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Cover: Suzy Thomas

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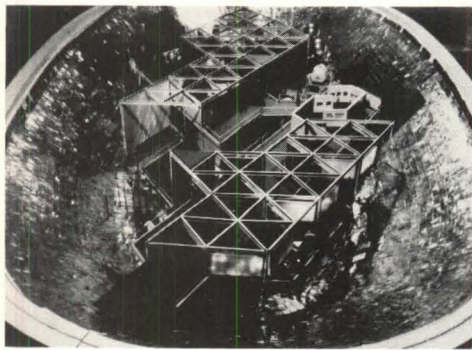
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Architectural Firm Award Goes to Davis, Brody & Associates of New York

The New York City-based architectural firm of Davis, Brody & Associates will receive the architectural firm award for 1975, the highest honor that the Institute can bestow upon a firm. The award is given for the continuing collaboration of a firm's individual members in the creation of consistently distinguished architecture.

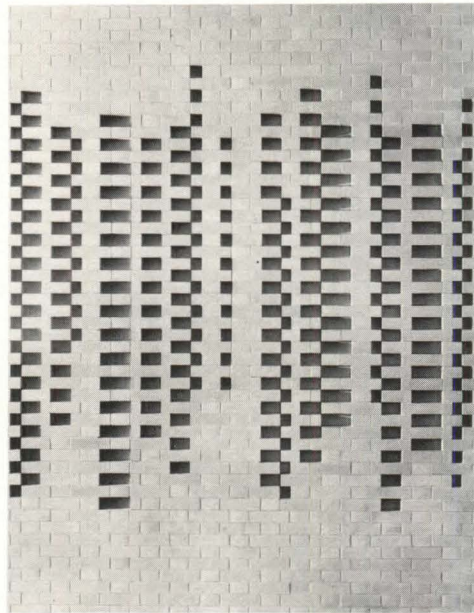
Founded in the early 1950s, Davis, Brody & Associates has conducted a diversified practice that has included the design of a wide variety of structures and complexes, ranging from small suburban banks to large-scale campuses. At the same time, the firm has responded to so-



ciety's needs by its specialization in subsidized housing projects. In addition to its work in the New York area and the Northeast, it has designed projects as far away as Osaka, Japan, where, as part of a joint venture design team, it helped create the U.S. Pavilion for Expo '70.

The 30-member firm is headed by three partners: Lewis Davis, FAIA; Samuel Brody, FAIA, and Alan Schwartzman, AIA. A consistent winner of awards over the past 20 years, the firm has received three national honor awards from the AIA: one in 1968 for the Humanities and Social Science Center, Brooklyn Center, Long Island University, and two in 1971 for the U.S. Pavilion at Expo '70 and for a manufacturing facility for Estee Lauder, Inc., Melville, N.Y.

The award will be presented at the annual convention of the AIA in Atlanta in May.



AIA Awards 1975 Fine Arts Medal to Josef Albers

"No other artist in the 20th century has so consistently returned to themes so rich in meaning to the art of architecture," said the jury on Institute honors of Josef Albers in announcing that he had been selected to receive the AIA's fine arts medal for 1975.

A native of Bottrop, Germany, who studied and taught at the Bauhaus in Weimar, Albers emigrated to this country in 1933, teaching at Black Mountain College in North Carolina and later at Yale University, where he became chairman of the department of architecture and design. It was at Yale that he began the creation of his celebrated series of paintings and lithographs titled "Homage to the Square."

A versatile artist, Albers was praised by the jury for "his exhaustive experiments in line, color and form" that have "opened new vistas of perceptual meaning which allow us to see the world around us in richer detail. He has found many opportunities to apply, in an architectural context, his exceptional gift for translating art into the materials of architecture; through his imagination brick, glass and marble find new life and expression."

Albers' works include a brick mural

titled "America," which is located in the lounge of the Graduate Center, Harvard University; an altar window for a private chapel of the Benedictine Abbey of St. John, Collegeville, Minn.; a glass and bronze mural in the Time-Life Building in New York City, and a laminated plastic mural in the Pan American Airways Building, also in Manhattan.

Boston Lawyer, California Lithographers Honored

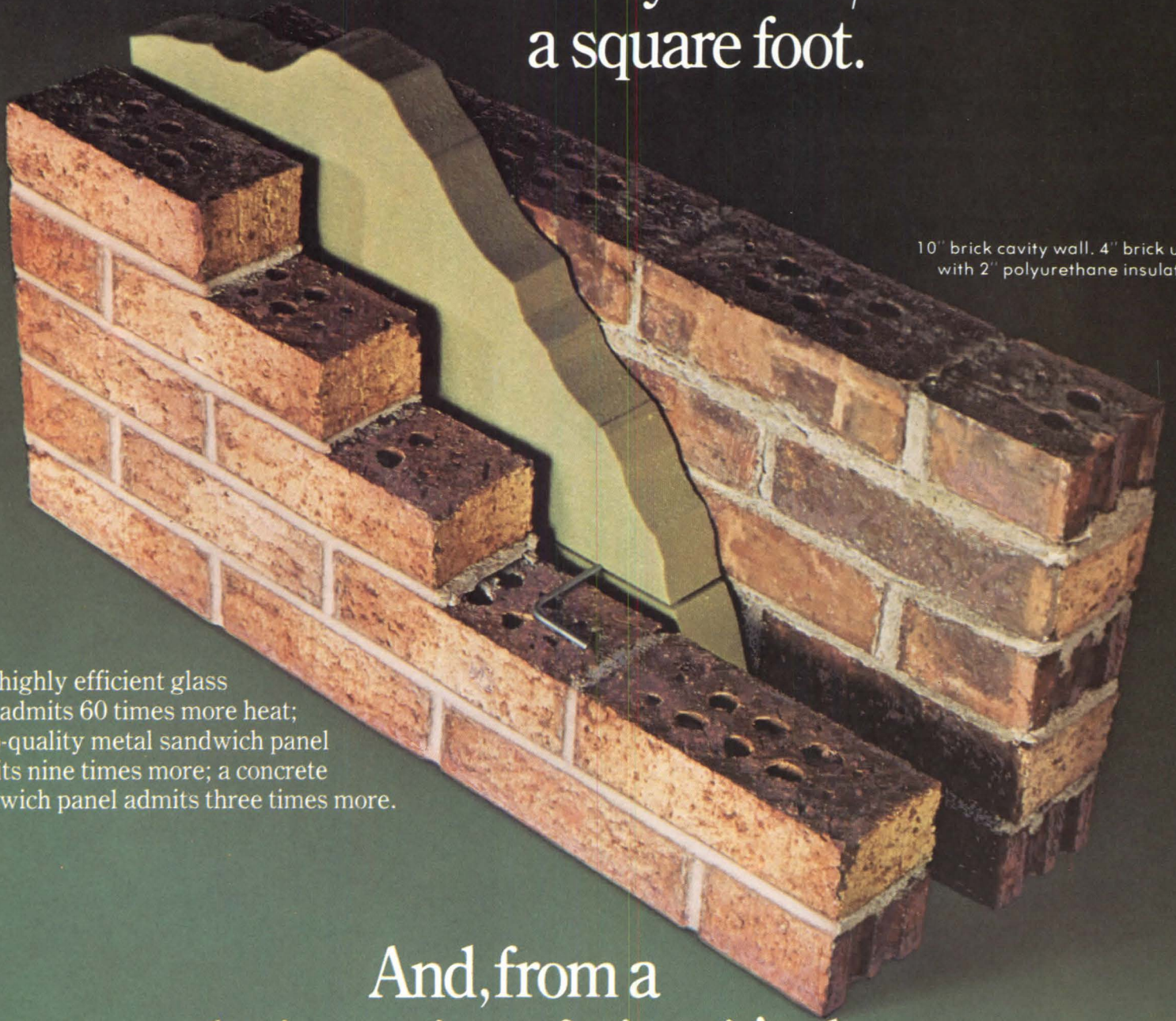
The AIA's allied professions medal is usually given to honor achievement in a design profession related to architecture, such as landscape architecture or engineering. The 1975 medal, however, recognizes achievement in a nondesign profession, going to Boston attorney Carl M. Sapers. He is honored for legal work that "has made a much needed contribution to architecture," says the jury on Institute honors. This work "has opened avenues for closer, more creative connections between architects and lawyers, and the flexibility of his thinking carries this connection far beyond the matters of contracts and documents."

