Progressive Architecture

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Progressive Architecture

Environmental impact

Design planning

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Cover: drawing by John Hejduk of the A.E. Bye house (p. 98) soon to be built in Connecticut.



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Left: LIBRARY-LEARNING CENTER, UNIVERSITY OF WISCONSIN-GREEN BAY, ARCHITECT: Daverman Associates, Inc., Grand Rapids, Michigan, and Milwaukee, Wis. GENERAL CONTRACTOR: Fluor Brothers Construction Company, Oshkosh, Wis. Four Dover Geared Passenger Elevators installed by Northwestern Elevator Co., Inc., Franchised Distributor, Milwaukee and Green Bay.

Below: FIRST NATIONAL BANK BUILDING, DAYTON, OHIO. ARCHI-TECT: Harry Weese & Associates, Chicago. GENERAL CONTRACTOR: Turner Construction Company. DEVELOPER AND LEASING AND MANAGE-MENT AGENT: Arthur Rubloff & Co., Chicago. Six Dover Gearless Passenger Elevators installed by Dover Elevator Co., Dayton.



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"VINYL WALLCOVERINGS -QUESTIONS & ANSWERS" Letters from readers

Views

Life safety

Your choice of copy of a de Chirico for your April 1974 cover was well taken. *Mystery and Melancholy of a Street* is a succinct statement of the inherent threats and dangers that lie just around the corner on the sunny street of every life. De Chirico's use of point/counter-point (e.g., sunlight/shadow; carefree/threatening, etc.) helps to emphasize the uncertainty of tomorrow, or even of the next moment.

I would also like to compliment you on the use of the picture of the Guardian Figure on your editorial page. Joyce Karen Schiller Ferndale, Mich.

Thank you for your serious issue on life safety. The aftermath of tragic fire and natural disasters is always filled with the best intentions for change. As a result there have been many modifications in codes and standards. But regrettably, there has not been enough change. As you suggested in your editorial, frequently changes are not made because of costs and calculated risks are taken because of pressures from business interests.

After the fire in the Carpet Building on Third Avenue, New York, promised fire drills in Manhattan office towers never materialized. After several notorious nursing home fires (Marietta, Ohio, 1970; Atlanta, Ga., 1972; Pleasantville, N.J., 1973) we still do not have sprinkler and smoke detection systems as government standards. The hazards of carpet flammability have become a political issue and there has not been any change in our Flammable Fabrics Act. In the revised federal specifications for carpeting, DDD C 0095 A, the Pill Test was still specified in spite of the Life Safety Code issued in the Federal Register of 1971 recommending the Tunnel Test. Was this reluctance to change to the Tunnel Test a result of a political contribution of \$94,580 to the Committee to Re-elect the President (CREP) made to Maurice Stans by a group of carpet manufacturers?

Up until now little public notice has been given to the lethal effects of the smoke of synthetic carpet fibers. An important study was reported to the American College of Surgeons by Dr. Donald P. Dressler, of the Harvard School of Medicine, and reported

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in World Medical News of Nov. 9, 1973. The smoke was demonstrated to be as deadly as any poison gas planned for warfare. Dr. Dressler stressed that biological smoke standards for synthetic carpet fibers must be established. Under this kind of prodding perhaps fiber producers can develop less toxic forms of fibers in time.

Carpet flammability should be seen in relation to the environmental setting where fire control is most effectively treated by sprinkler and smoke detection systems. As you said in your editorial, it is a serious matter and ''our lives depend on it as do every one else's.'' *Lila Shoshkes Interior Designer South Orange, N.J.*

Binghamton Science Complex

In Robert Jensen's criticism of the Binghamton Science Complex by Davis, Brody & Associates [P/A Mar. 1974, p. 82] he asserts that the ''no nonsense'' aesthetic, ''historically an expression of science in its applied technology, its rationality, as an image to the layman, and as such an artistic idealization,'' is the embodiment of objective, or rational decision-making. He further argues that architects attempting to use objective and rational methods in design tend to trick themselves and this is resulting in the debilitation of ''human'' nature and the nature around us.

I find the author has confused the stark aesthetics, intuitively and artistically achieved, a seemingly undesirable manifestation of the scientific world view, with uses of objective methodology in the design process, a use of principles origina-[continued on page 8]



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Views continued from page 7

ting in science to structure and solve problems of complex nature.

The resultant aesthetic of the science center, however, stems not from the use of objectivity in the design process, but from the more traditional intuitive, artistic value judgments of the selection of materials, their composition, and the massing of the complex. These decisions were based on an artistic interpretation of a "no nonsense" premise of science to create an image congruent with D–B's view of the nature of science. The architects "did not rely on the quantification of data and procedure to miraculously generate a perfect building for them."

Beyond the disdain for the "no nonsense" aesthetics, found also in quite intuitively conceived art museums, housing, and office buildings where little objective design methodology is used, the author attacks objective design methods in general, basing his statements on the specifics of the Davis-Brody method.

The author's premise that objectification, as a designer's tool, turns humans into objects, is as invalid as the use of artistic values of "tasteful" proportion, composition, and massing used in making architectural decisions will create a work of beauty. Davis-Brody's use of the set of terms such as "walk, drop off, circulate, reach, park, and identify" in establishing specific situations to be accommodated seems more rational than to attempt to make the design decisions relevant to these activities from intuition and the inherent limits of cognizance. The use of objective operations in identification insure that the human user's need will be clearly specified and therefore clearly facilitated. The author argues that terms such as student, teacher, reach, and identify are value-laden and ambiguous, thus devaluing them as successful elements of objectivity. To the contrary, student is hardly a value-laden or ambiguous title, it simply means one who learns, a teacher is one who imparts knowledge; clearly defined roles. Reach can be concisely defined as to arrive at, identify means to establish the identity of. These terms with commonly agreed upon definitions thus become elements of objectivity. These role and activity "titles" focus a human activity or a human need that is to be fulfilled to accomplish a successful design. This clarity gives the designer specifics to accom-[continued on page 107]

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News report

Renaissance of the waterfront

The historic nucleus for urban growth has been the waterfront: the seaport, river landing, ocean harbor, channel, inlet, canal. As transportation evolved into the era of the internal combustion engine, cities were freed from dependence on the water, and the move inland began. Decades passed, and the importance and color of the waterfront retreated into nostalgia. "In a search for attractive waterfront areas in the United States, it is difficult to locate more than a handful of cities which have provided a civic and recreational waterfront area for the enjoyment of their citizens," reported Arthur Cotton Moore/Associates of Washington, D.C. in a study for the U.S. Dept. of the Interior.

Suddenly, it seems, the romance and practicality of waterfront living have inspired the imagination of planners and developers across the country. A year ago the National Endowment for the Arts' "City Edges" program awarded more than \$1 million in grants to municipalities and individuals whose study included waterfront potential.

Several reasons accounting for this resurgence of interest logically present themselves. Not the least is the environmentalists' clamor for pure air and water and the concern for historic preservation and humanitarian planning. Waterfront property especially lends itself to development because, as architect-planner Moore notes, it has been held in safekeeping by "the greatest of preservationists—neglect."

The sweep of planning takes various approaches; one could wish for a better mix of uses at the water's edge within each individual project. Nearly all proposals endeavor to link the waterfront with the city center. As the long-range programs are realized over the next decades, the success of different planning concepts will make interesting comparison.

Beyond the waterfront projects described in the News report, including Buildings on the way up, are Boston's Lewis Wharf restoration by architect-developer Carl Koch and the downtown waterfront renewal plan by the Boston Redevelopment Authority; Philadelphia's plan to renew the river front at Penn's Landing on the Delaware and to create a park along the Schuylkill River; Baltimore's proposed redevelopment of the National Register-listed Fells Point according to plans by architect Louis Sauer of Philadelphia, who won the contract by vote from the community; the multimillion dollar urban [continued on page 24]



Drawing: John H. Martin

Yonkers riverfront today



Renaissance Center office-retail complex including a 70-story hotel on the Detroit River front by John Portman & Associates of Atlanta, Ga.; in Long Beach, Calif., a 143-acre waterfront development, Marina Pacifica, with a two-level enclosed mall right on the water so shoppers may arrive by boat and moor them in slips provided; and in Jersey City, N.J., across the Hudson from the World Trade Center a 2200-acre new town, Liberty Harbor (P/A May, 1973, p. 42), for which \$1 million has just been approved for developing a state park.

Yonkers looks to the river

Recognizing that its Hudson Riverfront is the city's greatest natural asset, the Yonkers Department of Development is allowing the thought of a massive, \$225 million renewal effort to grow in the minds of citizens and public officials. The project would reclaim about 3.3 miles of land along the Hudson River from its present heavy industry usage. Most of the industry would be relocated, and air rights over one remaining industrial building would be used for housing. The land then would be ready for residential, commercial, and recreational uses and would be linked by way of a "Park Avenue" kind of causeway to a main shopping area in the center of town— Getty Square. From Yonkers, on the east side of the Hudson just 25 minutes by train from Manhattan, the view across the river is of densely wooded banks and a bluff.



Chicago River esplanade

Chicago: baptism by water

Proposed for Puerto Rico

The Chicago 21 plan to revamp the central city area by the 21st Century (P/A, Sept. 1973, p. 25)-includes intensifying uses of the lakeshore and riverbanks. A \$40,000 federal "City Edges" grant helped with this aspect of planning. Already underway as a city project is creation of an esplanade along the south bank of the Chicago River toward Lake Michigan where it will continue on a proposed 100-acre landfill park. Also anticipated is conversion of the enclosed Navy Pier into a waterrecreation center. In the same vicinity, northeast of the Loop, a residential-commercial high-rise development is well into its first phase. This project, Illinois Center, is bounded on the north by the river and on the east by the lake. South of the Loop, on property occupied by defunct rail yards, a town-intown is envisioned extending parallel to the river to Chinatown, where a boat basin will be created for the community. In this river zone the plan emphasizes recreational activities with shops and restaurants. In some areas housing has been designated for strips adjacent to the river and its esplanade.



Demetriou's Peoria plan

Peoria looking for developers

The Office of Angelos C. Demetriou, AIA, of Washington, D.C. recently presented a plan to the city of Peoria, III. for the "rebuilding" not the replanning of the city's downtown. A key phase of the plan will be to restore the Illinois River bank to vital use and connect it to the commercial sector. Land adjacent to the river is used for parking now, but Demetriou wants it for predominantly singles and elderly housing and for restaurants, marinas, and a civic auditorium. The study was funded by a grant from the Peoria Downtown Development Council which is seeking developers and capital to begin the rebuilding. Several of the proposals are under special study including a downtown mall, for which Demetriou has completed preliminary drawings, and the waterfront residences which are in the drawing phase.

Over and up in Puerto Rico

Urged by high-density population housed in low-density dwellings, Puerto Rico has established new planning guidelines. A project for a new community 8 miles east of San Juan by William L. Pereira Associates of Los Angeles is the first to incorporate these regulations. Cacia Talega, the proposed development, owned by P.F.Z. Properties of San Juan, is on the coastland of what's known as one of the last large, privately owned parcels suitable for urbanization in the metropolitan region. The density will be 215 per acre on the 200acre site. Both commercial and residential structures will be built. Transportation will include the island's rapid transit system already under construction and will take advantage of San Juan's natural channels and lagoons. It will be possible, planners say, to travel by water to Cacia Talega even from the airport. Cost of the project is estimated at over \$500 million. Work preparing the land has begun, and actual construction will be in full swing within 20 months.

Omaha courts the Missouri

Nebraska and Iowa have collaborated on a 50-mile masterplan for the Missouri River that includes new towns, a scenic parkway, housing, and industrial parks. "City Edges" funds have been awarded to accommodate the arts in the overall scheme. Encouraged by the plan, several river-oriented projects have been built already and several are awaiting to be implemented. One of these is Central Park Mall, a joint venture of two Omaha firms, Bahr Hanna Vermeer & Haecker and Hartman Morford Bowen. The plan is a block-wide ribbon of park that cuts through eight blocks of the downtown on its way to the river. There the greenway ends at a proposed marina and "marina city" cluster of homes. Preserved in the plan is the vintage Burlington Building, an old-fashioned market, and warehouses turned into loft housing. Proposed as satellites around the greenway will be a new university and a public library.



Broadway with classrooms



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Team B

ps. Concrete truss here, concrete truss there and precast twin tees everywhere.

The foregoing is an actual statement of design appearing on blueprints of CCD/N. The A-B-R partnership, Architects, of Denver has created what it calls "the largest valentine in the world" for the college: a heart-shaped reservoir holding 400,000 gals. of solar-heated water. This will provide 100 percent of the heat for the quarter-mile long, linear structure.

The soon-to-be-constructed building has a sawtooth roof that collects the sun's rays heating water capable of warming the school at night and for seven sunless days. After talking with the students, A-B-R came up with the idea for the "superduper solar silo circus," which not only conserves energy but also saves the air from pollution by not burning fossil fuels.

The valentine shape of the water tank on the lower level is repeated in the form of a central conseling area, upper level. The Broadway axis serves as the student center with academic and vocational classes on either side. Structures including several barns in good condition were left on the property and together with a small pond they form the formal entrance to the college through what is called "land of nostalgia."

Members of the Colorado legislature needed some, but not much, convincing before approving funds for the \$11 million school. The solar heating system will add \$700,000 to construction costs, but after 10 to 15 years the state should recover initial expenditures and thereafter save approximately \$60,000 annually on heating.

The A-B-R Partnership principals, Team A, are John Anderson, Donald Barker, Ronald Rinker, and R. Russell Seacat. Designers of the College, Team B, are Alan Brown, Sal Didomenico, Ron Mason, and Phil Tabb. [continued on page 26]



News report continued from page 25



Walls of the Morris Apartments



Ancient Hump Ring sculpture (below)



Seigfred wall (below). Photos: John Spofforth



The glorified brick

Common, reliable and familiar . . . the brick is all these, but in the hand of Birmingham, Ala. sculptor John Spofforth this timeless material becomes an actor. Sturdy brick walls buckle under the illusion of superforces, and ramrod chimneys appear to melt as if made of butter. These are exactly the effects Spofforth wants in his brick sculpture.

After graduating from art school at the University of Ohio, Athens, he laid brick for a living and continued as a mason during a four-year stint with the Navy's Seabees. "I liked masonry," he admitted, "and yet it was very dull work. I like art, but I don't like making little objects. So I combined the two, and it satisfies me."

His first large commission after returning to receive a master's from OU was the Unitarian Fellowship church in Athens (1968) where in three summers he and a helper laid an undulating brick façade over the cement block shell built by a volunteer crew whose foreman was a mechanical engineer. It took the helper a week before he loosened up, said Spofforth, "then he started laying uninhibited brick."

Word-of-mouth brought other commissions such as a Dutch oven-fireplace combination and a solarium, and around Athens his architectural-type works now include a 14foot fireplace wall for the home of Fred and Carole Weiner, both OU professors; a sculpture wall for Seigfred Hall at OU; and walls, a fireplace and chimney for the Morris Apartments. Currently he's designing a wall for the art center of the Greater Birmingham Arts Alliance and is consulting with architects for the new State Supreme Court building, Columbus, Ohio.

"The weight of brick makes it dance like a stairway above and a groan below," once remarked the late Louis Kahn. The challenge sends Spofforth into experimentation with techniques and careful selection of his materials. His favorite brick is the solid, sand-mold type. He often stains the mortar for certain effects—as in the green cast he gave the wall in the Weiner's home to complement their furnishings. The Fellowship church has grapevine tooled joints to add texture and give a rock strata look.

The projects he feels most inspired by are ones in which he isn't "framed" by having to work within existing structural confines. "Imagine building a series of forms," he says, "all related to each other as a 'network' of shapes for installation over the entire area of a shopping center including some of the shapes springing up from inside the building."

Construction manager: heir apparent?

Architect, contractor, or aardvark, what is a "CM"? This was the question before the recent Construction Management Seminar in New York City organized by Advanced Management Research, an executive-level educator. Assembled were architects, engineers, builders, attorneys, CMs, and owners to consider this newest member of the "building team." No single answer emerged, but two ideas dominated the three-day proceedings.

The CM can be a professional who advises the owner and protects his interests before architects, engineers, and builders; who proposes design changes and value engineering to comply with local conditions of labor, materials, and financing; and who phases and supervises procurement and construction. He also could be the owner's agent who hires and [continued on page 30]

Ceramic tile, the decoration you build with.



The Mosque of Sheik Luftullah, Isfahan,Iran.1601-1618.By Muhammad Rida ibn Ustad for Shah 'Abbas I.

