or gold tint. Panel sizes to fit most popular fixtures or standard grid systems up to 3' x 3'. Smaller panels can be cut to order.

Send for Bulletin #100. Paracube just might make a nice reflection on your taste in lighting.
On some buildings, starting with the roof will save you money.

We make roofing insulation panels with urethane foam—panels which can save you money in two ways.

First, installation costs. Both manufacturing processes and experience help us to produce reliable, dimensionally stable insulating panels that go down fast and easy, and cut handling time 30% to 50%.

Second, life-cycle costs. That's because Apache foam panels have extremely high insulation values that won't deteriorate over the years (no wicking, no creeping, no buckling). And, their integrally bonded skins resist wind uplift beyond 170 mph (better than any fibrous insulation).

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Architectural Record and L'Architecture d'Aujourd'hui announce
the formation of The International Architectural Foundation, Inc. for the purpose of conducting...

An international
design competition for the
urban environment
of developing countries

Desirous of helping the developing countries of the world to meet the challenges of unprecedented urban growth,

Inspired by the United Nations Resolution 3001 to hold a major United Nations Conference-Exposition on Human Settlements (Habitat '76) in Vancouver, Canada from May 31 to June 11, 1976, and wishing to contribute to its success,

The International Architectural Foundation, Inc. (IAF) has been formed for the purpose of organizing an International Design Competition open to the professions of architecture and planning throughout the world.

The IAF proposal has been described as "exciting and innovative" by Helena Z. Benitez, Coordinator, Preparatory Planning Group for Habitat '76. And Eric Carlson, its Deputy Director, has stated, "the IAF Competition has great potential for providing useful inputs to the important Vancouver meeting." In addition, prominent architects, planners and government officials around the world have expressed their enthusiasm and encouragement.

The Competition, scheduled to start in the late summer of 1974, when full details will be available to entrants, proposes to challenge the design professions to address themselves to a problem of grave and growing international concern: the human and environmental problem of accelerating urbanization. The challenge will be to design within a largely pre-existing urban-regional context a new and beneficent cell of urban growth—one that will foster human well being and development and one that will be fully considerate of environmental impacts. Thus, within a framework reflecting the universal problem of urbanization, three specific sites for a human settlement of moderate size will be selected to which designers can respond in the specific detail of both their physical characteristics and their social and economic factors. These sites will be located in three cities: one each in Central/South America, the Middle East/Africa, and Asia/Oceania. Sponsoring local agencies will participate in the development of the Competition programs and agree to construct the winning designs and appoint their designers as project architects. In this unprecedented effort three design competitions, with three awards, to be built in three locations is projected; but the worldwide creative effort generated will yield the further benefit of many new ideas for urban community development which it is expected will be displayed at the Vancouver Conference-Exposition, featured in the world's leading architectural magazines, and published in book form.

The international consulting firm of Gutheim/Seelig/Erickson has been appointed by The IAF to organize and manage the Competition.

Funds needed to meet the Competition budget will be contributed by a small number of philanthropic sources in several countries and by interested business firms. The IAF is pleased to announce that the Graham Foundation has already endorsed its Competition and pledged its financial support.

If you would like to consider the possibility of joining a small group of financial sponsors, and being identified over a three-year period with a major effort to help developing countries find creative and practical solutions to some of their crucial problems of human settlements, write (in the U.S.) Blake Hughes, The International Architectural Foundation, Inc. (41), 1221 Avenue of the Americas, New York, N.Y. 10020, or (in France) Jean-Louis Servan-Schreiber, The International Architectural Foundation, Inc., 10 Rue Lyautey, Paris 16.

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in pledging its financial support to

The International Design Competition

for the Urban Environment of Developing Countries

* * * *

Problems of excessive population growth, unemployment, environmental decay, disease, alienation and urban squalor are all interrelated, rooted in ignorance and disability, breeding despair and desperation. Nowhere are these ugly problems more clearly focused than in the urban slums of the developing world. Nowhere is there a greater need for human solidarity and creative contributions.

The International Design Competition is a modest means to these ends and aims to

- alert architects and planners to the gravity of the accelerating urban crisis in developing countries;
- increase the fund of talent and expertise available for planning human habitations;
- involve architects and planners in the design of demonstration projects in three cities of the developing world;
- contribute to the success of the important United Nations Conference-Exhibition on Human Settlements (Vancouver, 1976);
- act as a catalyst for further contributions by individuals, institutions, organizations, and governments to the solution of the multi-faceted problems of housing the urban poor.

To assure the success of the Competition, The IAF is seeking grants from a limited number of private organizations, foundations, and governmental agencies around the world.

If you would like to consider the possibility of becoming a sponsor, please read the brief announcement on the facing page and let us hear from you.

The International Architectural Foundation, Inc. 1221 Avenue of the Americas, New York, NY 10020. (212) 997-4685.

"Help Make a World Where Hope Makes Sense"
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