An associate and partner in the law firm of Hill & Barlow, Sapers has worked for more than 50 architectural firms as both general and special counsel. Many of the firm's clients have pioneered in new forms of practice and management techniques, and the firm has assisted in the legal aspects of design/build teams, construction management and industrialized building.

In addition to his work with individual firms, Sapers has served as counsel to the Boston Society of Architects and the Massachusetts State Association of Architects. He has been general counsel to the National Council of Architectural Registration Boards since 1968, and as principal draftsman of its Legislative Guidelines, he figured prominently in the revisions of many state registration laws. He has served also as special counsel to many state AIA component organizations in connection with the revision of state architectural registration laws.

The award will be presented to Sapers

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at the AIA convention in Atlanta in May. At the same time, a Los Angeles lithography firm, Gemini GEL, will be presented the AIA's industrial arts medal. Founded in 1966, Gemini GEL "has fostered an atmosphere of creative collaboration among artists, designers and craftsmen, which has led to a valuable interaction and collaboration with the art community," says the jury on Institute honors.

The firm has attained an enviable reputation for the technical excellence of its lithography, having executed many difficult printing tasks for contemporary artists. The jury cited the firm for its "unparalleled" technical assistance and for its research and development of new printing techniques and materials which have extended the range of lithography in contemporary art.

Rubber Barriers Proposed For Venice Flood Tides

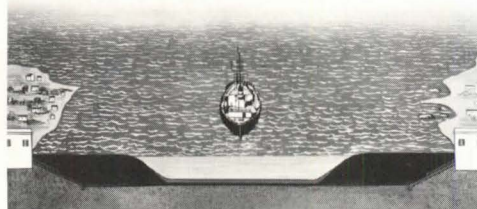
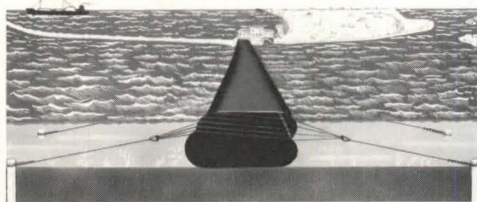
A computer-operated system of flexible rubber barriers that look somewhat like gigantic hot water bottles is proposed as a solution to the devastating tides that have engulfed Venice more than 30 times since 1960. What the Italians call "aqua alta" comes in over the incomparable Piazza San Marco and the city's historic buildings doing great damage.

A joint venture by Pirelli, the rubber and cables company, and Furlanis, a maritime construction firm, proposes a way to halt the destructive floods without marring the city's beauty or interfering with maritime activities and the normal life of the city. Designed by Professor Arturo Colamussi of the University of Bologna, the rubber barriers are hailed by Pirelli/Furlanis as a "totally effective solution to the heartbreaking problem."

The Pirelli/Furlanis solution involves the use of flexible rubber dams, which would lie submerged on the sea bed when not in use and then, on the command of a computer, automatically inflate with water, rising to the surface to form a barrier for the protection of the city from high tides and waves.

The phenomenon of tides/waves—rare in the past—has occurred with increasing frequency in recent years. It is attributed to three causes: the natural sinking of the soil; a gradual rising of sea level; and the lowered hydraulic resistance of the channels connecting the Venice Lagoon to the sea.

Officials and interested groups have insisted that certain conditions be met by any solution to the problem: The ecological balance in the waters of the canals and the lagoon must be assured; the port's activity must not be jeopardized; installation and maintenance costs must be kept to a minimum; the landscape must not be



altered, and the scheme must be capable of being put into effect quickly because the problem becomes more urgent daily.

The Pirelli/Furlanis experts claim that their solution meets these conditions. The rubber barriers, consisting mainly of a thin polyester tube, would be placed in Venice's three channels. The largest, for the Lido channel, would be 1,000 yards long, 50 feet high, 100 feet wide and weigh 800 tons.

Each barrier would be anchored to concrete pylons driven into the sea bed 40 to 50 feet apart, and a specially developed linkage unit would allow the barriers to rise and fall and to move in any direction in order to absorb the forces of waves.

The dam system would be linked to a programmed computer. When the bad weather alarm is triggered by the computer, a high-speed turbine pumping station at each end of the barrier would fill the tubes with the appropriate amount of water. The barriers would rise to the necessary height to repel the waves, depending upon the amount of water pumped in. If the weather became severe, the entire barrier would rise and seal the city off from the sea.

After the crisis, the turbine pumps

would empty the tubes, allowing them to drop to the sea bed. Passage of ships would be possible in any situation because of a 650-foot gap in the center of each barrier.

Pirelli/Furlanis report that a "baby dam" was recently installed at the mouth of one of Venice's lagoons and that it will be tested by experts to study its response to strong currents.

Over the past eight years, there have been countless debates on how to protect the city, and many solutions have been proposed. Whether the Pirelli/Furlanis proposal will be accepted, even if the test is successful, is anyone's guess. But it just may be the one solution that has a chance of approval by everyone involved, including art and preservation groups, as well as agricultural and shipping interests.

Teachers' Seminar to Deal With Women, Minorities

The theme of the 19th annual Association of Collegiate Schools of Architecture/AIA teachers' seminar is "Women and Minorities in Environmental Design." To be held in Lincoln, Neb., on Mar. 23-28, the seminar will shift from the University of Nebraska's school of architecture to the state capitol (designed by Bertram Goodhue) to the Lincoln Hilton Hotel.

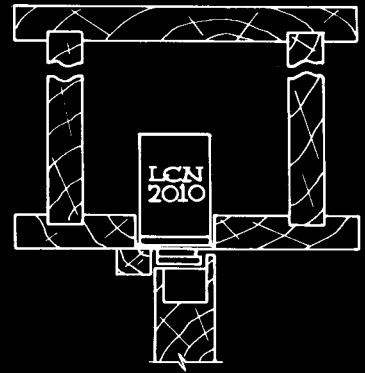
Supported by the National Endowment for the Arts, AIA and the Nebraska State Council for the Arts, the seminar will focus on the skills, attitudes and concerns of minority groups and of women in the professions of environmental design and on the educational systems that prepare these professionals.