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directs subcontractors and offers the owner a guaranteed maximum building price, including contingencies.

The seminar was informative and provocative. Architects and contractors curious to see who might join them someday soon may attend another project management seminar that AMR, 1370 Avenue of the Americas, New York, N.Y. 10019 will conduct in New York, June 3–6.

Washington report

AIA helps revive land use bill

One of the more unusually effective lobbying campaigns concerning land use bills—mounted in Washington in recent years may have had a profound effect by the time this issue of P/A appears.

The American Institute of Architects, in league with 38 other groups, was instrumental in reviving a bill from the usual graveyard of the House Rules Committee. The bill incorporates a number of principles outlined in the recent AIA report on national growth policy.

Not surprisingly, after a close study of the proposed legislation, the lobbying campaign has succeeded in calming one major source of initial opposition: that of state and local government officials, who feared a land use bill as some sort of national "zoning ordinance" interfering with one of the most cherished local government powers. As of early May, the status was this: two major bills on land use control were in congressional hoppers: S 268 by Senator Henry Jackson (D-Wash. State) and a House bill, HR 10294, by Congressman Morris Udall (D-Ariz.).

Udall, as head of a House subcommittee on environmental matters, had held several days of hearings on his own measure before passing it along with full committee backing to the powerful Rules Committee (which schedules bills for floor consideration). Meanwhile in the Senate, Jackson's bill had been approved last fall by the full Senate and was also in the Rules Committee awaiting action or reconciliation with Udall's proposal.

The Rules group, chaired by Congressman Ray J. Madden (D-Ind.), decided to ''defer action indefinitely'' on both bills. Normally that's the kiss of death under the hierarchical operations of the House.

But in late March, the AIA and other groups urged members to contact their congressmen on the matter, and House staffers subsequently reported a "mass" of mail and other contacts favoring the measure. This encouraged Udall to hold three more days of hearings in mid-April and to request a further appearance before the Committee Rules to argue for his bill. Udall was confident that the measure would be passed if brought before the full House for a vote.

The program as outlined in both bills considered as "critical" those areas of ecological, historic, or scenic value. They call for proper siting of needed public services and utilities well beforehand to prevent indiscriminate location of power plants or other facilities and for planning of population and [continued on page 32]



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News report continued from page 30

business "growth areas." Moreover, the states needn't consider all lands under their jurisdiction—only special areas selected under these (and other) criteria.

Some significant areas of the business community oppose the bills. These include forest-product organizations, chambers of commerce, and other groups which argue that such legislation is an unconscionable interference in private rights to land use.

Elsewhere in Washington, doldrums seemed to have set in as Congress concentrated on political matters almost to the exclusion of anything else. There was a move to revive another bill of interest to architects: that of creating a new National Institute of Building Sciences which would coordinate the many private and governmental research and development, testing, and standards-setting activities and sponsor some R&D work on its own. A version of the bill died in the House some months ago. [E. E. Halmos]

Post, post-tensioned

Sixty years after it was built, a brick structure in downtown Cambridge, Mass., has been post-tensioned so that its shell could be turned into a shopping arcade. "The Garage" originally housed the town's trolley horses; now architects ADD, Inc., of Cambridge have turned it into a multi-level retail center with the help of the Office of Irwin G. Cantor, engineer, New York. Post-tensioning the structure's one-way concrete



Converted garage in Cambridge

joist system saved \$3.50 per sq ft over the alternative method of creating a shoring structure and took only three weeks to accomplish. Extra space was gained by the addition of both a mezzanine and a fourth story. Some interior ramps were eliminated; one was saved to enhance circulation, and numerous arched windows were opened after years of being sealed.

Unisex buildings

Speaking out on professional feminism, Chicago architect Gertrude Lempp Kerbis told participants at a recent "Women in Architecture" symposium that architecture falls into three categories: male, female, and neuter. Moreover, because of a declining tension between object and space—male and female, contemporary buildings are neuter, unisex, less interesting. "This is due to a lack of dynamics in our lives," she declared.

Her thesis begins with an observation that design elements [continued on page 34]

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News report continued from page 32

fall into threes—three primary colors; three basic shapes; and three elementary volumes: the pyramid, the sphere, and the cube. The pyramid she sees as a phallic male symbol for its piercing objectivity; the sphere, with its womblike spatiality, as a female symbol. The cube is neuter. In her talk she illustrated male architecture with high-rises. "Females," she said, "are always relegated to doing interiors. I used to wonder why."

Chicago lighting awards

Northeastern Illinois University, Chicago, by the Perkins & Will Partnership, architects and A & T Engineering, both of Chicago, and Playboy Enterprises Inc. by Kirsmith Group Inc., Chicago, have won the two distinguished awards from the Chicago Lighting Institute. The school won for floodlighting of lecture halls and the cafeteria, and Playboy received its award for the main lobby and reception areas.

News in education

Carnegie-Mellon University in Pittsburgh and Pratt Institute, New York City, are engaged in new educational programs. In the fall Carnegie-Mellon will start its new, two-year Advanced Building Studies Program leading to a master's degree in whichever discipline a student specializes: architecture, civil engineering, or urban and public affairs.

Pratt Institute for the second time will offer in the fall a special continuing education course entitled "Design for Energy Conservation." The noncredit program (two credits for students) is open primarily to professionals and is taught by outside architects conducting research in the field.



Malcolm Holzman, Hugh Hardy, Norman Pfeiffer

Hardy, Holzman, Pfeiffer receive Brunner Prize

For the first time since the inception of the coveted Brunner Prize in 1955, a team of three architects has received the award. The New York firm of Hardy, Holzman, Pfeiffer was given the distinguished award by the National Institute of Arts and Letters for its contribution to the art of architecture. The prize was established by the widow of Arnold W. Brunner, an architect and former treasurer of the Institute. Previous recipients include the late Louis I. Kahn, I.M. Pei, Gordon Bunshaft, Harry Weese, and Robert Venturi.

Getting to know you

Politicians and building team members mingled earlier this year in Washington, D.C. at the annual Architects-Engineers Public Affairs Conference where major issues were how to meet your congressman, the energy question, and ethics.

Tackling the difficult ethics imbroglio, Rep. Lawrence Ho-[continued on page 36]

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News report continued from page 34

gan (R-Md.) brought out the unpleasant fact that architects and engineers in Maryland were receiving \$100 in contracts for every 67 cents donated toward the 1970 Democratic gubernatorial election. In the "great haste" to remedy the situation, Rep. Hogan said the Maryland House passed a competitive bidding bill which, if enacted, would not be the answer. At the federal level he has introduced a bill (HR 13546) allowing the government to end a contract and recover any fees paid in a situation wherein the contractor or any associated individual is convicted of unethical practices. However, as the congressman pointed out, statutes already are on the books, but not enforced, to prohibit such activities.

Rep. Mike McCormack (D-Wash.) spoke on his bill (HR 11864) to create a large-scale solar energy demonstration that would be mass-produced and implemented nationwide. The project would "Push everybody off the end of the diving board at the same time," he said, referring to the seeming reluctance to approach the energy problem other than on a piecemeal basis. In his proposal 4000 solar units would be installed-2000 monitored for heating effectiveness and 2000 for cooling. The design would be selected by a competition.

Co-sponsors of the two-day seminar in Washington were the AIA, the American Consulting Engineers Council and the American Society of Civil Engineers.

NEOCON 6

The sixth annual Congress on Interior Environment will be held June 19-21 at the Merchandise Mart in Chicago opening with a panel discussion on current crises and challenges to design. Panel members will be Archibald Rogers, president of the American Institute of Architects; Sir Hugh Casson, a professor of environmental design, London; John Parkin of Parkin Architects Planners, Toronto; and Norman DeHaan, president of the American Institute of Interior Designers. Former Secretary of the Interior Stewart Udall will speak on "Energy Gluttons: Monuments to our Technological Arrogance" Friday morning the 21st; his talk will be followed by a discussion on the subject moderated by P/A Editor John Dixon.

Personalities

Fazlur R. Khan, Skidmore, Owings & Merrill, Chicago, has been awarded the J. Lloyd Kimbrough Medal by the American Institute of Steel Construction for his contributions to the field of structural design and engineering.

Warren G. Arnett, FNSID, chairman of the board of the National Society of Interior Designers, has received honorary membership in the Interior Design Educators Council. C. James Hewlett, FNSID, Roslyn W. Mallin, FNSID, Edward Perrault, FAID and James Merrick Smith, FAID, trustees of the Foundation for Interior Design Education Research, also became honorary members. Chester P. Siess has been elected president of the American Concrete Institute, Detroit. Professor Siess is head of the Department of Civil Engineering, University of Illinois, Urbana-Champaign.

Malcolm Carpenter of The Hall & Goodhue Community Design Group has been appointed to the Landmark Preservation Advisory Board, Oakland, Calif.

Charles Luckman, FAIA of Charles Luckman Associates, Los [continued on page 40]



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News report continued from page 36

Angeles, has been reappointed trustee of the California State Universities and Colleges.

Edward G. Petrazio, AIA has been named administrator of the professional practice department of the American Institute of Architects. Nicole Gara is the new director of congressional liaison in the government affairs department. Harold B. Glover has been named director of community development in the department of environment and design.

Calendar

June 7. Conference on project financing and building cost estimating sponsored by Washington University, St. Louis, Mo. June 9-14. Fifty-ninth annual conference of Building Officials and Code Administrators International, Inc., Detroit.

June 10-12. First intercommunal world conference of the World Federation of United Towns, Bologna, Italy.

June 11-13. Seventh international symposium on the effects of radiation on structural materials sponsored by the American Society for Testing & Materials, Gatlinburg, Tenn.

June 11-13. Building Maintenance and Modernization Exhibit, McCormick Place, Chicago.

June 16-21. Twenty-fourth International Design Conference, Aspen, Colo.

June 16-22. Congress of the International Federation of Park and Recreation Associations and the International Federation of Landscape Architects, Vienna, Austria.

June 17-19. Eleventh annual Design Automation Workshop, Denver, Colo.

June 18-22. Fifty-third annual meeting of the National Council of Architectural Registration Boards, Dallas, Tex.

June 19-21. Sixth annual conference on contract interior environment (NEOCON), Merchandise Mart, Chicago.

June 23-28. Seventy-seventh annual meeting of the American Society for Testing and Materials, Washington, D.C.

June 24-26. Eighteenth annual convention of the Construction Specifications Institute, Portland, Ore.

June 24-28. Institute on industrial archaeology sponsored by Rensselaer Polytechnic Institute, Troy, N.Y.

June 30. Entries due for "Work of Women in Architecture" exhibit organized by the Archive of Women in Architecture (sponsored by the Architectural League of New York) and supported by a grant from the National Endowment for the Arts.

July 1. Deadline for entries to the sixth biennial Department of Housing and Urban Development awards for design excellence, Washington, D.C.

July 4-6. First joint national convention of the National Society of Interior Designers and the American Institute of Interior Designers, Denver, Colo.

July 15. Deadline for entries to the aluminum building products design competition sponsored by the Architectural Aluminum Manufacturers Association and the Aluminum Association, Chicago. Aug. 18-24. Thirty-second world congress of the International Federation for Housing and Planning, Vienna, Austria. Sept. 8-10. Sixth international conference on urban transportation, Pittsburgh.

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STYROFOAM brand insulation applied to the inside of a masonry wall with STYROFOAM brand mastic No. 11. Drywall will be applied directly to the STYROFOAM with the same mastic. After taping and spackling, decorative paneling can be applied with the same technique.



Cavity wall insulation with STYROFOAM. Because it is rigid board, STYROFOAM is easily installed in the cavity.



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Buildings on the way up



1 Original proposal for Charles River Dam and park (above)-under construction (below) is revision in brick with arches



2 Final design of Dodge Center going up in Georgetown facing the Potomac

ER 46 CAR! no



1 In his book, Rivers in the City, Roy Mann related how the one-lock Charles River Dam built in 1910 was a mixed blessing to the Back Bay Fens of Boston. Now the Charles River will have a new dam with three locks a quarter-mile away, and the project hopefully will enhance its surroundings and draw more people to share the joys of river life. The brown brick of the dam is intended to blend with the historic character of Boston's nearby North End, and a four-acre park commemorating Paul Revere's landing is integrated with the dam project to encourage public visits. The design by William Lea Hohenschau, project architect, of C. E. Maguire, Waltham, Mass., began as a concrete, metal, and glass structure with hard, geometric lines. Three architects-Pietro Belluschi, John C. Harkness, and Hugh A. Stubbins, Jr.-serving as a review board for the Army Corps of Engineers, which commissioned the project, felt, however, that bricks and arches would be more in keeping with the historic environment, and so the design went through six phases before a final solution was reached. Construction will not impede river use at any time and is expected to be completed in late 1977 at a cost of \$30 million.

2 Dodge Center, a project by Hartman-Cox Architects of Washington, D.C., is one of the infrequent occasions of building new in the historic Georgetown area of Washington and one of the first ventures in the quaint, but undeveloped, portion of Georgetown between the old C & O canal and the Potomac River. Since the fifties, explained George Hartman, Jr., residents and the zoning authorities have gone around and around on what to do until finally, in his opinion, property has become too valuable for anything but commercial use. In designing the commercialoffice center, a concrete structure wrapped around the old Dodge warehouse, architects had to contend with the elevated Whitehurst Freeway which passed 6 ft away. First reports were that the freeway would come down; then that decision was reversed. Now the highway question is again unsettled, and so Hartman, after several design changes, took the course of providing a building that would accommodate either option. The structure with its covered inner court will be completed in the spring of 1975.

3 In Charleston, S.C., where traditions might be taken for granted, a group of handsome old warehouses by the Cooper River docks just barely escaped demolition. They were rescued by Save Charleston Inc., an organization of preservation-minded women, who located a Myrtle Beach developer and an architect—Arthur Cotton Moore of Washington, D.C. A plan for bringing activity to the forgotten area is ready. The warehouses will be turned into offices, stores, and restaurants. The Ohlandt Building with its cast iron façade and column-supported floors will be turned into condominiums. A hotel to be built nearby will maintain the low scale and relate in feeling to the warehouse group. Although the area to be developed is not entirely in Charleston's Historic District, the \$13 million investment doubtless will trigger other conversion of the light industrial area into more people-oriented uses and establish a renewed interest in restoration.

4 Loews Monte-Carlo, a seven polygonal-tiered structure hugging the Mediterranean coast of Monaco, will open in May 1975. The luxury hotel was engineered to rise seemingly suspended between land and sea to preserve the view from the Casino, situated on the hill just above. Accommodating 12,000 guests, the hotel will include a gallery of shops on the lower level, roof-top pool, ballroom, restaurants, and an American-style gaming room. Each suite and bedroom will have its own terrace. Architects are Herbert Weisskamp of Germany, Jean Ginsberg of France, and Jean and Jose Notari of Monaco.

5 A Canadian Lakeside resort presently visited by the summer cottageboating crowd will be redeveloped by Hedonics Inc. of Peterborough into a year-round sportsman's retreat. Located in the greater Toronto area on Pigeon Lake in Harvey Township, Port Aberdeen will be a marina-centered village but will emphasize inland sports, such as golf, skiing, and riding. Developers estimate only a sixth of the recreation will be water-oriented. Scottish-born architect Desmond Muirhead of Muirhead, Casey, Baxter & Stewart, Sausalito, Calif., was called in as master planner of Port Aberdeen and designer of its 18-hole championship golf course. Up to 3000 dwelling units in clusters of villas, detached houses, and condominiums are planned for the 200-acre site, and apartments will be situated above the shops on the marina promenade.



3 Charleston's saved warehouses-to the north, a proposed hotel (below)





4 Mediterranean hotel nearing completion-artist's rendering (below)



5 Toronto resort combines lakeside activities with inland sports



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(b)

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(a)



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(C)

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(d)



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Progressive Architecture: Editorial

Environmental impact

June 1974

As an editorial introduction to our special issue on Environmental impact, we present a plain-spoken plea by architect Malcolm Wells of Cherry Hill, N.J. for a permanent settlement in the battle between Building and Nature. An early defender of the natural environment, Wells outlined a radical program in the Feb. 65 P/A ("Nowhere to go but down") which seems a good deal less wild-eyed in 1974. His essay below clarifies, in the simplest terms, the total interdependence of the life cycle; at stake, he points out, are resources more tangible than wildlife or scenery. In his own new office, shown on the following pages, Wells takes a small, bold step toward an accommodation with Nature.