Among the invited workshop leaders and speakers are Sherry Kafka Wagner, author and planning consultant; Gretchen Minnhaar, AIA, a member of the AIA task force on the future of the Institute; Robbie Arnett, researcher on women in architecture; Robert Coles, AIA, deputy vice president for minority affairs at the Institute; Margot Seigal, AIA; Sandra Moore, University of Wisconsin faculty;

continued on page 10

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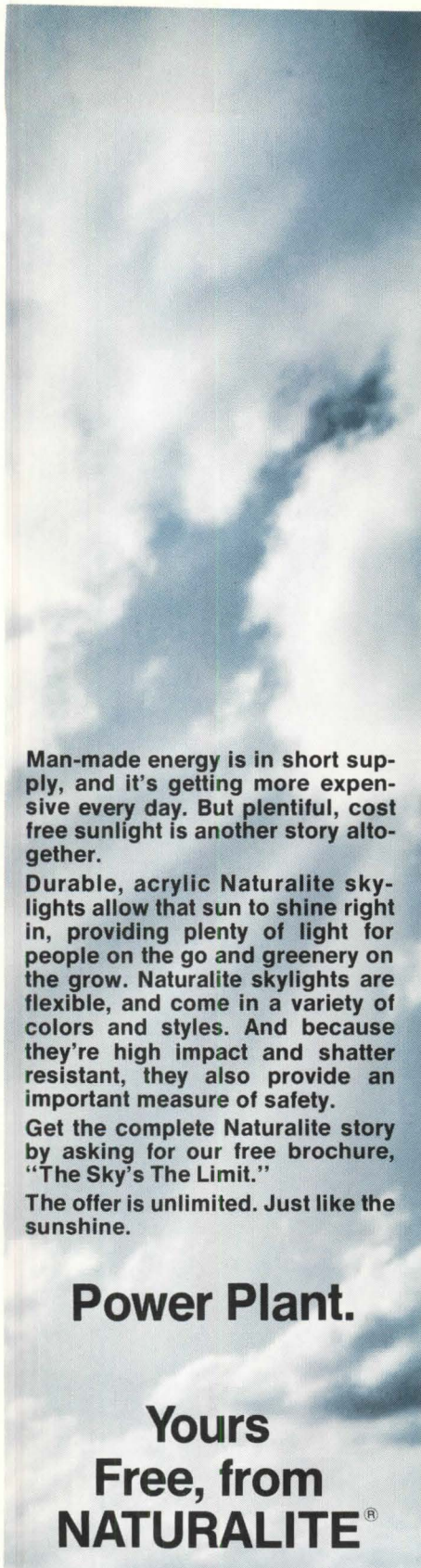
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going on from page 6

Walter Meisen, acting commissioner of public buildings, General Services Administration, and Dr. Virginia Trotter of the Department of Health, Education and Welfare's office of education.

For complete information, write ACSA, 1735 New York Ave., N.W., Washington, D.C. 20006; (202) 785-2324.

Conference Scheduled on Tall Building Response

Plans are being made by the AIA and the Joint Committee on Tall Buildings to hold a research seminar in Chicago in mid-1975 on the theme of "Human Response to Tall Buildings." JCTB is an organization of architectural and engineering associations, including the AIA, under whose sponsorship a number of conferences have been held in recent years in many parts of the world.

The purpose of the seminar, which will serve as AIA's 10th architectural research conference, is to stimulate and report on research in the area of user needs in relation to highrise structures. The symposium will discuss such questions as: What are the social and psychological impacts of tall buildings on inhabitants and on people in the immediate neighborhood? How do tall buildings affect the successful functioning of persons housed in them? What research should be done to assess, measure and understand human response to highrise buildings?

Discussions by researchers and practitioners in design professions and the social sciences will focus on interdisciplinary problems in order that all may share new knowledge and help identify future research needs.

A call for papers has been extended, with the expectation that full papers will have been prepared by April 15.

Those who are interested in attending the conference may write to Don Conway, AIA, director of research programs, at AIA headquarters.

Energy Standard Revised

The American Society of Heating, Refrigerating and Air-Conditioning Engineers' standard committee has issued a second review of proposed Standard 90P, "Energy Conservation in New Building Design" (formerly called "Design Evaluation Criteria for Energy Conservation in New Buildings"). The revision takes into account comments that were submitted regarding the first proposal. The new revision, says ASHRAE, "attempts to resolve the various questions raised while trying to provide accurate and repeatable technical data." Comments on the revision of 90P will be accepted until Feb. 24, 1975.

A position statement developed by the AIA energy steering committee opposed ASHRAE's first standard as "prescriptive" (see Oct. '74, p. 10).

In a statement by ASHRAE President David Rickelton about the revision of 90P, he said that the first standard received "some favorable comments . . . and some attacks." He said that the proposed standard is a draft and that the final document "will reflect many changes," taking into account the opinions of architects, engineers, contractors and others who are concerned. "When 90P is finalized," said Rickelton, "it is not intended to stand for all time. It will be a living document, and will be amended as we go along, in accordance with the nation's experience with it."

A copy of the proposed standard may be obtained from ASHRAE, 345 E. 47th St., New York, N.Y. 10017. The price of the document is \$5.

Thermal Standards Issued For Windows, Doors

The Architectural Aluminum Manufacturers Association has made available standard performance test procedures and application guidelines for "thermalized" windows and sliding glass doors. AAMA spokesmen say that this is the first time that architects, builders, manufacturers and government groups will have nationally recognized standards for the voluntary rating of the thermal performance of windows and sliding glass doors under various conditions of temperature and humidity.

Testing according to the new standards will be completed at AAMA test facilities, where products will be rated with a "thermal factor," which is a composite rating obtained from temperatures of various parts of window or door under standard test conditions of 68 degrees F inside temperature, 18 degrees F outside temperature and 15 mph wind velocity. After the thermal factor has been determined, the performance of a product can be predicted for any other set of climate conditions.

The new standard may be requested by letterhead from AAMA, 35 E. Wacker Drive, Chicago, Ill. 60601.

Mississippi School Opens

The only school of architecture in the state of Mississippi will be dedicated in ceremonies scheduled for Feb. 28 and Mar. 1 at Mississippi State University, State College, Miss. Among the speakers for the occasion will be William Marshall Jr., FAIA, president of the Institute; Governor William Waller; William Giles, president of MSU, and Don Schlegel,

continued on page 15

Owner Tests Heat Recovery Concepts for Five Similar Office Buildings in a \$13.1-Million Prototype

It is rare indeed for designers of big commercial buildings to do more than one of a kind. Here is a case where the architects and engineers had the opportunity to prove their ideas in a working building before going on to four others just like it.

Woodbury, N.Y. At the upcoming dedication ceremonies for the brand new GEICO office building in Macon, Georgia, some honored guests may be mildly troubled by sensations of *déjà vu*. The vague feeling will persist that they have seen the 250,000-square foot, five-level office structure with its three distinctive outrigger towers someplace before. But where?