If you'd like to see a bit of instant geology sometime, come with me when it rains to the little valley beyond the new shopping center. Even before we get there you'll hear the roar made by tons of wild storm water charging down the pipe from the parking lots. It's truly a terrifying experience. The 26 acres of buildings and blacktop that make up that shopping center pour 600,000 gallons into the pipe every time an inch of rain falls.

As terrifying as the drain roar, though, is what the water does after it leaves the pipe. Layers of earth that had lain untouched for centuries are sliced away in seconds. Blasting into what was once a quiet little ravine, the linear tidal wave chews up blocks of earth that took ages to build and spews them downstream into lifeless sand flats wherever slack water occurs. Along with this flood go the oil drippings, the cigarette butts, and other by-products of our automotive society. Literally within minutes the entire valley-form can change. Little cliffs of earth will appear and then collapse where a few minutes earlier tottering trees and vines still held the bank. And once the groundcovers go, the never-ending business of bank stabilization must begin. Sandbags may last for a while; concrete or steel sheet piling will last longer, but it's a losing battle from then on, with the magic gone from the valley.

In the valley of the shadow of the supermarkets you need not wait a million years between shows. You can see it all in minutes, see sand bars appear, disappear, and reappear, echoing geologic actions that used to take generations, sometimes even millenia, in the days when nature had more



of an even chance. It's like what the forty-niners did to California's untouched valleys, except that here you see it on a grander scale; America today may lose in a week what California's valleys lost in a decade. Each year we withdraw another 10 million acres from the green side of the national ledger. As those acres are turned into what we call improved land they become very efficiently paved; if not with blacktop or concrete or roofing materials, then paved with closely mowed turf—lawn grass—which is no slouch as a paving material, either. Neatly-trimmed grass can be counted on to repel almost half as much rain water as a shingled roof. We've called ourselves the affluent society, the effluent society, and the great society, but I think of us simply as the pavers. Never has man or any other creature gone about the waterproofing of this planet with such a vengeance.

It's a deadly situation. Forgetting for a moment all the plants and wildlife denied existence on paved sites, forgetting the soul-crushing ugliness of vast paved areas, forgetting even the erosion they cause, the amount of water denied access to the land by our black, white, and green paving ex-

Environmental impact

ceeds the total U.S. water consumption! It has to. It can't be calculated exactly, for no one has yet documented the total surface covered by our cities, towns, roads, houses, lawns, factories, airports, schools, railroad yards, refineries, warehouses, and shopping centers. But fourth-grade multiplication will prove the point.

The city of Philadelphia, in whose suburbs I live, has an area of 135 sq mi. Its annual rainfall is 45 in. If you convert all these miles, inches, acres, and feet into gallons you get a staggering 122 billion as Philadelphia's annual share of the nation's rainfall. And do you know how much water her thousands of homes and water-wasting factories consume each year? 125 billion gallons! Just the amount of rain that falls within the city limits. You might think, then, after reading all this, that Philadelphia has no water shortage. But there's a catch: Philadelphia hardly uses the water that's given her. No, most of those sweet, fresh raindrops are poured away, unused and polluted, into the city's two vile rivers. Then the city goes upstream to get its own supply. It drinks diluted sewage and throws its rainwater away!

But don't blame the Philadelphians. They do only what you and I and the people of Tokyo and Chicago are doing. We've all waterproofed ourselves so well that the rain just can't soak in. We've changed the very nature of entire continents. I wonder if anyone has ever made a study of American placenames in the light of this massive nature-bungling. Has anyone lately thought about the Mesas that are no longer Verde, the Rios no longer quite so Grande, the thousands and thousands of pineless Pine Streets, the now-brown Greenvilles, and murky Clearwaters? Each of us is surrounded by a roster of vanished riches. Near my home in Cherry Hill (which, incidentally, has neither cherry trees nor hills) are Haddon*field*, Collingswood, and *Maple Shade*, no one of which could possibly be recognized by its descriptive name today. And I can't even bear to tell you about *Fairview*.

What an eye-opener it would be if we updated those names to the more appropriate Deadways, Shedwells and Graymuds! The most appropriate and probably the most common new city-name would have to be Runoff (which has a kind of cosmopolitan, Russian sound to it, now that I think about it—Runoff, U.S.A., my home town).

If there's not a lesson in this somewhere then I don't know a lesson when I see one. Just think: if enough rain to accommodate its 2 million water-wasting people falls on the few square miles of Philadelphia, than it follows that enough rain to accommodate all of America's 220 million other waterwasting people must fall on an area only 100 times as large, or an area far less in size than that of Pennsylvania! But then I'm forgetting the huge river-drinks taken by irrigation and industry. They use 10 times as much as people do. Still, the run-off from lawns alone is staggering: they repel up to 50 *trillion* gallons each year. That's half of the U.S. water budget.

Impressive, wouldn't you say? It points up one of the reasons why most of us in the United States are in big water trouble: we throw the stuff away by building and landscaping as we do. We could build watergates on our roofs, devices for slowing the rush to the rainspouts, so the rain would have time to soak in when it reached the ground. We could even use giant sponges. But the best way by far is the natural way: do what nature always did on the land: plant trees and shrubs or grasses in deep, cheap mulch. Such watergates have to be done with care, of course, from the initial planning to the final coverup, but they hold great promise. Watergate architecture, or underground architecture, or whatever kind of architecture you care to call it, makes good sense in a lot of ways, and it's been around for a long, long time . . .

I can picture the conventional cave man of the comic strips, the prototype Fred Flintstone, as he must have looked when he saw a cave for the first time in his life. It couldn't have been very many minutes later that the idea of underground architecture was born. That was perhaps a million years ago, long before modern man, as we know him, started inventing war and bigotry (and the religions to excuse them), and learning how to lay continents bare and to overbreed himself.

In the millenia between then and now he has also managed to invent or discover many kinds of shelter other than caves, but architecture—really great architecture—remains, as it be-



gan, an *earth* art; an expression, fashioned in the earth's own materials, of the particular culture in which the man-architect lives. And despite all the great advances in the techniques of building above ground, man has never completely abandoned underground construction. Fossils from every age, and reports from every continent, prove that he never stopped using this most ancient of architectures.

Still, the idea of an underground architecture for the purpose of conservation isn't old. It's so new that after 10 years of searching I have yet to find more than one or two examples of it. I don't mean by this that a lot of underground buildings aren't being built. We hear about them all the time. Look at the Strategic Air Command and the city of Los Angeles. A sad commentary on our times is the fact that most underground





Wells' vision (early views above and left) has been partially completed. Although planting is not yet complete (below), the building is well on its way to becoming "gentle architecture," out of sight from adjacent highway.

All photos: Norman McGrath



Environmental impact

buildings are built for the purposes of war, or for additional parking space. Sometimes they underpin a trim little park, but you can imagine how much good that does. Never do we see roofs full of tangled wild landscapes, waist-deep in wildflowers on rain-saving mulch.

In Philadelphia, where I live, the rainfall amounts to over 1 million gallons per acre each year. Obviously, then, for each acre made impervious by conventional construction, a million gallons of this precious gift go wasted, just as they do at the new shopping center. A million gallons an acre are turned into destroyers of plants and animal habitats; a million gallons an acre carry to the ocean topsoils, nutrients, and bacteria that enriched the land before we learned to pave. Underground architecture can prevent such damage by keeping its paved surfaces hidden from the rain. With a young forest to catch it, some of the rainfall is held by the rooftop foliage and the deep humus layers, some is used by plants and animals on the site, and the rest is drained directly to underground reservoirs now being robbed by conventional construction.

But not all underground structures need have forests above them. In the West, where drier conditions prevail, hardy natural grasses and wildflowers can adorn buildings just as they once adorned the prairies themselves. Parks, farms, meadows—even recreational areas—can thrive on rooftops.

Underground architecture offers us immediate, practical advantages. Because of the earth's rather constant underground temperature (observable in caves throughout the world), very little heating and even less air conditioning is required in most latitudes. Coupled with these savings, the need for almost no outside maintenance, no snow removal, and no lawn sprinkling can further reduce operating budgets. In addition, such intangibles as isolation from both outside noises and atmospheric radioactivity are further incentives to build this way. And the prospect that we may once more find the great, green out-of-doors at every doorstep makes the hopedfor increases in leisure time seem even more appealing.

The only problem is that underground buildings cost so damned much. Supporting three or more feet of earth requires quite a structure, and heavy construction is not cheap, at least not initially. It takes energy and environmental crises to show us that dollar costs and true costs are not the same, and to build the cheap way is the most expensive.

Even so, the words "underground architecture" often tend to repel the people who hear them. Having been exposed to the depressing look of our subways and tunnels, or to leaky basements and cold, damp caves, people tend to view the real advantages of this new architecture with great skepticism. Most people will agree that such land-wasters as parking lots and shopping centers should go below ground. And many will even concede that some of our freeways and warehouses and factories belong there, too, (in addition to railroad yards, refineries, and museums). But the thought of *living* underground in a windowless, artificial environment is, to them, the ultimate perversion of man's role on earth. *Fortunately, most advocates of this new architecture heartily agree.*

Man was meant to live in the sun and air, to be involved in the seasons, to know night and day. When architects propose windowless, wholly underground buildings they do not include housing. Hundreds of underground houses have been designed, but they always open onto sunny, sunken courtyards or project from the sides of hills so that their rooms can be adequately daylighted. Such underground buildings are perfectly dry and as sunny as any conventional house.

Whether or not underground architecture will have wide application in the downtown areas of large cities, the fact remains that it has definite applications everywhere else. It offers hope that the great, blighted areas around the citycenters and along the highways may someday become green and beautiful again. Underground architecture is no cure-all. It is only one way—one legitimate way—of bowing to the great life cycle we're so quickly destroying. Though endorsed by most ecologists and landscapers, the idea has drawn fire from some architects who, not understanding it, fear it will create a kind of nonarchitecture. But the idea is gaining popularity each day as people react to the blight all around them.

We have always, until now, gone underground for selfish reasons, reasons like security, bombproofing, or the novelty of dialing our own lighting and "weather" effects. If we continue to build for such reasons we're certain to create underground structures as ugly and as destructive as those above ground, but if we do develop a new respect for life—for all the myriad life forms to which we are related—we may just possibly produce an architecture our descendants will treasure.













Only at the stream (top left) is the office open to grade, one end of the studio Wells will use for distraction-free work. Bronze entrance doors, by Wells' daughter Kappy (center left), mark the entrance to the studio from the courtyard. The more open element (above and left) houses functions such as reception and other less private work. Using his own evaluation system (opposite page), Wells rates his building modestly—for now; soon waste processing equipment and solar heating will help to raise the score.

Here are monumentality and grandeur in a double row of European beeches in Holland. It took some 150 years to achieve this. American designers could duplicate the effect with tulip poplars and other columnar species in a moist, moderate climate in one-third the time."

Forest murmurs

Photos: A.E. Bye

'Tis calm indeed! so calm, that it disturbs and vexes meditation with its strange And extreme silentness. Sea, hill and wood, This populous village! Sea, and hill, and wood, With all the numberless goings on of life Inaudible as dreams. Coleridge

Like a servant whose secret life eludes us, nature conceals an astonishing repertoire of discernible moods. A distinguished landscape architect offers ways to elicit them.

Landscape architect A.E. Bye of Cos Cob, Conn. has leavened his professional work with the record of a long and rewarding audience with nature. One of his many pleasurable discoveries is that nature is far from silent. It is a moody creature, capable of brilliance, humor, mystery, and melancholy. It can bear a lofty crown or play the lewd jester.

Too often this eloquence flourishes unseen. When we are not waging our quixotic "conquest of nature" we simply fail to notice it all. In his classes in the theory of landscape architecture at Cooper Union and Columbia University, Bye advocates a new covenant. The terms are unencumbered: enter nature's mansions with respect; be prepared to really look and listen to your host. Bye believes that nature's inexhaustible inventions and the sensuality of its appointments can profoundly affect architecture and planning. In this photographic essay, he samples and describes the vocabulary at the disposal of the designer who knows how nature speaks. [Roger Yee] "Frederick Law Olmsted introduced a sense of mystery and grandeur in this planting of spruces at Long Island's Cutting Arboretum. Notice that Olmsted's idea of proper spacing is noticeably tighter than we assume now."



"What majesty bordering on monotony we have in this Belgian setting! The trees are closely planted, the path is deliberately obscured to prolong the passage between the shoulders. The American designer can use much the same materials as we see here: oak, linden, plane, ash."



"What might a developer do with a cleared forest besides planting grass? He might try mustard, which spreads a friendly carpet."

"Florida's coconut palm is beseiged by viral attack, so its future is uncertain. In good times, as here in Naples, Florida, their shadow patterns give movement, levity, and depth to the most mundane townscape."



"Birches like the cold climate of New England and Canada. They rarely do well south of New York City. However, this doesn't prevent them from introducing an infectious gaiety to the frostiest winter day. You can almost see white-robed dancers leaping about."









"Bogs and marshes, rich spawning grounds for life in the open seas, behave mysteriously, even ominously from spring through fall. But winter banishes all such thoughts. The bog grass huddles in snowcapped congregations, and nature basks in gentle humor. Here the designer simply enjoys the performance."



"A bewildered mood, grotesquerie, is embodied in this green cutleaf Japanese maple at the Cutting Arboretum, Long Island. If the designer wishes to express this sentiment, he could select the black willow too."

"On the Caribbean island of Bonaire (Neth. W.I.) nature decided to be as ribald as any Elizabethan comedian. This creature may not be applicable to the American landscape. I include it to reveal nature's comic face."



"A harsh, brutal, chaotic feeling in this view of Mt. Desert Island, Maine is reinforced by the isolated occurrence of the patch pines. The lesson for designers is that given such elemental conditions, trees can and should be encouraged to grow. As for the pitch pine, it ranges from Maine to Georgia and Florida."





Forest murmurs





"Selective forest clearing, then lawn planting, and following up with azaleas, dogwoods, and other flowering trees and shrubs has given us a scene of serenity. This is Winterthur, the du Pont garden, Wilmington, Delaware." Architecture of buildings and land

The nature of the built environment

Robert Geddes



Examining the various possible relationships of buildings to land, an architect-teacher argues for a close integration of indoor and outdoor architecture and supports his position with examples of his own recent work.

Buildings and their landscapes—or, if you prefer, landscapes and their buildings—are embodiments of ideas. That is, ideas of purpose, of space, and of materials influence forms that are built. Even more fundamentally, if not always so obviously, built forms are influenced by ideas of nature.

"Nature" is a very ambiguous term, which has taken at least 66 meanings throughout the history of ideas. But two main aspects, it seems, are persistent and recurring, despite their inherent opposition. On the one hand, nature is taken as a model of *regularity* and on the other it is admired for its *irregularity*. Each of these views is a kind of root metaphor, an idea displaying the essence of a system of values. In other words, each image embodies a distinct notion of culture and society, and therefore of buildings, cities, and landscapes. Emerson observed that "the views of nature held by any people seem to determine all their institutions."

In both ancient and modern times, Western culture has had an image of physical nature that was regular in its changes, forces and forms; universals were framed that expressed that regularity. The geometry of nature was used as the basis of rational ethics and aesthetics. A typical statement of this viewpoint might go something like this: "The work of every reasonable creature must derive its beauty from regularity, for reason is rule and order."

The irregularity of nature has been greatly admired in the West since the 18th Century. Appreciation for irregular nature

Author: Robert Geddes is dean of the Princeton University School of Architecture and Urban Planning and a partner in the firm of Geddes Brecher Qualls Cunningham of Philadelphia and Princeton, N.J.



1 (left) Plan of Stowe (from Clifford, D. "A History of Garden Design," Praeger, 1963).

2 (right) Plan of Villa Aldobrandini (from Newton, N. *Design in the Land* Harvard University Press, 1971).

The nature of the built environment

is expressed in the love of the picturesque, the wild, the rough, and the rude, the passionate and the primitive, the romantic. Renoir, for example, said that artists were "careful to proceed like nature. They are always respectful pupils, and are on guard never to transgress her fundamental law of irregularity."

In American history, ideas of nature have had powerful influences on the built environment. Two pivotal men, Thoreau and Jefferson, personify very different sets of intentions.

Henry David Thoreau was a forceful exponent of the idea of a nature unmodified: "I wish to speak a word for nature, for absolute freedom and wildness, to regard man as an inhabitant or part and parcel of nature rather than as a member of society." The crucial relationship for Thoreau was not manto-man, or man-to-society, but man-to-habitat. The Thoreau image was first built as a landscape in the cemeteries of the 19th Century (such as Mt. Auburn Cemetery, Cambridge, Mass., 1831), and later in the new suburbs (such as Riverside, III., designed by Olmsted and Vaux, 1868). The romantic landscape of the suburb featured curved streets and irregular placement of buildings. The significant relationships were not between building and building, or street and building; what counted was the direct relationship of any built element to the terrain, to natural topographical elements.