The answer to that future enigma should it occur is right here on Long Island. Woodbury is the site of the first of five regional office buildings being erected by the company in major geographical sections of the U.S. Uniquely structured for the firm's special type of business and featuring an energy-conserving electric HVAC system, the Woodbury prototype is the work of the architects and engineers of The Kling Partnership. The same design team went on to do the Macon installation, putting them in the unusual position of being able to "second guess" their own work. While outwardly identical to the prototype, the second building includes beneath the surface some benefits stemming from experience with the first.

Serving the Civil Servant. Begun almost 40 years ago, GEICO (for Government Employees Insurance Company) originally limited its services to the select group for which it was named. Its special marketing plan was to keep premiums down by insuring only preferred risks and by selling through direct mail rather than commissioned agents. The firm has since broadened beyond its governmental orientation because it found that, thanks to computers, it can predict the risks inherent in insuring a



Attractively planted courtyard in Woodbury leads to main entrance on second floor.

particular driver on the basis of his own driving record. In the past, reliable driver data were lacking. Occupation was a handy criterion that usually correlated with potential risk.

Its broadened market enabled GEICO to hit the big time. It is now the fourth largest publicly held auto insurer with more than two million policy holders and \$½-billion annually in premium income. Its growth rate has been about 16 percent yearly, roughly twice that of the rest of the industry.

By 1970 the press of increasing business began to strain GEICO's operational setup consisting of scores of local branches feeding record information back to a central data bank in the Chevy Chase, Md. home office. The mounting pressure prompted management to embark on a decentralization program, an essential part of which is the construction of the five regional buildings. Regionalization should also help the firm widen its geographical base. Nearly 80 percent of its business is currently east of the Mississippi.

Steady Employment. "The GEICO assignment is a designer's dream," says

Robert Morrison of Kling's architectural division. "If he had a chance to start one of his buildings over again, every designer would do things at least a little differently. But when he specializes in big buildings his jobs are almost always one of a kind. With the opportunity to be involved in as many as five, we are fascinated to watch how the basic design evolves from job to job."

The Woodbury prototype is set on 21 acres amid a mix of farm properties and expensive suburban residences. Completed in late 1972 at a cost exceeding \$13 million, the building is enclosed in earthy toned brick and bronze-tinted glass. There are four floors of office space plus a basement which houses all of the basic supporting services such as the employees' cafeteria and kitchen, mail and printing departments, storage spaces, and mechanical, electrical and telephone equipment rooms.

Inclined to Save. The building is presently L-shaped, partially enclosing the entrance court. A 150,000-square foot wing to be added in a second phase of construction will enclose the court on a third side and the building will take the

* One of a series of reports giving recognition to the efforts of architects and engineers on behalf of resource conservation. Circle 8 on information card

An idle chiller gives visible testimony to the effectiveness of conservation measures devised for the closed-loop HVAC system by the building's operating staff.

form of a U. The open end of the plaza leads directly to an employee parking lot for 1000 cars.

The center portion of the plaza has been graded to form a gentle slope between the second level of the building and the parking area. The mounded earth is well planted and appears to be a landscaper's ploy to relieve the otherwise flat terrain surrounding the building. Not entirely, says architect Morrison. "That gentle slope you see represents a considerable saving in elevator kilowatt hours. It enabled us to put the main entrance on the second floor midpoint and, thus, encourage people to use the stairs. Any level of the building can be reached easily by climbing at most two flights up or two flights down. If it had to, this building could survive as a 'walk-up'."

Shifted Shafts. In writing the design guidelines for the work environment, GEICO management showed commendable concern for the psychological well-being of rank and file employees. Most particularly, the departments where repetitive clerical routines are performed were to be as unconfined as possible. The architects responded with comfortable and spacious work areas having an open feeling created by the window walls. So-called general offices were run right out to these walls; only two private executive offices of modest size have favored window positions.

A major innovation made to achieve openness is the strategic breakup of those services that are usually concentrated in a solid core built dead center. Three curving brick towers extend out from the building at intervals along the perimeter. These outboard "cores" contain elevator shafts, stairwells, restrooms and telephone and electrical closets. Pay telephones and vending machines for cold drinks, candy, cigarettes, etc. are also located there. Penthouses above the towers are for miscellaneous mechanical equipment such as ventilation fans, heat recovery wheels and evaporative coolers. Two additional cores will be erected when expansion plans materialize.

Structurally the steel-framed building is made up of 24-foot modules to keep interior columns few in number. While openness was the objective, it was achieved without any suggestion of bareness. Color-coordinated furnishings and equipment, an occasional short length of seven-foot-high divider panel, a sprinkling of original works by local Long Island artists are some of the elements that draw attention from the dimensional vastness of the interiors.

Floor Flaws. In translating the Woodbury experience to Macon, the major architectural change found necessary was, surprisingly, in the floors. A completely different floor system was installed to accommodate some unanticipated shifts in operating methods.

In the past decade or so the insurance industry, like some others, has become what has been described as "electronics-intensive." Telephone communications and, especially, electronic data processing have become so integrated with day-to-day operations that an insurance company of today would find it nearly



Architect Robert Morrison found that even in duplicating a building design there is still plenty of room left for innovation.

impossible to function without them. In terms of building design this situation has put new emphasis on electrical wiring systems. For them, flexibility has become the essential specification.

GEICO, because of its special marketing approach, may be even more electronics-intensive than others in its field. "We were aware of this, of course," says Kling electrical engineer Ronald L. Wilkins. "We knew we had to make provisions to permit wiring changes when work stations are moved, new equipment added, systems upgraded, etc. So we imbedded what we thought was a generous network of wire and cable ducts in the floor slabs. When a work station had to be added or relocated, for example, the building people could activate it handily by threading the ducts with the wires needed for telephones, electrical outlets, intercoms or whatever."

Santa's No Help. The designers' foresight worked out well in Woodbury—up to a point. But then the building's wiring requirements jumped suddenly beyond what had been anticipated. A number of factors contributed to the jump. On one end of the scale of events was the introduction of circuit chips and liquid crystals into the consumer electronics market a few Christmases ago. Soon after, miniature calculators became a popular gift item, they began to appear on staffers' desks and are now regarded as an everyday office tool. "We have to activate (provide electric outlets for) 85 percent of the desks."

Further up the scale of importance was the decision to provide direct access to computer-stored policy information to the large group of employees who handle phone calls from customers. By means of a CRT screen (much like a portable TV set) installed on his desk a Woodbury staffer can in seconds query the central data bank in Chevy Chase



Three existing outboard "cores" will be joined by two more when new wing is added.



Electrical engineer Ronald L. Wilkins recommends a different kind of floor system when a business is electronics intensive.

for a visual display of the records of any policyholder. The CRT units involve extensive cabling.

Learning from the Woodbury experience, the designers went on to provide Macon with almost unlimited wiring capability. Their approach was to raise the finished floor surfaces five inches above the slabs. The result is that the entire space between floor and slab functions as a raceway. Floors are made up of two-by-two-foot steel plates, stiffened by a bridge-like under-structure and surfaced with carpet, which are supported by vertical pins. Floor-plates can be lifted out for access to the raceway beneath them.

Energy Conservation. The engineers selected an electric heat recovery HVAC system to maintain a comfortable inside environment year around. A number of elements were considered in the choice including cost, ease of maintenance and adaptability for zoning. A primary aim was to optimize energy consumption. Another was to avoid the discharge of combustion products which might be objectionable to the surrounding residential communities.