Before Thoreau, the dominant image of the good landscape, advocated by Thomas Jefferson, was distinctly pastoral, following the mainstream of Western culture since Hesiod and Virgil. Jefferson valued the institutions and landscapes of an agrarian society because "the countryside produces more virtuous citizens." The agrarian landscape was preferred because it supported a better political, social community. The pastoral ideal, according to Leo Marx, "has been used to define the meaning of America ever since the age of discovery, and it has not yet lost its hold upon the native imagination." Pastoralism is more than a political economy; it is a collection of images about the world. The main elements of pastoralism, as a way of life, are freedom to hold discourse, to think, to make music and love in an ideal, ordered landscape.

The pastoral ideal has been expressed since the end of the 15th Century, in pastoral poetry and the formal gardens of Italy and France. The design of these gardens was seen as natural, in the sense of essential reality; wild irregularity was not seen as orderly or natural. The garden was a deliberate abstraction, an idealization of nature. Later, in the 18th Century, the emergence of the English landscape garden provided a dramatically different alternative as a formal means of abstracting the natural landscape. But both the Italian-French garden tradition and the English garden tradition share the idea of the pastoral as the basis of landscape form. These two traditions also share a formal element of crucial importance to the understanding of the built environment. Both seek to idealize the "forest edge" in the idea and form of the garden. The garden is a formal recognition of the beauty of the forest edge, the amenity of clearings in the forest.

The scientist, Eugene Odum, in classifying the major landscape ecosystems of the world (i.e., seas, estuaries, and seashores, streams and rivers, lakes and ponds, marshes, deserts, tundras, grasslands, and forests), points out that man seeks two basic tasks from the landscape: production and protection. And unlike other organisms, he also seeks a esthetic enjoyment from the landscapes. For mankind, the habitat of the *forest edge* meets all three needs.

Therefore, Odum points out, from the viewpoint of biology and geography, "human civilization has so far reached its greatest development in what was originally forest and grassland in temperate regions. Man, in fact, tends to combine features of both grasslands and forests into a habitat for himself that might be called *the forest edge*. When man settles in grassland regions, he plants trees around his homes, towns, and farms, so that small patches of forest become dispersed in what has been treeless country. Likewise, when man settles in the forest, he replaces most of it with grasslands, but leaves patches of the original forest on farms and residential areas."

The relationship between man and nature has changed over the course of history, as his society and culture has changed. One of the most evident physical manifestations of culture is the landscape garden—the conscious making of a space that is distinguished from its surroundings and is created to express man's ideal image of nature. It is in some way always a vision of "paradise." (The word paradise originally meant a "walled garden.") Although the garden is made of elements of nature, its form is determined by man's culture, by his ideas and values concerning the role of landscape space in the built environment.

Eternal design elements

Landscapes, like buildings, are composed of space. And, like buildings, the form of a landscape is initially charted by "necessity," the necessity for protection, the necessity for shelter, the necessity for irrigation. In Joseph Hudnut's brilliant essay, "Space and the Garden," he argues that the development of the pergola, the arbor wall, and the fountain proceeded from function. But, "by successive adaptations to our spiritual, symbolic needs, they achieve beauty by conforming to our vision of Nature and of man's place in Nature, to our needs for peace and harmony in the world, to our faith in the dignity of life. The shape, arrangement, form, and content of the landscape will proclaim these aspirations."

Along with "necessity," another common basis for the design of landscape and buildings is that both are governed by the materials they embody. Although the modern movement has added important materials (steel, concrete, etc.) to architecture, it has brought no significant new materials to landscape. The essential connection between the new architecture and landscape is, therefore, not to be found in new materials or technologies; rather, the connection is in the old virtues of sun, sky, greenery, shelter, and space.

In the best of all possible worlds, what might be the relationship between buildings and their landscapes, or landscapes and their buildings? It seems to me that there are three different possibilities.

The *first* possibility is that architecture should be formally independent of landscape, which it serves as a complement and foil. The integrity of the landscape is preserved, and the buildings do not seek intermediate gardens or terraces, serving as transitions between built form and natural or idealized nature. Implied in this contrast is a relationship of opposites (illustrations 1, 3, 4, 5). 3 (right) Hagley Park, designed by the owner, George Lyttleton, and his cousin William Pitt, around 1750. Hagley is a fine example of the English landscape movement, which in the words of an 18th-Century visitor, "will teach you where the woods, groves and lawns should intermingle to grace each other—where water should be secluded and where visible—where light and shade have the best and most agreeable effect, and where the solemn and the gloomy more happily contrast the sprightly and the gay." The relationship of building and landscape is also one of contrast; the house is set upon rough-cropped, undulating meadows without architectural transitions made by terraces or walls. (from J.P. Neale Views of the Seats of Noblemen).

4 (below) Villa Savoye, Poissy, 1928–31, designed by Le Corbusier as an architectural object to be set upon a continuous meadow. The idea of the landscape is similar to Hagley Park; in Le Corbusier's own words: "I shall place this house on columns in a beautiful corner of the countryside; we shall have twenty houses rising above the long grass of a meadow where cattle will continue to graze." (from Willy Boesiger Le Corbusier, Volume I.)





5 Eames House, Pacific Palisades, Calif., 1949, designed by Charles Eames. Set in a grove of eucalyptus trees, overlooking a rye grass meadow, the Eames house is a fine example of the beauty of the forestedge habitat seen in contrast to the man-made object.



6 Tallesen, Spring Green, Wisc., 1911-, designed by Frank Lloyd Wright. In his autobiography, Wright proposed an idea of landscape and buildings in which the transition from one to another is not perceptible. "I knew well that no house should every be on a hill or on anything. It should be of the hill, belong to it." The intentions are clear, but the realizations are ambiguous. (Photo: Hedrich-Blessing)

7 House in Lincoln, Mass., 1947, designed by Carl Koch. The Thoreau-like landscape and garden are interior and exterior elements of the architecture. The hillside garden connects the living room and kitchen of the house. The intention is to eliminate the distinction between natural and artifact. (Photo: Ezra Stoller © ESTO)



The nature of the built environment

A second possibility is that architecture and landscape be seen as continuous, without clear distinctions between the artifact and natural fact, between built form and natural form. Interpenetration is sought between architecture and its natural surroundings, in terms of space and materials. The building should appear to grow out of its site, to be part of the site; of it, not on it (illustrations 6, 7).

The *third* possibility is that architecture and landscape should modify each other, that indoor and outdoor space be organized together as a formal geometric unity, defined by built forms such as terraces or walls, arcades, trellises, trees, and plant materials. In 19th-Century England, landscape architect Humphrey Repton suggested "the gardens or pleasure grounds near a house may be considered as so many apartments belonging to its state, its comfort, and its pleasure." The architectural potentials of the third possibility (illustrations 2, 8, 9) are very diverse.

Having laid out three alternatives for the relationship of buildings to landscapes, I must admit to believing in only two of them. I am not opposed to efforts by others to achieve the second alternative—that is, the elimination of distinctions between natural and built forms—but I do not believe it is truly possible, because the artifact is inherently different from the natural element.

The third alternative—the inflection of buildings and landscape to each other—seems to me the most potent. It is this alternative that we have been exploring in our recent work (see following pages). Ideas of nature are among the generating ideas of architecture, and man instinctively seeks for some formal continuity between indoors and outdoors. Outdoor spaces hold an invaluable potential for mediating between man, his built forms and his natural environment.



8 Martin House, Buffalo, N.Y., 1904, designed by Frank Lloyd Wright. The Prairie house took its name from its landscape. In the Martin house, the gardens, galleries, pergolas, porches, and structures are all part of a complex, continuous spatial design. (From Hitchcock, Nature of Materials.)



Sources

Kassler, E.B. Modern Gardens and the Landscape. New York: The Museum of Modern Art, 1964.

Shepard, P. Man in the Landscape, A Historic View of the Esthetics of Nature. New York: Alfred A. Knopf, Inc., 1967.

Fairbrother, N. New Lives, New Landscapes. New York: Alfred A. Knopf, Inc., 1970.

Marx, L. The Machine in the Garden: Technology and the Pastoral Ideal in America. Oxford University Press, 1964.

Shepheard, P. Modern Gardens. London: The Architectural Press, 1953.

Odum, E.P. *Ecology*. New York: Holt Rinehart & Winston Inc., 1963. Hudnut, J. *Architecture and the Spirit of Man*. Cambridge: Harvard University Press, 1949. 9 Chermayeff House, Sussex, England, 1937, designed by Serge Chermayeff with Christopher Tunnard, landscape architect. Set on a meadow at the edge of a woods, the house, walls, terraces, and sculpture maintain their identity but play contributing roles in "shaping the place" as a unity. The nature of the built environment





Fine Arts Building, Goucher College, Towson, Md. Geddes Brecher Qualls Cunningham, Architects. (project, 1970) The building provides studio lofts on the upper floor, and public exhibition galleries and halls on the ground floor. Located astride an entrance walk leading to the center of the campus, the building is an example of a hybrid of alternatives 1 and 3. That is, because of its overall subtractive form, the studioloft top floor seems to float above the complex, sloping landscape; underneath, however, the walkways, galleries, and courtyards are examples of the mutual modification of building and landscape form.



Vienna-South Urban Extension, International Town Planning Competition, 1971. First prize: Geddes Brecher Qualls Cunningham. This growth plan for an urban extension is based upon a formal idea similar to that of the firm's recent buildings; that is, the spatial composition of linear layers of buildings and landscapes. The building layers are flexible means to accommodate many diverse activities, developed over a period of time. There are three kinds of landscapes: first, a central space defined by high density housing, connecting the various cores; second, linear green parks along the edges; and third, a network of pedestrian walks and plazas in the sectors. The central greenway would be a civic garden, in the formal tradition of Vienna.

The Vienna-South design is a large-scale example of alternative three, in which the building layers and open spaces are a continuous, coherent interwoven grid of urban landscape.




Faner Hall, Southern Illinois University, Carbondale, Ill. Geddes Brecher Qualls Cunningham, Architects. Under construction 1974. This linear building contains classrooms, offices, museum, and other teaching facilities for the humanities and social sciences. Located in the midst of an existing campus, the new building serves as a backdrop for existing landscape spaces. Under its subtractive overall form, the building creates a covered arcade, plazas, walks, and courts.

Faner Hall is in some respects an example of the first alternative (a relationship of opposites) floating as it does above a complex set of landscapes. But underneath it is an example of the third alternative, because the ground level spaces, arcades, courts, and walks are all responding to surrounding landscape elements and buildings. In a sense, Faner Hall creates a "cartesian forest" with its own clearings and walks underneath; and it forms a "forest edge" for open spaces on both sides.









Institute for Advanced Study, Princeton, N.J. Geddes Brecher Qualls Cunningham, Architects. Zion & Breen, Landscape Architects. This group of buildings and courtyards provides dining, commons, office, and seminar facilities in an extension of an existing campus.

Located alongside neo-Georgian buildings, in a gently rolling meadow surrounded by the forest edge of a neo-English landscape, the buildings create a cloisterlike inner courtyard. An outdoor room in the pastoral tradition, the courtyard has an irregular grove of white birch trees which contrast with the regular grid of the columns. Other pastoral elements are the pergolas, the fountain, and the grass. The courtyard has the peaceful feeling of a clearing in the forest.

The interior and exterior spaces relate to each other in a great variety of ways, sometimes continuous, sometimes discrete, depending on the uses; a single kind of relationship is not sought for all purposes. Often, a "yin-yang" sort of response is developed, as for example, in the relationship between the quarter-circular coffee lounge and its adjoining terrace (above), the courtyard, and the dining hall itself. Likewise, the building enclosures are influenced by "yin-yang"







responses between inside and outside. Each building's skin serves as an environmental filter, for light and views, for privacy and community, for heat and sound, for protection, and entry.

Many of the generating ideas seem, in retrospect, to have been those that are usually associated with landscape, especially a pastoral landscape, an idealized nature in built form; paths that serve as connections between people and places; and places that encourage freedom of thought, discourse, and contemplation.

Photos: George Cserna.



Getting at the issues

Assessing environmental impact is difficult, as there are few precedents, but the work of Willis & Associates provides a beginning step by establishing a methodology which helps to define and structure the necessary data.

In 1970, Congress passed the National Environmental Policy Act "to encourage productive and enjoyable harmony between man and environment; to provide efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the nation...."

While no one can quarrel with the lofty objectives set forth in this sweeping statement, the state of "harmony between man and his environment" will have as many interpretations as there are interest groups represented. In a laissez-faire, capitalistic society, "stimulate the health and welfare of man" usually implies "at someone else's expense." This Congressional act, while an important step in establishing priorities, in no way deals with the complexity of implementation. It demands performance without offering criteria, procedures for measurement, or a basis for objective evaluation. In addition to the lack of criteria and procedures, there are no sources for standard environmental data; existing procedures vary from one community to the next and evaluation seems somewhat subjective. It is a situation where the best of intentions may never be realized.

California is one of four states in the nation to require mandatory Environmental Impact Reports (EIR). (The requirements differ vastly, however: California requires an EIR for more than four units of housing; Florida for more than 500 units.) Like NEPA, the state laws simply establish general goals without specific criteria for measurement.

As a result of the ensuing confusion in interpretation, the Building Research Advisory Board (BRAB) has proposed to develop criteria and procedures which would help builders and planners prepare EIRs and help government officials evaluate and process the information. To effect this, the Board proposes to develop specific environmental criteria by identifying and defining specific "elements" (i.e., air, soils, and geology, biology, etc.) within NEPA's scope, locating valid sources of data and data measurement, and defining





Getting at the issues

threshold criteria for each of these elements. To effectively use the gathered information, a rating system would be developed for each element, measuring the "significance" of the potential impact; national guidelines would be established for processing, evaluating compliance, noncompliance, and inaction. Although such standards, procedures, and evaluation guidelines would be done on a national basis, individual communities would establish their own goals—considering social and economic needs as well as environmental concerns—draw on the appropriate data, and determine their own thresholds using standardized procedures and format.

The Board's three-phased plan is as follows:

Phase I

1 The establishment of cause and effect relationships.

2 The clear and precise definitions of environmental terms. 3 The determination of threshold criteria and levels; i.e., the point at which an impact changes from one of nonsignificance to one of significance.

4 The establishment of significance criteria. (The varying increases or decreases over the established threshold must be rated in order to measure significance or nonsignificance. Also, environment is a result of an accumulation of individual impacts, which would need to be defined and a formula for their relationships developed. The creation of a rating system would involve the definition of values, quantity, quality, and relativity of impact.)

5 The establishment of social and economic significance criteria; i.e., the degree to which action or inaction will affect the social and economic well-being of the community.

Phase II:

1 The exploration of appropriate planning technology to enable systemized implementation of established criteria.

2 The recommendation of standard methods for submission and processing of Environmental Impact Statements.

3 The development of recommended standard evaluation procedures (similar to the pattern developed by the Department of the Interior) to enable governmental bodies to review public- and private-sector submittals, determining if the threshold for each environmental impact has been correctly stated and the rating system correctly applied.

Phase III:

1 Communication of the criteria developed to potential users.

Professional work in this area is already being done by Willis & Associates, a San Francisco architecture/planning firm whose President, Beverly Willis, is head of the BRAB's task force group. They have developed a method of environmental analysis that allows for systematic establishment of goals, determination of those environmental characteristics to achieve these, evaluation of the cause/effect relationship between these elements, and the probable result. The Environmental Impact Report is three phased: an issue checklist; a sensitivity report; and the impact report. It is based on four general considerations—environmental goals, characteristics of the environment, characteristics of the proposed project and construction goals—as related in fig. (1). The identified environmental goals, outlined in the California Environmental Quality Act and, more specifically, established by each individual community, are used to determine the relevant environmental issues. Characteristics of the proposed project are broken into categories: proposed construction activities such as site improvement and land use distribution, and the site itself and its surroundings. The construction goals take into account social and economic factors not covered by physical and biotic concerns, and measures the value of the proposed project in relation to itself and the community, i.e, housing needs vs open space.

The first of the three phases, Environmental Issue Checklist, makes a clear list of issues to be considered, provides a framework for storing information, and clearly defines areas of responsibility for investigation. Since the issues cannot either be identified by looking at the planning variables which might have an effect on the environment or by the variables of the environment which might be affected, a matrix is used to determine the relationship between two variables. This form of documentation (fig. 2) makes it evident that each planning variable (grading, etc.) has an impact on many environmental variables (land forms, slope stability, erosion potential, etc.) and, conversely, each environmental variables (tree removal, paving, etc.).

The second phase—Environmental Sensitivity Report (fig. 3)—uses the collected information to describe the sensitivity of environmental variables toward possible project inputs. (For example, an existing storm drainage system is used close to capacity. If more than X sq ft of hard surfaces are used, an extension of the system will be necessary.)

The final phase—The Environmental Impact Report—describes all relevant project characteristics and proposed activities for its implementation, and identifies and evaluates the impact of these project characteristics on the environment (fig. 4). The EIR also includes an "Impact Overview"—a summation of all impacts on each environmental variable as well as a brief description of alternative solutions (no building, different use, different site, etc).

While EIRs are required by California law in order to assess the potential impact, Ms. Willis feels they should be factual. All development has impact she says, and the effort should be directed toward mitigating that impact: The point of assessing impact is to provide a clear picture of the trade-offs that will have to be made.

Two points in particular that must be made show that the process, while not new, is much more broadly based than other environmental studies to date. First, instead of being limited to ecological information and assessment, the EIR assesses the social and economic impact on the community and its services as well. Second, the studies are not done simply to evaluate the impact after a project has been designed. The environmental information, the system of collecting and evaluating variables and assessing alternatives (uses as well as land planning) can go on simultaneously with the development of appropriate designs. Often, according to Ms. Willis, a developer will have such a study done before buying a piece of land, to establish what the appropriate use would be and the possible economic factors that would effect development

feasibility. Computer programs developed by the firm are used as backup in doing the evaluations. These programs include census tract data used for locating best geographic sites for various types of development; demographic material—a socioeconomic profile of potential buyers and their preferences; buildable land analyses and net buildable land availability, based on environmental sensitivities. The land use analysis, a more complex program, enables a planner to consider optional land use concepts in terms of density, site area allocation and massing as they relate to economic and environmental feasibility. Graphic site analysis is a program that draws perspectives, site sections, drainage maps, cut-fill analyses and allows the planner to place structures, locate circulation, and determine the effects of these on the land. Many of the individual programs have been synthesized into a Computerized Approach to Residential Land Analysis (CARLA) which can determine optimum land use relationships, appropriate planning units, optimum placement on the site, ideal density and distribution.

All of the computer programs are graphic or informational tools to enable the planner to manipulate hundreds of variables at one time, or to consider many more options than would be possible if done manually.

The methodologies for assessing Environmental Impact and the computer related programs are all fact-gathering tools for structuring information, understanding trade-offs, and making decisions. Dealing with the complexity of relationships—what we do and what we affect—is a necessary task if we are to be really concerned with the quality of what we build. [Sharon Lee Ryder]

Computer-generated topographical perspective



Getting at the issues

The matrix to the left shows theoretical relationships between project variables and environmental variables. The other three matrices—Environmental Checklist, Environmental Sensitivity, and Environmental Impact—show the application of the theory to one specific set of project variables to environmental variables.

EIC: Environmental Issue Checklist



ESR: Environmental Sensitivity Report



EIR: Environmental Impact Report



In an uncertain world, man must still plan and design his communities of buildings and services. Living graciously with life's probabilities is the trademark of this firm.

Life promises only uncertainties before death. Architects and planners know too well that clients change, budgets disappear, and a city's people scatter while grandiose plans expire unlamented. Planning as an aggregation of probabilities and strategies that anticipate change represents a quantum leap from Beaux Arts debates on axis, proportion, and symmetry. Wallace McHarg Roberts & Todd in Philadelphia is one partnership of architects and planners which finds this brave new world very much to its liking. Its 55 men and women, including four partners and 10 associate partners, form an intense grouping of widely ranging talents, educational backgrounds, and professional opinions, unified by a common commitment to environmental determinism.

"Every place has its messages," says David A. Wallace, architect, urban designer, and planner. Environmental determinism is a belief that in a given operational field, be it skid row or virgin forest, there are critical and unmistakable clues as to present and future field conditions. The planner accepts these clues as prima facie evidence, and endeavors to reconcile man's fragile intentions to them. In order to perform these operations, he devises models that, while not necessarily mathematical and often conceptual, provide reasonably reliable pictures of future anticipated developments. From the implications of model behavior emerge strategies and tactics for plan implementation.

A landmark is sited

This game strategy of environmental design made its debut in the architectural and planning profession with the first project undertaken by WMRT, Plan for the Valleys, 1963. Wallace; Ian L. McHarg, landscape architect and regional planner; William H. Roberts, architectural designer, landscape architect, and planner, and Thomas A. Todd, architect, urban designer, and planner, sought to rationalize the future growth of the beautiful Green Spring and Worthington Valleys, situated in the path of the encroaching Baltimore suburbs. Their effort set the pattern for WMRT's approach to many projects to come and merits close examination.

Valleys was ambitious. It was a comprehensive survey of aesthetic, social, ecological, economic, and political issues which insisted that aesthetics, the landscape's great valleys and wooded slopes, could be preserved without sacrifice of economic and social costs.

But advancing waves of population don't swerve for aesthetic detours. Regarding the entrance of the urban population in the Valleys as inevitable, WMRT moved to restrict growth to the plateaus. A strong statistical foundation was erected to give physical dimensions to the problem. Census data were analyzed to yield growth rates, permitting a projection of regional population growth in the Standard Metropolitan Statistical Area, an estimate of average yearly capture rate for the Valleys, and a breakdown of population increase into housing types.

Having established numerical boundaries to the Valleys' growth, the study needed a blind against its own proposition. WMRT devised a "handicraft" (nonmathematical) model, the Uncontrolled Growth Model, to understand growth, to trace



LAND USE AND MOVEMENT SYSTEM CORRELATION



Reserve now for L.A.'s ultimate traffic jam. As total square feet of economic space in CBD grows, level of movement system capacity must likewise rise to levels II, III, to accommodate vehicular demands. Alternative: L.A. strangles itself. Prepared for L.A. general development plan.



When Urban Mass Transit Administration said substitute more buses for costly rail service, WMRT/LA with Southern California Rapid Transit District fleshed out actual implications. Result: needed investment is surprisingly great; space for right-of-way, terminals, staging areas. Studies here show bus lanes and elevated rail lines.







Wilshire in downtown L.A.



Mid-Wilshire



At Century City

Land's end west: Santa Monica



Planning for the brave new world

the sequence of change and current development policies and programs, and to determine an "ultimate developed land value." This portrait in motion was made possible by the availability of documentation for property status expressed as susceptibility to development, and by the presence of catalytic "priming actions," such as expressways, land transactions, and institutional growth.

It was an admittedly generalized hypothesis, but its high probability carried conviction. Expressways would funnel development pressure into specific loci. Sewers would extend piecemeal into key areas. Development areas would tempt nearby tract holders to release property for speculation. Adjoining areas of employment growth would create a large housing market. A dynamic picture coalesced as development factors and land susceptibility to development were combined. This yielded a time frame for housing units on acres of land, land use patterns, and aggregated developed land values. The ravages of laissez-faire economics were sharply delineated. Here was another victim of suburban sprawl, a "smear of despoliation."

Turning to "what ought to happen," the study conformed Valleys development plans to regional (SMSA) goals. WMRT believed that regional needs imposed certain functional, social, and political obligations. These became regional design and planning directives for the Valleys.

To this assumption was added a study of physiographic principles for conservation and development, an early example of what is sometimes called the "McHarg method" of ecological planning or "lan's Black Box." The Valleys were analyzed in terms of their geological significance. This procedure identified the natural processes controlling the conservation of the region: topography, subsurface geology, surface and ground water, flood plains, soil permeability, slopes, forests, and woodlands.

Charting these critical factors on overlay maps defined the problem areas through graphic superimposition. Valley floors and walls were heavily shaded (thus compromised). The suitability of the plateaus, unencumbered by controlling conditions, was explicit and irrefutable. Development principles followed which classified major topographical conditions from "walls without forest cover" through "open plateau" in ranks of suitability for development.

The plateau's housing capacity was then carefully tested. By accepting a ''normal'' (one dwelling unit/ac) density on wooded walls and forested plateaus and somewhat less than twice the uncontrolled density on open plateaus, the area absorbed all prospective growth. Population concentrations were conceptually designed as clustered communities in recognition of the plateau's complex topography. Since regional service needs were already demonstrably satisfied elsewhere, a rural hierarchy of Country Town, Village, and Hamlet was consciously conceived.

The study considered the economic tradeoffs of planned and uncontrolled growth. Land values for uncontrolled growth were derived from the Model. The study candidly admitted that optimum development values were not so clear. Nevertheless, the optimum plan seemed at least equal and quite possibly superior in land values—the assumption rested heavily on the sway of prestige—to unplanned growth. For downtown Buffalo WMRT used "projected growth management" developed in Baltimore, Los Angeles, and New Orleans. Existing city form is tested for susceptibility to change, compared with future development, and analyzed for areas of new opportunities. Transit system of Main St. Mall is dissected with watchmaker's eye. Mall at Lafayette Square, city's crossroads, shown in section. Plan in implementation.



COPPORTUNITY AREAS MASS TRANSIT CORRIDOR GENERAL AREAS OF NEW DEVELOPMENT OPPORTUNITIES





COMPOSITE DIAGRAM OF ALL MAJOR LEVELS IN THE MAIN STREET MALL AREA

Legend

- 1 Parking structures and the roof of the Mall
- 2 The Mall level showing vertical elevator towers, lobbies and stores
- 3 Buffalo/Amherst subway line
- under the Main Street Mall
- 4 Kenmore/Airport line under Court Street

Like other WMRT projects, *Valleys* was designed for implementation. More than lip service was paid to developing strategies and tactics. The nature of control, establishment of public consensus and policy, deployment of legislative controls and devices, and private action roles were thoroughly explored.

Roles in preservation, compensation, and development were assigned to country, state, and federal bodies. And an unusual role was suggested for citizen action: the real estate syndicate. Unlike conservation trusts and home associations, it would option, acquire, and develop land in key areas of the Valleys.



Baltimore's long relationship with WMRT began with plans to develop Inner Harbor into magnet for recreation and commerce. With new WMRT bulkhead and prestige projects by Belluschi, Pei, Kahn, Tange, and Stone in progress, Inner Harbor will soon realize planners' hopes. (Already a great place to throw a party: 1.7 million people attended City Fair in Sept. 1973.) Shown: site at commencement of study in 1964; as will be completed; bulkhead and bollards with historic USF Constellation moored in Harbor.

Encore

Valleys heralded a wave of penetrating reports too numerous to discuss here. The following outlines the benchmarks of the firm. It can be seen that its intellectual growth displays a broadening array of methods to increase control of the environment and plans for change.

1966: Lower Manhattan Plan, with Whittlesey, Conklin & Rossant, and Alan M. Voorhees, established guidelines for new development through changes in circulation and land use controls. The notion of Susceptibility to Change was formulated to predict where Manhattan development was likely to occur. Study area properties were assembled and analyzed



Besieged by skyscrapers, New Orleans asked WMRT to help form growth management program to protect and strengthen unique values of downtown surrounding and including famed Vieux Carré (French Quarter). Firm recently advised city council in enacting 9-month moratorium on demolition in CBD to perfect air rights transfer and other legal means to preserve historic structures.







by computer in regard to building age, residual land cost values, and current and likely zoning, and expressed as short, medium, and long-range "givens." "Policy" givens mapped out politically and aesthetically sensitive areas.

1969–70: MetroCenter/Baltimore Technical Study evaluated Baltimore's regional core as affected by previous plans and goals, susceptibility to change, and current projects. This impact study evolved still another growth management tool, the Probability Growth Model.

PGM was based on three essential uncertainties: susceptibility to change of existing structures and functions, forecasts of possible growth, and probabilities of public and private investment (using a model developed by the Regional Planning Council). PGM was a conceptual representation which enabled designers and planners to examine large urban areas in detail. It proved to be extremely flexible in New Orleans, Los Angeles, and Buffalo too. Employment space needs, retail development, and person trips/day were typical of PGM input/output projections.

1969: McHarg's *Design with Nature* (Doubleday, 1971) expounded his ecological design concepts to the nation.

1970–72: Central City/Downtown General Development Plan for Los Angeles, with Development Research Assoc., Voorhees, DMJM, and Irving W. Shandler, was the first such plan for downtown L.A., and it stretched WMRT beyond a workday's commute by car to found the Western Branch Office.

The L.A. project spun a fascinating tale of private initiative enlisting dormant public support. Besides proving that architects and planners after Daniel Burnham can still converse



"Adirondack-style" architecture flourishing at Lake Placid, N.Y. prompted WMRT to produce compatible designs for 20 vacation homes at lakeside. Siting is picturesque while respecting slope of terrain. Currently under construction.

with businessmen, it suggested that a city famed for its sprawl is consciously asserting its need for a business, government, and cultural center. Although the cooperation of city administrative agencies was important, it was the foresight and stamina of 22 of downtown's biggest employers (the Committee for Central City Planning, Inc. which persuaded the city to jointly commission the plan), their consultants, and dozens of citizen groups and private institutions together who made the plan possible. No plan is perfect. But if this one and its related programs come to pass (proposals include mass transit, an industrial park, a spacious urban park and lake, and social and physical rehabilitation of Skid Row) L.A. will be subtly and elegantly transformed.

1973: Denver Regional Transportation Plan, with DRA and Kaiser Eng., established WMRT's competence in this field by designing a regional system to shape future land development. A transportation/land use model explored the interactions of regional growth, optimum land use, and transportation routing.

Plans and designs are as good as their creators and their clients. WMRT has known disappointments; desires *do* change, and human political behavior can be irrational. (The Valleys enforce the physiographic principles, yet need leadership to form a real estate syndicate.) But its techniques, defining critical factors, building data banks, conceptual modeling, total environmental designing, strategic and tactical implementation, and growth management programming, are sophisticated and highly effective.

WMRT is busy. Communities, developers, and transportation districts among others repeatedly demand its planning and design services, often with award-winning results (including three P/A awards). It is a lively office. The associates, Narendra Juneja, David Hamme, Charles Tomlinson, Michael Clarke, Richard Huffman, Jonathan Sutton, George Toop, and John Clark in Philadelphia, and Donald Brackenbush and Ross Sutherland in Los Angeles joust regularly with the partners, especially the redoubtable McHarg.

Ideally, WMRT likes to design a project top to bottom, from physical and social plans to finished buildings and landscape. This may require joint venture equity positions someday. Whatever happens, the firm's future looks bright. Its leadership is capable. Its integrity has withstood many tests.

Thomas Todd declares, "We are centralists. We believe society needs the critical mass that only cities provide to sustain the highest levels of human activity. Though much of the nation's vitality and physical quality were destroyed when the population dispersed after World War II, the process is not inexorable. It was the result of public and private policy. If we wish to save our vanishing countryside, we must save our cities now."

"The next 10 years will see a strong refocus on centralization," William Roberts points out. "This calls for investing public funds in the urban cores and reordering political jurisdiction around these cores to facilitate regional land use planning."

At the city gates, Cassandra smiles. [Roger Yee]



Water Movement - Springs and Streams

Hydrology: ground water movement



Hydrology: wells and aquifers



Hydrology: vegetation runoff/percolation

Sophisticated ecological discussion of Woodlands New Town is given simple, striking visual treatment. Recommendations for physical planning are expressed at basic, easyto-follow level. Views simulate actual visit for developers and builders, with site planning sketches providing additional guidelines.











View at entrance to residential area



View along minor collector road



Key plan

4

Second wall house



John Hejduk's studies have included Diamond Houses and Canal houses. The second of the current Wall house series is soon to be built on a hillside in rural Connecticut.

John Hejduk says he has found the ideal client in landscape architect A.E. Bye. They have known each other for over 10 years (both teach at New York's Cooper Union, where Hejduk is chairman of the architecture department) and have communicated well over that period, due to many shared attitudes in their approach to work. Because of this understanding there is a special ambience in their architect-client relationship. "Ed Bye has an impeccable eye," Hejduk says, "he understands how to place things in a very subtle way, and this house is close to that kind of thing."

The house, which is the second in Hejduk's latest series of house studies—the Wall Houses—will soon enter construction on a hill above Ridgefield, Conn., where it will face a spectacular view through a rocky, wooded valley. It will be of concrete post-and-slab construction, with metal stud and wiremesh walls—the outside stuccoed smooth and painted while wet, the inside plastered.