The system employs electric water-to-air heat pumps working into a closed loop of circulating water, plus an arrangement of four heat wheels in the exhaust and inlet passages. In office buildings of this type, cooling of interior spaces and heating of perimeter spaces are often needed simultaneously. As in any heat recovery application the design objective here was to salvage heat that would normally be wasted and reuse it elsewhere.

The major portions of the building, both interior and perimeter, are served by a total of 185 ceiling-mounted heat pump units rated at three and four tons. Each operates independently of the others and can be on heating or cooling at any time regardless of what is



HVAC engineer Howard Shaner prefers the sort of heat recovery system that lets a person keep his two feet on the ground.

happening in the rest of the system. In the cooler months the system removes excess heat from the interior zones and, by the medium of the water circulating in the pipes connecting the heat pumps, makes it immediately available for use at the perimeter.

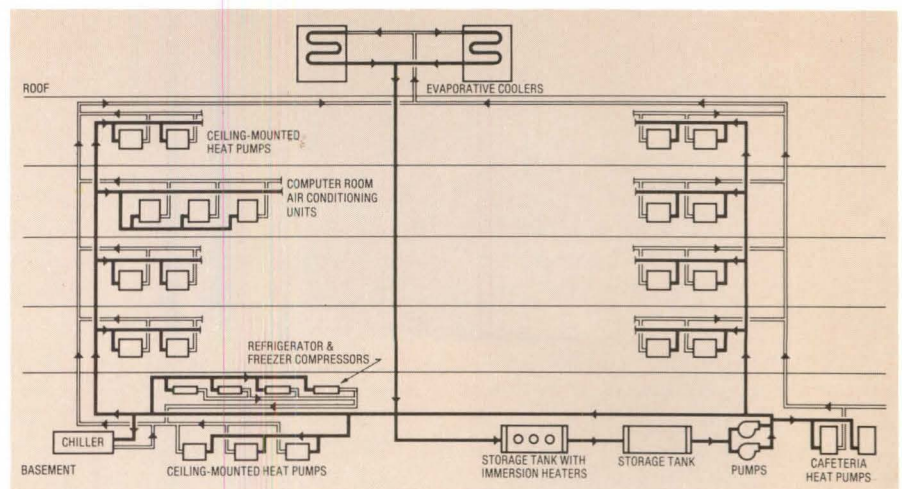
Each heat pump unit is controlled from a space thermostat with automatic changeover from heating to cooling and vice versa. Interior zone thermostats are preset for a 68F to 76F deadband which permits reduced compressor operation without significantly affecting the comfort of the occupants. Had



GEICO administrative engineer Michael Lucas had some misgivings when he abandoned the financial district for suburbia.

thermostats in these areas been set at a fixed 68F, compressors would be operated almost continuously—on heating or cooling—with higher energy consumption. The wide deadband also precludes the possibility of adjacent units “fighting” one another, e.g. one attempting to cool while its neighbor is trying to heat the same space.

During winter the heat wheels recover up to 80 percent of the heat content of the air exhausted from the building and use it to preheat the ventilation air being brought into the building. In summer, when the exhaust air is

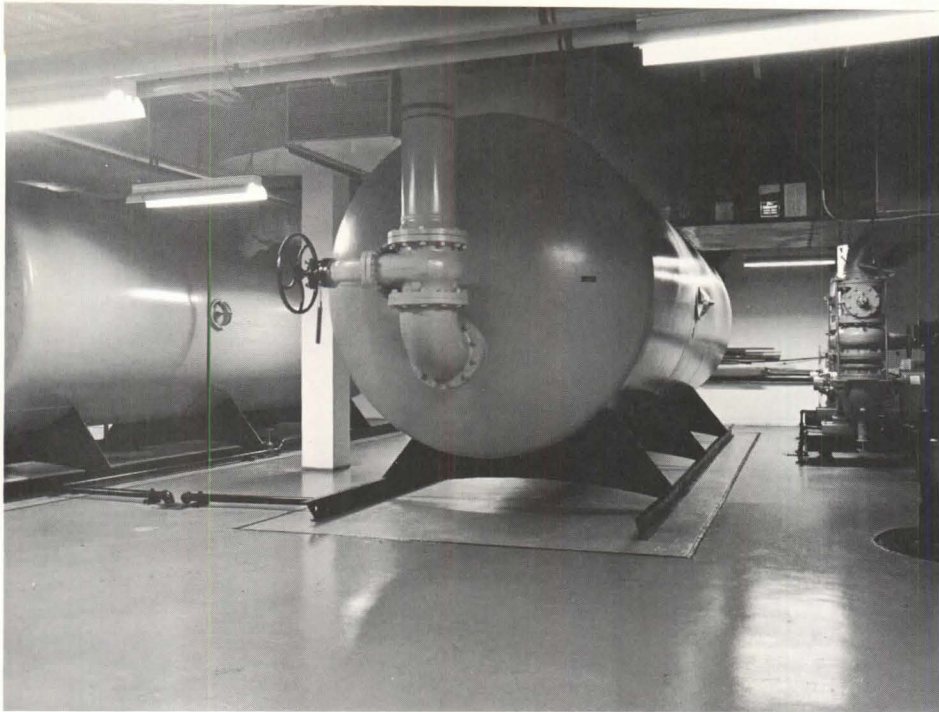


HEAT RECOVERY WATER LOOP

This flow diagram points up the wide extent to which the closed loop of circulating water is used for recovering heat from many sources in the GEICO building. The bulk of the connections are made, of course, to the 185 ceiling-mounted heat pump units distributed throughout the general office areas. Some other spaces require special refrigeration and air conditioning considerations. The equipment serving those areas was selected for compatibility with the overall energy conservation concept.

All units are water cooled and, as indicated, on the flow diagram, have their condensers connected into the heat pump water loop. The special areas and the equipment serving them are: computer room with three 16-ton packaged air conditioning units; kitchen/cafeteria with air handlers and a 125-ton centrifugal chiller; and the food storage area with five compressors for walk-in freezers and refrigerators.

Excess heat generated during the day is stored in the two 10,000-gallon tanks which are part of the loop. The stored heat is available for use at night, supplemented by three 90-kw immersion heaters installed in one of the tanks. The temperature of the condenser water loop is maintained between 70F (winter low) and 92F (summer high). Below 70F the immersion heaters are energized and above 92F the evaporative coolers are gradually phased into operation.



Photography by Otto Balitz

Any recovered heat not needed immediately is stored in these tanks for use later.

cooler than the outside air, the wheels serve as precoolers.

Broadway Bound. In a theatrical sense the producers of the GEICO buildings had the chance to try the HVAC system out of town before bringing it into Macon for a long run. Did the script require any doctoring on the road? "We did indeed make a major change," replies Kling HVAC engineer Howard Shaner. "Not in concept, however. If anything, the closed loop system performed even beyond expectations and we are using it again. Sizings and ratings of components are about the same. Even the storage tanks are identical in capacity although we were able to install smaller immersion heaters because of the Macon climate. The important thing we did was to take the heat pump units out of the ceiling."

For their second effort the designers altered their specifications to call for floor-mounted heat pump units. In the peripheral zones these are of the cabinet type placed against the outside walls and delivering conditioned air directly into the office space. For the interior zones upflow units are installed in small closets and their output plenums connected to short runs of lateral distribution ducts above the ceiling.

"What we've done, in essence," says Shaner, "is simply to make the equipment easier to get at. The result is a dramatic improvement in the maintenance situation, although we do pay for the improvement because we lost some floor space. But it is, for example, much simpler to change an air filter standing on the floor rather than a ladder." An-

other benefit of the revised arrangement is that it ends the need for frequent removal of ceiling panels and resulting impairment of the flame-resistant membrane.

Building Tune-up. The man closest to the HVAC situation in Woodbury is GEICO administrative engineer Michael Lucas. Recruited from New York City's financial district where the systems are scaled for skyscrapers and supplied by steam-driven chillers, he came on the scene soon after ground was broken. Lucas admits to feeling less than enthusiastic at first, thinking that a collection of small heat pump units could hardly do the job of a big central system. No longer. He now identifies fully with the closed-loop approach.

"During the first few months, the modular layout of equipment," says Lucas, "gave us a great deal of flexibility in adjusting operation of the system—in tuning up the building, so to speak. There were so many variables—zone temperature, loop temperature, ventilation rates, etc.—that we could experiment with to control energy use."

Lucas boasts that his staff has found ways to cut electrical demand almost 40 percent below expected peaks.

Dramatic proof of the effectiveness

DESIGN SUMMARY

GENERAL DESCRIPTION:

Area: 250,000 sq ft
 Volume: 3,200,000 cu ft
 Number of floors: four plus basement
 Number of rooms: 300
 Types of rooms: general offices, private offices, cafeteria, kitchen, lounges, mail-room, computer room, utility rooms, storage, equipment rooms, training center

CONSTRUCTION DETAILS:

Glass: single solar bronze
 Exterior walls: 12" brick and block; U-factor: 0.32
 Roof and ceilings: built-up roof on 2" rigid insulation (R-7) on concrete deck, suspended acoustical tile ceiling; U-factor: 0.1
 Floors: concrete slab
 Gross exposed wall area: 72,400 sq ft
 Glass area: 25,000 sq ft

ENVIRONMENTAL DESIGN CONDITIONS

Heating:
 Heat loss Btuh: 8,632,096
 Normal degree days: 5280
 Ventilation requirements: 62,000 cfm
 Design conditions: 5F outdoors; 70F indoors
Cooling:
 Heat gain Btuh: 9,905,520
 Ventilation requirements: 62,000 cfm
 Design conditions: 93F dbt, 77F wbt outdoors; 76F, 50% rh indoors

LIGHTING:

Levels in footcandles: 50-100
 Levels in watts/sq ft: 2-4
 Type: fluorescent

CONNECTED LOADS:

Heating & Cooling (825 tons)	2866 kw
Lighting	936 kw
Cooking	300 kw
Other	1403 kw
TOTAL	5505 kw

PERSONNEL:

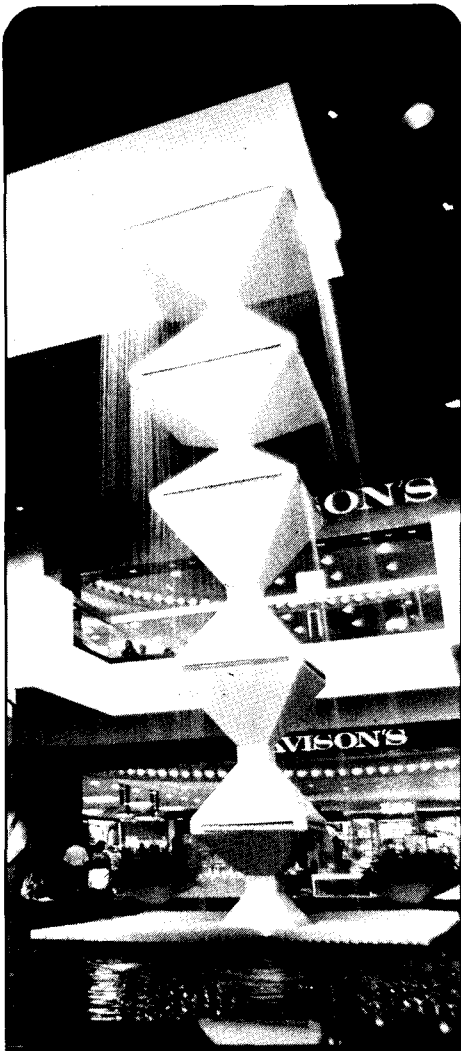
Owner: Government Employees Insurance Company
 Architects: Vincent G. Kling & Partners
 Consulting Engineers: Kling/Lindquist, Inc.
 General Contractor: Turner Constr. Co.
 Electrical Contractor: Fishbach & Moore
 Mechanical Contractor: Kool Air Systems, Inc.
 Utility: Long Island Lighting Company

of Lucas' conservation program is the 125-ton chiller which stands idle virtually all of the time in the machine room. Lowering of heat gains below calculated values and accepting some temperature increase in the cafeteria areas enable the unitary heat pumps to handle the entire cooling load. It appears now that consistent use of the big chiller can be deferred until the new wing is added.

ENERGY MANAGEMENT PROGRAM

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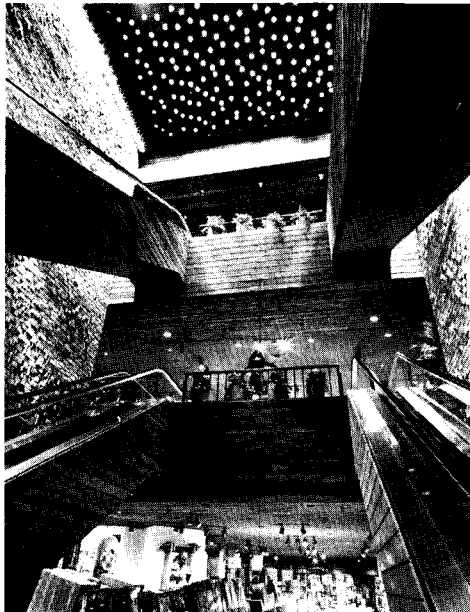
AIA, president of the Association of Collegiate School of Architecture.

The entire state is considered as the school of architecture's laboratory, says Dean William McMinn, AIA. Building on MSU's status as a land grant university (which McMinn thinks of as "an urban grant university"), the school of architecture aims to continue the tradition of service to the state. The school, which now has 130 majors in its first year of operation, has already conducted a successful design festival for Biloxi and is planning one for Jackson in the near future.

Awards for Store Design

In an effort to encourage interest and understanding of the profession of store planning, the National Association of Store Fixture Manufacturers and the Institute of Store Planners conduct an annual awards program for outstanding store interior design. Winners in the fifth annual awards program were:

- Welton Becket & Associates, Los Angeles, for Bullock's in Costa Mesa,



Calif., in the major department store category. Awards of merit went to Store Planning Associates, San Francisco, and Omniplan, Dallas.