Even though a cursory glance at the drawings and model shows an obvious reference to the vocabulary of Le Corbusier, especially in the construction techniques and in the freed walls and bands of windows, it might be more accurate to seek the deeper influences within the broader view of the Cubist movement itself. The house, essentially, is a piece of Cubist sculpture. Every element is detached from every other element; each is exposed, analyzed, and clarified in and of itself. And while this exposition maintains throughout the structure, from every angle, the integrity of the overall composition is also maintained. But this, although important, tells only part of the story. Regardless of how Corbusian or cubistic the house may be, it represents first and above all else a highly subjective and intuitive approach to architecture.





nal order that intrigue the intellect, but in effecting the direct, spontaneous and sensuous response to architectural form. "I'm interested in the poetics of architecture," he says, "in that which only the architect can give. Everyone else can give everything else, but it's the one thing they can't give that interests me." Of all the aspects of architecture though, this one-its art, or poetics-is the one least accessible to verbal description or analysis. Language, except as poetry, is at best only a poor substitute for the reality of art, which finally can only be known through participation in the art object itself. But for Hejduk there is another problem with language. He feels that if it is used to describe a work, there is the danger that one might view the work only in terms of the explanation, or at least that the explanation might influence one's perception of the work. This, he fears could diminish not only the authenticity of the work itself, but also the authenticity of the viewer's perception of it.



TO FABRICATE A HOUSE TO MAKE AN ILLUSION BYE HOUSE 1973 EARTH WATERE RIDGEFIELD CONN. WALLCUBE









Hejduk's preliminary studies for house; at left, Bye's site plan.



Second wall house

"I'm not an ambiguous architect," he says;""I deal with fabrication, with clarities . . . the forms are there, they don't have double meanings, they're singular, anyone should be able to look at them and see what they are, anyone can read what he wants into them." This does not mean, though, that Hejduk will not discuss his work; he will, only he hopes that you continue to see it your way; and whatever way that is, is only for you to judge.

The most prominent aspect of the Bye house is, of course, the wall itself. "It," Hejduk says, "is the most present condition possible. Life has to do with walls; we're continuously going in and out, back and forth, and through them; a wall is the 'quickest,' the 'thinnest,' the thing we're always transgressing, and that is why I see it as the present, the most surface condition."

The fact that the house is to be painted colors relates mainly to Hejduk's experience in Le Corbusier's La Roche house in Paris, where he spent several days last year installing an exhibition of his own work. "After that experience," he says, "I could never do another white or primary-colored house." In the La Roche house, the colors "were hardly apparent at first, but after you were there awhile you saw not only that they changed constantly, but that they were delicate and muted, and also saturated at the same time." Although a different palette will be used for the Bye house-one, in fact, close to that of a della Francesca painting-Hejduk hopes to achieve the same effect of the muted and saturated colors of the La Roche house by using a muted primary red, yellow, and blue, which will be visible from one direction, and their muted mixtures of orange, red-violet, and blue-violet, and green, which will be seen from the opposite direction. Using these colors intuitively, Hejduk did not consciously attempt to produce a color wheel; it was his Cooper Union colleague Robert Slutzky who pointed this out after seeing the model.

Hejduk's intense interest in painting and sculpture, so apparent in the house, can also be seen in the relationship of the house to its site. Viewed from the front, the gray wall acts as a background to the foreground composition that describes the living spaces; the whole composition is then framed by the ground and sky, and by a sheer rock cliff on one side and a stand of trees on the other. But although Hejduk maintains an abiding interest in art, which unquestionably influences his work, he explained recently at the Architectural League in New York that there is an important difference between the artist and the architect. "The painter," he said, "starts with the real world and works toward abstraction, and when he's finished with a work it is abstracted from the so-called real world. But architecture takes two lines. The architect starts with the abstract world, and due to the nature of his work, works toward the real world. The significant architect is the one who, when finished with a work, is as close to that original abstraction as he could possibly be . . . and that is also what distinguishes architects from builders."

The Bye house is not a house for every man, but its lesson is there for those who want to receive it. As client Ed Bye recently said: "It has beautiful proportions and an elegance you rarely see in architecture today; it represents something I'm concerned about in my own work, and to me there's magic in it—I have no doubt about that." [David Morton]











Anyone can make hinges, Hager creates concepts.





Combination System Provides Individual Tenant Control. Saves Up To 41% On Installed Costs

Views continued from page 8.

modate, the designer can thus rationally develop a design solution based upon these titles of role and activity. The use of these tools, objective design methodology, helps insure a level of competence in creating architecture, which must not only express individual hopes and aspirations but which must be a real problem-solving medium. This approach does not shatter architecture's connection with real people. Bob Brendle Cambridge, Mass.

I can't understand why you decided to print such unmitigated nonsense as the prose of Robert Jensen about the Binghamton Science Buildings.

His points about applied science, if valid and interesting, could be made without victimizing a single, superior project. They were directed against *all* science facilities and *all* attempts at more rigorous programming methods. Many other articles have appeared which supported both these phenomena. But they have been general articles, not criticism of a single project. *Bernard P. Spring, FAIA New York, N.Y.*

[Jensen's analysis of the Science Complex, State University of New York, Binghamton by Davis, Brody & Associates is a controversial one, even among the editors of P/A. We do not agree, however, that the building was "victimized" in the piece, but rather was discussed as an exemplary demonstration of science-based design methods. Ed.]

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Salt Lake City residence. Architect: Dee Wilson.





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Technics: Specifications clinic

How weathering affects building materials

Harold J. Rosen, PE, FCSI

Environmental elements must be taken into consideration when specifying building materials. A knowledge of the effects these elements can produce is a prerequisite.

A building material's durability is affected by the environment to which the material is subjected. With natural materials such as wood and quarried stone and some man-made materials such as steel and concrete a history of their resistance to weathering in specific geographical areas has developed over the hundreds of years these materials have been used. As a result, architects and specifiers have sufficient data to successfully use these materials. The effect of weathering on more recent man-made synthetic materials, however, is not so well understood.

Geographical environment produces a weathering process that can alter and affect color, composition, form, and texture, eventually producing degradation, disintegration, or a failure to perform as intended. The environmental elements producing weathering are sunlight, precipitation, temperature, gases, wind, and bacterial life.

Sunlight produces radiation at the earth's surface, which is composed of ultraviolet light, and synthetic organic building products if not properly formulated can be subject to UV degradation. Radiation in the form of ultraviolet light possesses a certain amount of energy which can cause chemical changes in organic building products thereby affecting their physical properties. Such materials can become hard and brittle. Flashing materials can crack in flexing and paint materials can fail as a result of cracking and chalking.

Precipitation—rain, snow, hail, and moisture—generally has less effect on organic building products than it has on those that are inorganic. Some organic coatings swell in the presence of water, and blisters can form behind coatings subjected to water vapor pressure. Where moisture is present, metals can corrode unless properly coated or protected. Concrete and masonry products that are porous can be affected by the freezing action of water. Hail, depending upon size and severity can cause structural damage unless special precautions are taken to guard against this possibility. Snow loads where applicable, must be taken into account to assure structural adequacy.

Temperatures can produce two distinct effects: fluctuating

temperatures cause physical changes due to thermal expansion and contraction; elevated temperatures produce chemical changes, especially in organic building products, due to the accelerated rate of reaction and oxidation process. Thermal expansion and contraction produces physical changes in sealants, metals, concrete, and virtually all building products. Thermal shock may occur when the change in temperature is abrupt, especially in materials having poor conduction, since the temperature of the outer surface can be markedly different than the temperature of the inner mass and this may result in cracking.

Gases which have a deteriorating affect on materials are oxygen, ozone, and sulfur dioxide. Oxygen levels are generally consistent all over the world, but levels of ozone at the earth's surface depend upon geographical location with certain areas having higher concentrations than others. Sulfur dioxide, a product of industrial plants, is concentrated in the atmosphere in relationship to industrial activity. Oxygen can cause oxidation of organic building products especially in sealants, coatings, plastics, and roofing, resulting in discoloration, hardening, and cracking. This phenomenon can be reduced by proper formulation of synthetic products to provide chemical linkages that resist oxidation. Oxygen similarly affects inorganic building products, especially metals, resulting in corrosion unless special coatings or films are used. Since ozone is an unstable modification of oxygen its reaction with metals and organic products is even more severe. Sulfur dioxide in the atmosphere combines with water, forming sulfuric acid, which in turn has deleterious affects on certain products as a result of chemical reactions. The city of Venice has suffered more damage from this in the last 50 years than it has in the previous 1000 years.

Wind velocity varies in all parts of the world. Engineers must consider wind bracing in the design of structures and architects must take into account air infiltration and water penetration through all exposed elements. The weather bureau has statistics on wind velocities and frequencies which should be used to design properly.

Bacterial life, especially the lower forms such as fungus and bacteria are a product of the environment since these organisms either thrive or lie dormant depending upon temperature and moisture. These organisms usually produce mildew and wood decay which can be controlled by the selection of proper coatings.

To overcome these environmental problems the designer and specifier must be selective, choosing those products that can perform with the least amount of vulnerability under the conditions to which they will be subjected.

Author: Harold J. Rosen is an independent construction specifications consultant in Merrick, New York.

Technics: Selected details

An underground office

FUTURE SOLAR COLLECTOR TO BE LOCATED ON SOUTH-FACING SLOPE

UTILITY

CROSS SECTION, LOOKING WEST

NATIVE VEGETATION

DRAFTING

It is all very easy to give lip service to environmental concern in architecture. But Malcolm Wells is not given to lip service; his concern is being expressed by his own office building. While he admits that the structure does not satisfy all of his stringent requirements, Wells has plans for a future solar collector and a waste pulper. In the meantime, he is monitoring the building's daily energy use, based on temporary electric heating system.

The details of the building are not complicated, although they are what put the "gentle" in Wells' "gentle architecture." Earth and mulch are not the standard roofing or roof load conditions, hence the details for dealing with them are crucial. Nor has Wells overlooked the finer details, such as a masonry paver (opposite page, bottom right) which will serve as a pourous parking surface, retaining water where it falls. The building, nearly invisible now, will soon disappear under a heavy natural growth of New Jersey plant types.

URVED CARPETED PANEL



CONFERENCE/DRAFTING

TRIPLE-INSULATED SKYLIGHT

XIT TO STREAM











Project: architect's office Architect: Malcolm Wells Site: highway embankment, Cherry Hill, N.J. Structural engineers: Rothbaum and Davis. Builder: Tallmen Construction Co. Costs: \$40,000 (includes drive) Photography: Norman McGrath



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Universality of architects' problems

Bernard Tomson and Norman Coplan

The Third World Congress of Engineers and Architects in Israel points up the need for a worldwide pooling of ideas and the enactment of uniform licensing laws.

In December 1973 one of the writers of this column (Judge Tomson) attended the Third World Congress of Engineers and Architects in Israel. Despite the uncertainties attendant on the Israeli-Arab hostilities, there were approximately 3000 participants in attendance, some 1000 of them from 68 foreign countries, including countries in Africa, Asia, Europe, Australia, as well as the Americas.

The subject of the Conference was "Dialogue in Development—Natural and Human Resources." In addition to sessions that were concerned with architecture and future training of architects, the panel sessions covered a wide range of subjects, some of which were: "Energy in Developing Countries"; Environmental Quality"; "Transportation"; "Population Explosion and Urban Migration"; "Education Manpower Resources"; "Housing"; "The Role of the Technical University in a Developing Country—The Israeli Experience" (at Technion in Haifa); "The Planning of Jerusalem" and some 20 other titles.

It has always been our thesis that the concerns of architects in the United States are quite similar, regardless of the state or states in which they practice, and that although the laws of the 50 states differ in respect to the practice of architecture, there is nevertheless a common set of problems which must be approached and resolved on a countrywide basis. At the Conference discussions of architects' problems of such diverse countries as Israel, Australia, Romania, Turkey, etc., reveal the fact that the problems of architects worldwide are also surprisingly similar. For example, the architectural profession in the United States has been concerned with the inconsistency and differences in registration and licensing laws in the various states of the Union and there have been recommendations that a uniform statute be adopted by all states. An analysis of similar laws in foreign countries indicates that this problem is international in scope.

In Israel, the licensing statute is entitled "Engineers and Architects Law." It was passed by the Knesset in 1958. In form, it is a "title" statute restricting the use of the *title* "architect," except to those duly registered, but this statute does not directly prohibit the *practice* of architecture by those not duly licensed. The Israeli statute is similar to that found in a minority of states in the United States (see *Architectural and Engineering Law* by the authors of this column, second edition, part 2) and states:

"Exclusivity of Title

"2. A person shall not use the title 'Registered Engineer' or 'Registered Architect' or any title so similar to it as to be misleading, or hold himself out to be a registered engineer or architect, unless he is registered in the Register of Engineers and Architects."

However, the Israeli statute provides a procedure whereby the practice of architecture may be limited to licensed architects. The statute is quite unusual in its approach. It provides:

"Reservation right to carry out operations

"12. The Minister may by regulation, after consultation with the Council, reserve the right to carry out certain operations to licensed engineers or architects; where the right ... has been so reserved, a person shall not carry it out unless he is the holder of a license under section 11."

The Minister referred to is a designated member of the government. The Council consists of the Minister, 4 representatives of the Israel Institute of Technology, 13 governmental appointments and 9 engineers and architects appointed as follows:

"... by the Minister upon the recommendation of the organization representing the greatest number of persons, registered in the Register of Engineers and Architects; however, the engineers and architects appointed as members of the first Council shall be appointed upon the recommendation of the Association of Engineers and Architects in Israel."

In commenting upon the universality of the problems of the architectural profession at the Conference, with particular reference to registration laws, Judge Tomson said:

"The universality of architects' and engineers' problems, vis-a-vis the client, the public, and the registration laws, has increasingly been impressed upon me. Particularly with respect to registration-law problems facing these professionals throughout the world, there is a crying need for the development of an integrated approach to the pooling of information, for the exchange of ideas, and for the development of a 'uniform' statute. This should be initiated as soon as it can be arranged by a conference called to acquaint those struggling with the problem that the difficulties are not local in character, but international; that the problems in California are the problems in Michigan; that the problems in Colorado are the problems in Oklahoma; the problems in the United States are the problems in Israel."

The Israeli Conference was quite successful and Mr. El Hanon Peles, President of the Association of Engineers and Architects in Israel, who was responsible for its organization, well deserved the praise he received. Similar conferences, can do much to benefit the profession.

Authors: Bernard Tomson is a County Court Judge, Nassau County, N.Y., Hon. AIA. Norman Coplan, Attorney, is Counsel to the New York State Association of Architects, Inc. AIA.

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Photo Products


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10 10

Progressive Architecture

Products and literature



Executive furniture



Litter receptacle

Axminster carpet





Signage



Executive furniture in walnut or oak consists of coordinated desks, cabinets, and wardrobes. Three desk sizes are available in four styles: single or double pedestal, secretarial or work tables. Many configurations are possible. Jens Risom Design, Inc.

Circle 101 on reader service card

Axminster carpet pictured is "Antilles," available in two-ply nylon yarns in a series of patterns and colors. Test results give carpet a flame spread rating of 75 and a fuel contribution rate of 60. Lees Carpets. *Circle 102 on reader service card*

Litter receptacle. Open on all four sides with no doors to push, it is available in choice of color and logo combinations and can be coordinated to individual environments. Choice of aluminum, 45-gal capacity or steel, 35-gal capacity. Jackson Co. Mfg.

Circle 103 on reader service card

Portable projection screen. Aluminum frame to which front or rear projection screen surfaces can be mounted is especially suited for use in photographic or television studios, schools, conference rooms. Available with translucent surface for rear projection, folding mat white surface for front projection, or two-way white translucent material; in 72-, 84-, and 96-in-sq sizes. Da-Lite Screen Co., Inc. *Circle 104 on reader service card*

Signage. Direction, identification, and information dissemination signs are molded from fiberglass-reinforced polyesters and coated with weather-resistant glycol based gel and offer flexibility in size, shape, form, and color with durability and vandal resistance, maker states. Available in virtually any shape. Architectural Graphics, Inc. *Circle 105 on reader service card*

Modular lounge furniture called "Post Time," consists of posts which serve as legs of tables, sofas, and planters and are also the units that link the various pieces of furniture to one another. The posts are made of a black PVC plastic with aluminum caps and an adjustable glide. Top cap unscrews to permit the various pieces of furniture to be linked, then tightens down to hold them together. Furniture has been designed on a basic 30-in. module, with additional 60-in. units to increase flexibility. Table tops are plastic laminate; rails are either white oak or American black walnut; planters are of white acrylic. Seating can be upholstered in any of the wide range of vinyls, leathers, or fabrics. Shipped knocked-down. The Gunlocke Co., Inc. *Circle 106 on reader service card*

[continued on page 123]





Products and literature continued from page 120

Light fixtures. A seamless, cast-in-one-piece, multi-faceted, vandal-resistant sphere, it is available in translucent white, transparent clear, bronze, and gray. Two sizes, 18 in. and 22 in. diameters accommodate either incandescent or mercury vapor lamp sources. Unit can also be provided with various refractors for light diffusion and is available for indoor or outdoor mountings on post units, wall brackets, and pendant units. Habitat.

Circle 107 on reader service card

Outdoor drinking fountain. Designed especially for use by persons in wheelchairs as well as the general public, it has a sculptured receptor mounted on a 19¼-in. extension with two lever handle valves for right- or left-hand operation and automatic stream regulation. Constructed of aluminum finished to a dark bronze tone. Haws Drinking Faucet Co. *Circle 108 on reader service card*

Papillon collection consists of a settee, sofa, arm and pull-up chairs, high back man's chair, ottoman, and a corner unit with or without arms. All pieces are tufted over polyurethane padding, seats and backs have spring construction on hard-wood frames. Arms and backs are reinforced with tubular steel, legs are molded of high impact plastic. Upholstery fabrics include cotton checks, velours, patchprint cotton, and leathers. Contemporary Design International. *Circle 109 on reader service card*



Light fixture



Patchprint chair

Outdoor fountain

Fluorescent lamp. Said to consume 20 percent less electrical energy but maintain 90 percent of original light output, "Watt-Saver" is an 8-ft, 60-watt lamp designed to replace 75-watt tubes in the same fixture. Using krypton gas, the lamps produce 95 lumens per watt and are said to save 30 watts per two-tube fixture. Duro-Test Corp.

Circle 110 on reader service card [continued on page 124]



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Products and literature continued from page 123

Concrete picnic table and benches are separate units which provide walk-in type of seating. Designed for permanent installation on a concrete slab, they are one-piece castings reinforced with steel and are available in several colors. Surface is treated with an acrylic sealer which waterproofs the surface and prevents staining, according to maker. Table is 7ft long and benches are 6-ft long. Form, Inc. *Circle 111 on reader service card*

Power columns. Components of office interiors system are factory-assembled and pre-wired sources of communication, power, and other services for up to four surrounding work stations with quick disconnect feature for hooking into a ceiling service grid. Offered in three types: for support by adjacent screens, 84-in. high with flexible connection rising to ceiling grid; full height column for connection immediately to ceiling service; for in-line use with full height partitions. All columns are 12-in. wide with removable front plate. Optional services are available. Hauserman, Inc. *Circle 112 on reader service card*

Metal furniture. Designed by Hendrik Van Keppel and Taylor Green in the late thirties, it is now being handcrafted in polished-chrome steel or weatherproof baked polyurethane colors, wrapped with polypropylene white, black, or yellow cord. Suitable for both indoor and outdoor use. Benedetti Corp. *Circle 113 on reader service card*

Futuristic furniture. American Contemporary Collection in PVC and fiberglass. Three lounge groupings are available in PVC with coordinating arm and side chairs, barstools, tables, and etageres; two fiberglass lounge groupings with matching occasional tables. For exterior and recreational areas, there are chaises, lounges, club lounge chairs, occasional pieces, two-way lounge chairs, stools and occasional tables. A wide selection of fabrics and vinyls are available. Colors are Ebon, Rouge, Navy, Butter, Cocoa, Tangerine, Gold, and Snow. Thonet Industries, Inc.

Circle 114 on reader service card [continued on page 128]



Van Keppel-Green chair



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Products and literature continued from page 124

Grass pavers. Cast in the form of a concrete grid with nonslip characteristics through which grass is able to grow yet it withstands the weight of heavy vehicles. It also is said to prevent mud and provide erosion control. Applications include construction sites, parking lots, road shoulders, parks, and schoolyards. Grass Pavers Ltd.

Circle 115 on reader service card

Literature

Noise control. Catalog describes products, gives functions, applications, and installation information. Product line includes absorbers, barriers, dampers, isolators, silencers, and composites. These off-the-shelf noise control measures are said to provide solutions at the noise source, along its path, and at the receiver. Lord Corporation. *Circle 201 on reader service card*

Metal spires and ornamental roofs are described and illustrated in brochure. Methods of construction, specifications, and case histories of renovation and restoration are also given. Overly Manufacturing Company. *Circle 202 on reader service card*

BlocBond. A mix that combines ½-in.-long alkaline-resistant glass fibers and a water-resistant agent with Portland cement. When mixed with water and applied to exterior and interior surfaces of dry-stacked concrete block walls, maker states it dries to a hard coating eliminating the need for mortar above the first course. Walls can be finished with paint or stucco or any other conventional facing such as drywall or brick. Needs no prime coat. Brochure shows construction and application details, surface finishes, code approvals. Owens-Corning Fiberglas Corporation.

Circle 203 on reader service card

Architectural renderings. Illustrated, full-color brochure describes professional design service. Kinsey Architectural Arts. *Circle 204 on reader service card*

Technical/visual film. Five different products are available to cut time and costs in graphic work by eliminating repetitive steps in design, drafting, engineering, and architectural work plus visual presentations and office procedures. Products consist of a transparent acetate or polyester film with a receptive coating on one side, a pressure-sensitive adhesive coating on the other side, and a peel-off backing sheet. Oftenused symbols can be preprinted. Brochure. Saga, Inc. *Circle 205 on reader service card*

Energy conservation is the subject of guide. Illustrated handbook contains many tested ideas on how to save on heating, cooling, lighting, and ventilating; how to schedule power loads and how to shed them to avoid high electrical-demand charges; how to cut energy costs with a centralized control in large buildings and with time-shared building automation in medium-size buildings. Honeywell. *Circle 206 on reader service card* [continued on page 133]

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Products and literature continued from page 128

General purpose control. A complete listing of control devices ranging from products that start, switch, and sense to those that count, indicate, and operate through pre-programming are contained in this 328-page indexed catalog. Photos, applications, technical data, and detailed dimensional drawings on each product are given. General Electric Co. *Circle 207 on reader service card*

Steel accessories. Details on uses, sizes, styles, and weights for various steel accessories for construction of drywall and plaster assemblies are given in 36-page catalog. United States Gypsum Co.

Circle 208 on reader service card

Insulated panels feature interlocking tongue and groove aluminum extrusions on the panel edges and are offered in a choice of porcelain enamel, aluminum, or aggregate facings in a variety of colors and textures, single- or double-faced for combination exterior-interior walls or for interior use as movable wall partitions. Joint covers have finishes to match. Panels have standard cores of UL-approved noncombustible moisture-resistant perlite or polyurethane. Product literature and data is available from Kaiser Mirawal. *Circle 209 on reader service card*

Doors. Catalog features 29 doors in color. Six series—Knot Block, Old Wood, Barbie's Blocks, New Wood, Armijo Art, and Painted Wood—are available in a wide range of sizes and finishes. Whittlewood Corp. *Circle 210 on reader service card*

Curtain walls and entrance systems are covered in two color catalogs offered to architects and builders. Technical data, details, and features of the products are included. The Alumiline Corp.

Circle 211 on reader service card

Wallcoverings. A sample book designed especially for architects and builders contains a wide assortment of samples shiny vinyls, burlap, grasscloths, silk appearing "moire" finishes, embossed solids, mansard shingles, cork and more. United-DeSoto, Inc.

Circle 212 on reader service card

Luminaires. Brochure describes luminaire which uses highpressure sodium and other HID light sources for roadway, commercial, industrial, and institutional lighting applications. Included are charts, color photos, and photometric data. McGraw-Edison Company.

Circle 213 on reader service card

Automatic irrigation systems. 1974 catalog provides sections on sprinklers for residential, commercial, and institutional building grounds and large turf area applications, describes controllers for both hydraulic and electric systems, commercial rotary sprinklers. Also covers installation tools and accessories. Gives recommended applications, specifications, spacing, water pressure and volume, spray radius and spray pattern. The Toro Company.

Circle 214 on reader service card

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Notices

Appointments

Robert Blumin, AIA was named vice president, business development of Maxwell Starkman & Associates, Beverly Hills, Calif.

Saggus, Vaught, Spiker & Associates is now Saggus, Vaught, Spiker & Howell, Atlanta, Ga., with the addition of Harry W. Howell, AIA as a general partner.

Raul F. Trujillo has been appointed vice president of Alsbrooks & Associates, Inc., Atlanta, Ga.

Norman Cates, AIA has been elected vice president and manager, architectural division, of VTN Consolidated, Inc., Irvine, Calif.

Richard R. Klein has been named associate architect of Jones/Mayer & Associates, St. Louis, Mo.

Arthur H. Silvers, AIA has joined the Los Angeles office of Daniel, Mann, Johnson, & Mendenhall.

Thomas A. Hooker, AIA has been named director of architecture of Deems/Lewis.& Partners, San Diego, Calif.

Sewa Barmi has been appointed an associate of Sigmund Blum, Vaporciyan & Mitch, Inc., Detroit.

The following have joined Ralph Hahn & Associates, Springfield and Chicago, III.: Steven E. Bishop, Robert W. Dawson, Ronald W. Eimer, Lourdes T. Knepler, Robert W. Power, Jr., and Larry L. Vieley.

Mart Ojamaa and Robert Y.C. Hsiung have been elected vice presidents of Jung/Brannen Associates Inc., Boston.

The following have been elected partners of The Eggers Partnership, New York City: Robert L. Bien, AIA; Bernward U. Kurtz, AIA; Thomas H. Price, Jr., AIA; and Robert H. Welz, AIA.

John R. Rickey, AIA has been named marketing director of Ellerbe, Bloomington, Minn.

Charles G. Gable, AIA has joined Gin Wong Associates, Los Angeles, as vice president and executive architect.

Sandor A. Marton and Edwin M. Denson have been appointed associates of The Office of Mies van der Rohe, Chicago.

Larry L. Upton has been appointed manager-environmental engineering in the Architectural and Engineering Systems Group of Commonwealth Associates Inc., Jackson, Mich.

Joe R. Milton has joined William T. Can-[continued on page 138]

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nady, AIA, Houston, Tex.

Notices continued from page 134

Victor L. Cohen has been named senior vice president of Heery & Heery, Inc., Atlanta, Ga. and New York City.

The following have been appointed associates of Albert Kahn Associates, Inc., Detroit: Floraluz S. Macaraig, PIA; Robert P. Maggid; Charles T. Robinson; Heinz L. Bensel, PE; Harvey Schneider, PE; Donald R. Gwin; Joseph J. McDonald; Patrick J. Lindsay; Wayne E. Vicklund, PE.

Frank LaRosa, RA has been appointed associate of Hamby, Kennerly, Slomanson & Smith, New York City.

Robert Pereslete has been named vice president and design director of Design Enterprises, Inc., Anaheim, Calif.

Charles E. Defendorf has been elected president of Seelye Stevenson Value & Knecht, Inc., New York City.

William M. Gaul, AIA has been named senior vice president of Hague-Richards Associates, Ltd., Chicago.

Ewing Cole Erdman & Eubank, Philadelphia, is now Ewing Cole Erdman Rizzio Cherry Parsky with the addition of Nicholas J. Rizzio, Jr., AIA, Robert V. Cherry, PE and Robert M. Parsky, AIA as partners.

R.L. Reins has been named executive vice president, and Arthur J. Meyer, Jr. assistant vice president of Henningson, Durham & Richardson, Omaha, Neb.

Dayton Meyer, Thomas Benedict, and William Walker have been appointed associates of Walter Richardson Associates, Costa Mesa, Calif. Richard G. Munsell has joined the firm as director of community planning.

Jon T. Lang, AIA has been elected to the board of directors of The Environmental Research Group, Philadelphia.

Peter Randall Stark has been appointed vice president/development for Max O. Urbahn Associates, Inc., New York City.

Clovis Heimsath Associates, Inc., Houston and the Johnson Space Center, Tex., has announced the following appointments: Charles F. Stephens, AIA, vice president; James B. Gaffney, Jr., AIA and Jerry Mendenhall, AIA, senior associates; Robert W. Bainbridge, AIA, Robert A. Warrick, AIA and Emmett H. White, AIA, associates.

Clark P. Halstead, Jr., AIA has been named vice president of James D. Landauer Associates, New York City.

R. Lawrence Dunlap, RA has been appointed a partner of The Cannon Partnership, Buffalo and Niagara Falls, N.Y. Mark R. Mendell, AIA was named director of design. [continued on page 141]

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AT ORONOQUE VILLAGE, 1200 FAMILIES Are going to live under the same roof.

In Oronoque Village, a condominium community in Stratford, Connecticut that will stretch for over 300 acres, GAF Timberline® Asphalt Roof Shingles is the only roofing being used.

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Notices continued from page 138

Goetz Hallenbeck & Goetze, Inc., San Francisco, Alameda, and Oakland, Calif., has announced the following appointments: Ildefonso Chamorro, AIA and Donald A. Neptune, AIA, senior associates; Will F. Harrison, Kuo-Ren Lin, Jadia D.J. Ng, Benard W. Savant, Terrence G. Schilling and David G. Stow, associates.

Richard L. Lang, Robert B. Lincoln, Fen Ching Ong and Robert L. Ratte have been named vice presidents of Lockwood Greene Engineers, Inc., New York City.

E. Fletcher Davis has been named director of urban and regional planning for Saunders-Thalden & Associates, Inc., St. Louis, Mo. Louis Bechtold has been appointed head of production in the landscape architectural division.

New addresses

LK & Associates, formerly Lay, Koski & Associates, are now at 594 West Ave., Tallmadge, Ohio 44278.

Alley Friends, 115 N. 34 Front and Vine, Philadelphia 19106.

M.L. Mitchell Associates Inc. and Mitchell/Ross-Worthy, 6406 Georgia Ave., N.W., Washington, D.C. 20012.

Howard Brandston Lighting Design Inc., 141 W. 24 St., New York City 10011.

Ellis/Naeyaert Associates, Inc., Warren Plaza, 30400 Van Dyke, Warren, Mich. 48093.

New firms

Wayne G. Carson, PE has formed Carson [continued on page 149]

Split Systems Reduce High And Low Voltage Problems With Flexible 187 To 264 Volt Operation

New Fedders Lodestone condensing units have heavy duty industrial type compressors with hermetic motors designed to operate from 184 volts to 264 volts. Compressors are automatically unloaded in direct response to changing load conditions to provide lower operating costs.

Matching air handlers 10 ton and larger are dual circuited to permit use of two condensing units for maximum flexibility and operating economy. A 24 volt control panel saves on control wiring and permits use of 24 volt room thermostat. Air handlers are available in either vertical or horizontal configurations.

Fedders Lodestone split systems are available in a wide range of capacities from $7\frac{1}{2}$ to 90 tons. For more complete information circle number shown below on Reader Service Card.

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Job mart

Situations open

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Architect: Architectural-engineering-construction firm located in central Maine seeks design oriented architect registered in state of Maine to participate in all phases of design and construction. Scope of work involves residential, commercial and industrial buildings. Send complete resume, references and salary requirements to: P. O. Box 1126, Bangor, Maine.

Architect: Established east coast architecturalengineering firm with annual volume of \$60 million in quality commercial/industrial practice seeks design partner. Unusual opportunity. Reply to Box #1361-695, Progressive Architecture.

Architect: International E/A firm with New York headquarters has need for registered architect with 12 to 16 years experience, strong background in design and basic talents and interest in project development to lead industrial/governmental building design division. Reply to Box #1361-696, Progressive Architecture.

Architect: Job captain required with production high-rise experience to assume number one position in new, aggressive architectural division of large, established A & E firm in north/central California. Salary range liberal, with full benefits. Respond in confidence. Reply to Box #1361-697, Progressive Architecture.

Architects: For positions in working drawings, project management and design. Many challenging projects in an office with highly qualified personnel in architecture and engineering. Location excellent in community of 300,000. Send resume or call Greg Slaybaugh, Daverman Associates, Architects and Engineers, 200 Monroe NW, Grand Rapids, Michigan 49502, (616) 451-3525.