- Burke Nicolais Archuleta, Los Angeles, for the London Shop in Costa Mesa, Calif., in the category of specialty store under 10,000 square feet. Morganelli-Heumann & Associates, Los Angeles, and Creative Industries, Richmond, Va., received awards of merit.
- Elevation Enterprises, Richmond, Va., for LaVogue Store in Richmond in the category of specialty store over 10,000 square feet. Winners of merit awards were Crowther-Kruse-McWilliams, Denver, and the Shipley Associates, Vernon Hills, Ill.
- Collins Associates, Elmhurst, Ill., for the china-glass shop in Wilson's Department

continued on page 58

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AIA JOURNAL

This space has been used over the past months to summarize the contents of an issue, amplify points made in articles and comment upon national and professional affairs. This month it will be used to convey an invitation.

On the following pages is a summary of ideas developed in the recent economic charrette on ways in which the Institute, nationally and at the grass roots; the profession at large, and individual architects and firms can cope with the current economic situation. The ideas were wide-ranging and often challenging, and we will be examining some of them in more detail in coming months. But the attendance and time span of the charrette were necessarily limited, so that no one could claim that the complete range of possible responses to economic crisis was explored.

Hence the invitation to readers of the Journal: We would like your ideas on the subject.

Like those generated at the charrette, they can cover things that the Institute can do for the profession and things that practitioners can do for themselves. Especially welcome would be ideas that practitioners have tried and are willing to share. (They need not all be thoroughgoing successes; warnings about blind alleys can be valuable too.) Submissions will be sifted and published, not in the letters column, but in the center section of the magazine. D.C.

A Further Report on the Economic Mobilization Of the Institute

James Bailey

"This thing happened so fast it caught a lot of people in their underwear," said architect Louis A. Rossetti, AIA, of Detroit. The "thing" of which he spoke was the economic crisis that has hit the architectural profession.

No one at this point knows for sure just how deep the crisis is because there are no statistics to show, for example, how much work architectural offices have now as compared with a year ago. But talk to almost any architect and, unless he happens to practice in one of the few "pockets of prosperity" that still remain in the country, he will tell you that the situation is indeed bad. On the whole, the architectural profession seems to be suffering from an economic crunch that is deeper and more severe than the recession that is affecting most other segments of the U.S. economy.

"Gino" Rossetti's remark was made during the AIA Economic Charrette held January 6 and 7 at Institute headquarters. As chairman of the charrette, it was his job to lead 13 fellow participants in hammering out a program of action to help the profession get through the crunch.

"Nothing may come of this," Rossetti told the participants, "but it's important that we explore every avenue we've got going for us. We've got to do what we can to help turn around this recession."

The charrette had been called by AIA President William Marshall Jr., FAIA, when it became evident late in 1974 that the profession was in economic trouble. By then the Institute's 1975 programs and budget had already been painstakingly worked out, but it was decided that some fast reworking might have to be done to allow the Institute to respond to the crisis.

For starters, the Institute's planning committee asked the public relations committee to take another look at the AIA's 1975 advertising program to see whether advertising is the most effective communications tool in the profession's present economic circumstances.

The public relations committee felt that

other possible programs should be explored in terms of their value in a depressed market, and it recommended that the charrette be held to develop specific programs of action.

The national recession, said a public relations committee report, has created a situation in which "architectural services tend to be viewed as a luxury—and one in which the supply currently exceeds the demand. The AIA, as the architects' professional society, must take whatever steps it can to ameliorate this situation." The Institute's efforts, the committee said, should be directed at these major goals:

- To increase, or at least maintain, architects' *share* of a shrinking market.
- To help architects *increase the total market* for their services by 1) identifying entirely new markets for those services, 2) claiming a share of markets now monopolized by others, and/or 3) increasing the effectiveness of architectural marketing and public relations efforts.
- To help architects "invent a better mousetrap" that will result in more efficient and cost-effective ways of doing business.
- To demonstrate that architects are an essential part of the economic environment, and that it is in the public interest for architecture to continue as a viable profession.
- To demonstrate the nature and value of architects' services to the public.

The charrette idea, as well as the proposal that economic programs get first priority in the allocation of advertising and other Institute funds in 1975, was accepted by the AIA board in December. Then the dates were set for the charrette and the participants were invited. They represented a broad range of architectural practice, plus economic expertise and assorted other strengths. In addition to Rossetti, they were:

Institute Vice President Carl Bradley, FAIA, of Fort Wayne, Ind; George A. Christie, vice president and chief economist of McGraw-Hill Information Systems Co., New York City; John P. Eberhard, AIA, president of the AIA Research Corp., Washington, D.C.; Harold Finger, manager of General Electric Com-

pany's Center for Energy Systems, Washington, D.C.; Philip Hammer, chairman of the board of Hammer, Siler, George Associates, Inc., economic consultants, Washington, D.C.; Vincent G. Kling, FAIA, Philadelphia; Herbert B. Oppenheimer, AIA, president of the Institute's New York City chapter; Richard C. Thevenot, executive director of the Louisiana Architects Association, Baton Rouge; George M. White, FAIA, Architect of the Capitol, Washington, D.C.; and Robert L. Wilson, AIA, Stamford, Conn. President Marshall; First Vice President Louis de Moll, FAIA, and Executive Vice President William L. Slayton, Hon. AIA, represented the Institute.

"This is not a p.r. gimmick," Marshall told the participants at the opening of the charrette. "We may discover that AIA really can't do anything. If that's the way it comes out, that's what we are going to tell our members."

But if the participants had any thoughts that nothing could be done, they didn't let them show. Almost immediately, the charrette became a lively, freewheeling affair, with ideas pouring out all around the table.

Nor were the ideas limited to what the national Institute alone might do. A large part of the discussion focused on what architects could do to help themselves—specifically, go out and round up some work that they are qualified to do but aren't doing now.

"Energy," said George Christie, "is the next big opportunity. It could provide an unusual impetus to the economy."

"Upgrading office space," said Louis de Moll, "is a market that architects have not tapped."

"The big shift toward higher-density residential developments opens up tremendous opportunities for architects," said Philip Hammer.

And Hammer described another trend that will stimulate "much more architectural input." There is a growing requirement for planning and urban design considerations in public policy, he said.

"Every jurisdiction is interested in directing growth. Local governments are literally talking about where growth ought to

Mr. Bailey is a freelance writer and editor who specializes in the fields of architecture and urban affairs.



Economist Christie making a point to charrette participants Wilson, Eberhard, Bradley and Slayton.

go. They're getting into the process of judicial review—almost for the first time. It can be done if the process is based on reasonable, rational comprehensive planning. I don't believe planners are the ones who can respond because they're part of the administration. Architects are the logical ones to move in. There's good-sized money to be spent."

Indeed there is. During 1975, state and local jurisdictions will have some \$4.5 billion in general revenue sharing funds to work with, plus \$2.5 billion in federal community development money. Most of it won't be spent for physical planning, design and construction, but George Christie presented evidence that the trend is in that direction. In 1972, before revenue sharing came along, 250 local governments surveyed by McGraw-Hill spent only 16 percent of their funds on capital outlay. In 1973, the first year of revenue sharing, that figure jumped to 33 percent. The four major areas on which cities and counties spent their revenue sharing funds were recreation, highways and streets, public safety and public buildings.