Architectural Faculty Positions: To be filled September 1974. Expanding 2 year program emphasizing materials, working drawings and related mechanical structural technologies. Requirements: Bach. Arch., 5 yrs. experience. Registration desirable. Contact: James Shane, Head, Construction Dept., Ferris State College, Big Rapids, Michigan 49307. Phone (616) 796-9971 Ext. 209. An equal opportunity employer.

Architecture Librarian: For departmental library. Responsible for the acquisition, organization, and management of resource materials. Supervision of secretary/clerk and student assistants. Qualifications: M.L.S. degree and two years experience. Salary negotiable. An equal opportunity employer. Send resume, three letters of reference, and supporting documents to: John H. Spencer, Chairman, Department of Architecture, Hampton Institute, Hampton, Virginia 23668.

Designers: Major interior and industrial design firm is currently seeking designers with emphasis on non-residential and corporate abilities. Successful applicants who can speak Spanish may be assigned to expanding company office in Bogota, Colombia after initial orientation in Baltimore/Washington areas. Please forward resume (no phone calls) to my attention— Mr. John F. Walsh, The H. Chambers Company, 1010 North Charles Street, Baltimore, Maryland 21201.

District Architect: Our client is a longestablished international design, engineering, and construction firm involved in large industrial, commercial, medical, and civic projects. This position would include those responsibilities of Manager of Architecture and Master Planner. Reporting to the District Vice President, he conceptualizes, develops, and designs exterior and interior plans and selects architectural materials. He is instrumental in developing national architectural recognition for the firm. Qualified architects will have eight to ten years' applicable experience in one or more project areas. Attractive compensation package with an outstanding firm. Respond in confidence by telephone or resume, Mr. John H. Johnson, Jr., Billington, Fox & Ellis, Inc., Executive Recruitment Consultants, 20 North Wacker Drive, Chicago, Illinois 60606, Telephone: (312) 236-5000.

Project Architect: An architect with at least 5 years experience, some of which should be in medical facilities planning and design. This position requires the capability to demonstrate positive management responsibilities for a variety of projects. Excellent career potential and benefits. Send replies to Perkins & Will, 1828 L Street, N.W., Washington, D.C. 20036. EOE/MF.

Project Architect: Outstanding opportunity for right individual. Key position. Young, multidisciplined, growing, St. Louis firm. Exciting, diverse, architectural practice. Must excel in design and working drawings. Commitment to better environment and modern design essential. Individual with initiative and capability to assume substantial responsibility. Reply to Box #1361-698, Progressive Architecture.

Projects Managers/Architectural: Large, progressive total service-oriented architectural/engineering firm, Northeastern United States, seeking qualified projects managers —architectural, proven ability, leadership, management; thorough knowledge of design, construction processes. Educational requirements include architectural registration. Salary range upon request; benefits competitive. An equal opportunity employer. Send confidential resume. Reply to Box #1361-699, Progressive Architecture.

Projects Manager/Toronto: A design oriented, progressive firm engaged in architecture and planning, has an opening for a projects manager with proven operational and managerial experiences in North America to control and schedule all firm's projects through production phases. The position also involves supervision of project teams, coordination of engineering and other disciplines through to completion. Diversified practice involves highest quality cultural, institutional, educational and commercial projects. Please send confidential resume, references, including anticipated salary to: Moffat Moffat & Kinoshita, 55 Eglinton Avenue East, Toronto, Ontario, M4P 1G8, Canada.

Responsible Project Architect: With design background and 5 years experience needed by small diversified firm with design and production orientation in small western city. Salary beginning at \$15,000. Send resume, references and work examples with application. Reply to Box #1361-700, Progressive Architecture.

Site Planner/Landscape Architect: A design oriented site planner/landscape architect to be a part of the A/E project development team. A degree and 3-5 years experience desired. Excellent career potential and benefits. Send replies to Perkins & Will, 1828 L Street, N.W., Washington, D.C. 20036. EOE/MF.

Specification Writer: This position involves preparing architectural specifications using CSI and government formats and working with a computer master spec. An architectural degree and a minimum of 5 years experience is required, including some in hospitals and educational facilities. Excellent career potential and benefits. Send replies to Perkins & Will, 1828 L Street, N.W., Washington, D.C. 20036. EOE/MF.

Situations wanted

Architect: A.I.A., NCARB, registered in several states, seventeen years experience including five years in Europe. Strong architectural/engineering/construction/financial management background; interested in organization, client relations, consulting, coordination and of complex projects. Seeks affiliation or position with architect/engineer/developer. Prefer New York, New Jersey or Pennsylvania area but will also relocate for the right opportunity. Reply to Box #1361-682, Progressive Architecture.

Architect: A.I.A., NCARB certificate, multiple state registration, desires position in Palm Beach, Ft. Lauderdale, Fla. area with architect, engineer or developer. Over 25 years experience of diversified work including private practice. Design, office and project management, field supervision, meeting with [continued on page 150] Bally Walk-Ins belong where the first toast is to fine food and fashionable dining

Bally Walk-In Coolers and Freezers belong everywhere mass feeding takes place. They can be assembled in any size for indoor or outdoor use from standard panels insulated with four inches of foamed-in-place urethane, UL 25 low flame spread rated and Factory Mutual research approved. Choice of stainless steel, aluminum or galvanized. Easy to enlarge ... easy to relocate. Refrigeration systems from 35°F. cooling

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Notices continued from page 141

Associates, fire protection consultants, 3891 Fairfax Square, Fairfax, Va. 22030.

Richard C. Slingerland, RA, ARA and David L. Slingerland, RA, AIA have formed Slingerland Architects, 342 Madison Ave., New York City 10017.

Warren W. Calwil, AIA, 14 E. 38 St., New York City 10016.

Christopher Jaffe, Inc. and Hall-Thermotank, Ltd. have formed Jaffe Acoustics, Inc., 83 East Ave., Norwalk, Conn. 06851.

Martin Santini, AIA and Ami Tanel, PEPP have formed ECOPLAN, Inc., Hackensack, N.J.

Richard R. Gromm & Associates and Charles B. Hook have formed Gromm & Hook Architects, Inc., 514 Earth City Plaza, Earth City, Mo. 63045.

Thomas E. Lewis, Jr., AIA has formed Lewis Associates, Inc., 5750 Major Blvd., Orlando, Fla. 32805.

Victor D. Lewis, Jr. and Frank J. Clark have formed Lewis & Clark Architects, 114 State St., Bridgeport, Conn. 06604.

M. Richard Meyers, AIA, P.O. Box 1487, Aspen, Colo. 81611.

Myrus Associates, 111 Brampton Rd., Syracuse, N.Y. 13205.

Keith Parker, AIA and Jeff Krehbiel, AIA have formed Parker Krehbiel_Associates, 1021–1 E. Waterman, Wichita, Kan.

Mayer, Garfield, Gawron & Associates has been formed at 1740 Westwood Blvd., Los Angeles with principals Robert J. Mayer, AIA, Arne Ward Garfield, AIA and Thomas E. Gawron, ISP.

Garrett Eckbo, 1045 Sansome St., San Francisco, Calif. 94111. 25 To 110 Ton Package Air Cooled Chiller Design Reduces Length, Weight. Saves Up To 25% On Rigging Costs



The new Fedders Air Cooled Chillers are only $54\frac{1}{2}$ inches high and have reduced lengths of only 7' 10" for the 25 to 55 ton units and 15'8" for the 60 to 110 ton units. Because of this compact design, weights have been reduced as much as 41%. This unique engineering achievement means significant savings in cost of materials and labor for roof supports, parapets and rigging.

Compressors in these new air cooled chillers are automatically

308

unloaded in direct response to changing load conditions to provide lower operating costs. In addition these V-line compressors have hermetic motors designed for wide voltage range tolerances to avoid voltage fluctuation problems becoming ever more prevalent today, ie: 208/ 240 volt models range from 187V to 264V and 440/480 volt models range from 396V to 528V.

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3003:22

Edison, NJ 08817





Job mart continued from page 146

clients. Consultant liaison between architects and builders. Reply to Box #1361-701, Progressive Architecture.

Architect: Design oriented, NCARB, presently principle in firm, 16 years diversified experience including large scale university, health, municipal and urban renewal work. Accomplished in client relationship, programming, design, multiproject management and team coordination. Seeks responsible designcoordinator position with progressive firm. Will relocate for right opportunity. Reply to Box #1361-702, Progressive Architecture.

Architect: Executive V.P. manager of overseas and U.S. based offices of a large architectural and engineering firm desires a change and new challenge after 16 years of faithful service. Age 46, happily married, resume and excellent references upon request. All replies will be answered. Reply to Box #1361-703, Progressive Architecture.

Architect: Currently partner in medium size AE firm; over twenty years varied experience; present emphasis on client relations, project management, programing; NCARB; wish to relocate with business oriented firm producing high quality people and environmentally oriented architecture; prefer Northern West Coast or Southern Piedmont area; Reply to Box #1361-704, Progressive Architecture Architect: NCARB, M. Arch. (M.I.T.), 36, family. 12 years experience all phases of practice and most building types. Strong in design, client contact and production. Interested in doing significant design in medium size office or design-build firm. Prefer Midwest. Must have partnership potential. Reply to Box #1361-705, Progressive Architecture.

Architect: NCARB, Illinois registration, M. Arch., 16 years experience with leading design firms. Presently in charge of design and produciton in small office. Would like to relocate in S.E. or N.E. and assume design responsibility with progressive team. Resume on request. Reply to Box #1361-706, Progressive Architecture.

Architect: Registered, 31, family, two years diversified office experience, three years comprehensive experience in design-build concept as manager of a western development firm. Desires responsible position with a development company or architectural office involved in the design-build concept. Presently employed, seeking change. Reply to Box #1361-707, Progressive Architecture.

Architect/Designer: Registered in Maryland and D.C., AIA and NCARB, 10 years diversified experience in all phases of architecture w/Eastern firms as designer and project architect. Seeking challenging, responsible position with architectural firm, corporation or company in Denver, Boulder Colorado area. Resume available. Reply to Box #1361-672, Progressive Architecture.

Architect/Facilities Planner: With heavy experience in programming judicial, academic and municipal facilities. Some corporate and office building planning as well. Available on long or short term project basis. Free to travel. Resume and references on request. Reply to Box #1361-708, Progressive Architecture.

Director of Technical Services: Architect, AIA, NCARB. 14 years experience in all phases of contemporary practice including principal in own firm, and in senior corporate administrative and management positions. Desire responsible position with progressive, growth oriented real estate developer/builder. Reply to Box #1361-709, Progressive Architecture.

Graduate Architect: B. Arch. completing military duty June 28, 1974. Four years U.S. Air Force experience in civil engineering/ heavy repair (Red Horse), rank Captain. Seeking challenging design position. Hard working individual capable of client association and assuming responsibility. Age 27, married, one child. Prefer Northwest coast region. Reply to Box #1361-710, Progressive Architecture.

Interior Designer: Draftsman, 34, married, 2 children. 8 years experience with large architectural and interior firms. Specializing

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The 22nd P/A awards competition will be open, as before, to all U.S. and Canadian architects and related professionals engaged by actual clients for the design of built environments. Submissions will be accepted in three major categories: architecture, urban design, and applied research. Jurors for this year's program and detailed entry requirements will be published in the July P/A.

Deadline for submissions will be August 31,1974

Progressive Architecture 600 Summer Street, Stamford, Connecticut 06904

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in commercial interiors, hotels and restaurants. Experience in client contacts, job supervision, interior layouts, detailed working drawings, graphics. Seeking responsible position abroad or west coast. Fluent in 2 foreign languages. Reply to Box #1361-711, Progressive Architecture.

Teaching Position Desired: Architect, 37, individual practice since 1971 desires teaching position design-graphics, related technical subjects in architectural school at university level. Registered Washington state, NCARB, Bachelor Architecture, Bachelor secondary education. Teaching experience community college level, architectural design-graphics, statics, estimating, specifications. Please contact Charles D. Coffinger, 10701 Hillterrace Dr. S.W., Tacoca, Washington 98498.

Vice-President/Director of Architecture: For architectural, engineering and development firm. Wisconsin, Minnesota, Michigan, registrations, NCARB pending, AIA, Bachelor Architecture, married, 6 plus years experience residential, institutional and commercial projects. Design oriented. Seeking similar position with West Coast or Florida firm. Resume and portfolio available. Reply to Box #1361-712, Progressive Architecture.

Architectural services

Affiliation: Progressive midwest architectural, planning, engineering, construction management firm specializing in Voc-Tech facilities, government facilities, government centers, and police facilities wishes to joint venture with local architectural firms to pursue and carry out projects. Excellent credentials, awards, experience. Reply to Box #1361-713, Progressive Architecture.

Career Builders, Inc., Agency: Ruth Hirsch has specialized in Architectural placement for fifteen years, serving architects, corporations, planners, developers and interior firms. She reviews portfolios, professionally interviews designers, project architects, managers and juniors for available openings. Executive searches and personnel consultations are available to employers. Career Builders, Inc. (Agency), 501 Madison Ave., N.Y., N.Y. 10022. (212) 752-7640.

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Rendering/Illustration: Established studio (15 years) with experience and virtuosity of staff to accept any commission. Opaque tempera color unless other treatment preferred. Hand lettered or Pres-Type titles (by request). Display quality color or black and white photo reproduction service available. Lydia Welch: Ralph Johnson Associates, Box 17543, Raleigh, N.C., 27609, (919) 782-2033.

RitaSue Siegel Agency: Ms. Woody Gibson introduces people with superior skills in architecture, interior, landscape, urban design, planning, programming and management to our consultant and corporate clients seeking genuine problem solvers throughout the U. S. A. RitaSue Siegel identifies and evaluates industrial and graphic designers. You are invited to submit resumes in confidence. Our clients pay all fees. 60 W. 55th St., N. Y. C. 10019, (212) 586-4750.



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It takes a minimum of labor to install the Series 100 the quick and simple "snap-tab" way. This means economy in a narrowlyspaced fascia panel.

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for use as vertical or mansard fascia, spandrels, and interior and exterior wall accents.

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If you're looking into the use of plastic glazing, here are some things to think about.



The use of plastics in construction is growing every day, particularly in windows and walls. Plastics are also being used to protect or fabricate

frames and exterior wall components. Acrylic and polycarbonate sheet now qualify for use for safety glazing.

Plastics offer many advantages, such as light weight, durability, reasonable cost and handsome appearance. But they also offer special glazing problems that we — Tremco can help you solve.

Pre-specification checkpoints.

Before you specify plastic glazing and frame components, you need to know the physical properties and performance characteristics of the plastic.

Many sealants that you can use with glass can't be used with plastic. Sealants must be compatible with each other and the plastic.

Plastic has much greater thermal expansion than glass, wood or metal. So you have to allow for greater movement, especially when you consider that building exteriors are subject to temperature changes ranging over 100°F. in minutes.

Plastics create new tolerance demands

ment factors. A glazing system for plastic must allow for additional movement, and also be highly adhesive, unaffected by ul-

because of their move-

traviolet and permanently elastic even at low temperatures.

Designing the sash.

In general, plastic sheets need more "bite" than glass so the sash rabbet must be deeper. The depth and width requirements of the rabbet are determined by the type, thickness and windload requirement of the plastic sheet. Check the manufacturer's recommendation for maximum size limitations.

At this point, it's a good idea to talk to your Tremco man. With his experience, he can recommend the right sealing systems to secure the sheet into the rabbet and to seal the sheet perimeter. He can also check for sealant compatibility and adhesion, especially important on sheets with special coatings.

Glazing methods will vary according to the maximum sash opening, or long dimension.

Shown here are three methods of glazing acrylic or polycarbonate plastic along with the recommended Tremco products. Each method is based on the long dimension. If the long dimension is over 72 inches, you should dis-



Maximum sash opening up to 36 inches.



Maximum sash opening 48 to 72 inches.

cuss the installation with your Tremco man and get his recommendations.

Extra technical assistance.

Remember, your Tremco man will be happy to meet with you to discuss the use of plastic



Maximum sash opening 36 to 48 inches.

glazing anytime. While you're still in the thinking stage, at the drawing board or when you're making specific recommendations.

Although the use of plastics is relatively new, he can draw on the experience of a company that's been solving all kinds of glazing and sealant problems for more than 45 years.

We have some 15 basic job-proven sealants to choose from, such as MONO[®], Polyshim[®] tape and Lasto-Meric[®], as well as compression gaskets. You may also have use for our unique TREMproof[®] waterproofing systems and Tremline roof edging systems.

So talk to Tremco first. And avoid problems with plastic glazing later. Just contact your Tremco rep. Or write Tremco, Cleveland, Ohio 44104, or Toronto, Ontario M4H 1G7.



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