The importance of revenue sharing was further underscored by John Gunther, executive director of the U.S. Conference

of Mayors, who had been invited to discuss the subject with the charrette participants. The mayors, Gunther said, are looking for ideas on how they can spend their revenue sharing funds most effectively. He suggested that the mayors be sent a "communications piece" giving them proposals for programs or projects in which architects could play an important role, and that this be followed up with personal visits by local architects. "If you could give the mayors just 10 good specifics," he said, "you would be doing them a great service at the same time you're generating work for yourselves."

After Gunther's presentation, the free-wheeling discussion resumed. "Each of us put his ideas on the table to be thrashed over—sometimes heatedly—by the group as a whole," said Chairman Rossetti in his report of the charrette. "Every idea was subjected to strenuous, hard-headed investigation. Was it really relevant? Could it make an impact—even a small one? Could it be carried out? How?"

"Some ideas were thrown out—often over the objections of their proponents. Others that seemed to show some promise were allowed to simmer. And those that looked particularly worthwhile were subjected to deeper, more detailed examination."

One idea that was thrown out—heat-

edly—was George Christie's suggestion that the architectural profession take "a vigorous stand" against inflation and that it "design some of the inflation out of construction." Inflation in the construction industry, he said, begins at the design stage. "Once it's designed in, it's there and nothing that happens afterward can change it. Here's an opportunity to say, 'Hey, world. Here's a group of guys that cares about construction costs. Here's what we can do about it.'"

Christie's proposal wasn't well received by the architects around the table. The gist of their response was that 1) architects have virtually no control over the costs of the materials and products they specify and 2) the proposal was irrelevant to the purpose of the charrette.

"Okay," said Christie, finally. "But I want the record to show that I made the proposal." It did.

Another proposal—this one not dealing with a specific program but with a means for developing specific programs—was accepted enthusiastically by the participants. It was offered by John Eberhard, who based it on the *triage* principle adopted by French medics during the war. The medics put the casualties they examined into one of three categories: those who were going to die no matter what was done for them, those who were going to survive without medical aid and those

Identifying fields in which architects are qualified but have 'hardly begun to tap.'

who were going to die unless something was done for them. The medics gave first priority to the third group.

Why not, suggested Eberhard, apply the *triage* principle to the situation at hand. He proposed that four areas be subjected to the *triage* approach: 1) the clients of architects, 2) the sources of money for buildings and other projects involving architects, 3) the current capabilities of the architectural profession, and 4) potential areas into which the profession could diversify.

The idea was accepted, and Rossetti split the participants into four task forces, each charged with looking into its assigned area and reporting back results.

The "money" panel (Christie and Hammer) sifted through the sources of funds used for building and identified six that it thought were likely to increase in 1975: commercial banks (for nonresidential construction), foreign and domestic oil companies, all federal housing and construction programs, general and special revenue sharing (particularly community development), state housing agencies and individual equity money for salvaging distressed developments. The task force also noted that bicentennial activities could produce "a fair hunk of dough" for architects during 1975.

The "client" task force (Carl Bradley and Harold Finger) warned that the profession shouldn't put all of its emphasis—and hopes—on government as a client. Although governments, particularly the federal government, can be a stimulus to greater economic activity, the panel said, the private client still represents the real market for architectural services.

The task force cited four areas that are likely to produce new clients for architectural services in the coming months: energy conservation, environmental problems, economics and the impact of regulatory agencies. Under the heading of economics were such services as life-cycle costing, cost-benefit tradeoffs and economic feasibility studies that architects are capable of performing. Under the heading of regulatory agencies, the task force noted that the Occupational Safety and Health Administration, the Depart-

ment of Health, Education and Welfare and other agencies are issuing standards to which buildings must comply, and that the architectural profession can respond in two ways: by upgrading buildings to incorporate these standards, and by performing advance planning, programming, growth management studies and other "front end" services for these clients. "Architects," said Bradley, "have to get out of the habit of looking only for clients who want to build buildings."

The "profession" panel (Herbert Oppenheimer, Richard Thevenot and George White) and "diversification" panel (Eberhard and Robert Wilson) both identified a host of new or expanded services that architects could (and should) perform. Their reports formed the basis for the charrette's recommended actions to be undertaken by individual architects and firms.

The charrette's "moment of truth" came on the second day, when the participants sifted through all the worthwhile ideas and suggestions and molded them into recommendations for specific action. They came up with the overall recommendation "that individual architects and firms find and take advantage of the many opportunities open to them for performing services that they are qualified to do but have not done traditionally. These services include:

- "Consulting with cities in preparing community development plans and programs.
- "Retrofitting to make existing buildings energy-efficient.
- "Conducting feasibility studies for adapting old buildings to new uses.
- "Consulting with financial institutions to review projects they are considering funding.
- "Conducting space management studies for corporations and institutions.
- "Designing interiors.
- "Preparing environmental impact statements.
- "Conducting research in a broad range of design- and environment-related fields.
- "Conducting post-occupancy evaluation studies.
- "Estimating for contractors.

- "Real estate appraising.
- "Surveying existing buildings to make them conform to OSHA's safety and health standards and to new federal and state laws regarding barrier-free buildings.
- "Programming.
- "Advocacy planning for community groups."

The charrette looked upon these services as far more than a laundry list. It saw them as both a means of coping with the profession's current economic crisis and as a way of giving the profession a stronger role in a changing world.

"We concluded that the current economic crisis presents both problems and opportunities to the architectural profession," states the charrette report. "The problems involve nothing less than the very survival of some architectural firms. The downturn appears to be so severe in some sections of the country that many firms may find it extremely difficult to hold on until things get better.

"But there are also opportunities. There are many fields in which architects are qualified—or can quickly become qualified—to perform services that the profession has hardly begun to tap. Most of these fields . . . can contribute to a better quality of life for all Americans. By entering these fields now, while the demand for traditional architectural services is down, the profession not only can improve its economic condition, it can also put itself in the forefront of a new wave of American growth and development patterns. Now is the time for the profession to seize these potentially rewarding opportunities."

The charrette recommended nine separate actions for the national AIA. They called upon the Institute to:

- "Quickly conduct a survey to get accurate information about the economic condition of the architectural profession in all parts of the country, and use this information in efforts to persuade the national government to act to alleviate the situation.
- "Attempt to bring together other segments of the construction industry, including labor, in an industrywide effort to improve the economy. Such a coalition

should push for the release of impounded federal funds for construction, the creation of new federal incentives to spur construction, and other federal actions.

- "Prepare and distribute to state and local AIA components a document showing how revenue sharing and community development funds can be used to improve the physical environment and the quality of life, and encourage the components to meet with state and local government officials to discuss potential projects and the services that architects can perform in carrying them out.
- "Seek the best means of conducting a national "Build Now" campaign to convince public and private clients that this is a good time to design and build, because materials are readily available, costs are lower than they are likely to be in the future and the market is more competitive.
- "Make the economic condition of the architectural profession the major focus of the 1975 grassroots programs and regional workshops, and seek ideas from the participants for additional actions, especially at the component level, that can be taken in behalf of the profession.
- "Promote greater awareness and use of the AIA architectural training laboratories that are designed to help architects increase their business.
- "Launch a nationwide campaign through AIA components to encourage federal, state and local governments to implement the recommendations contained in the new AIA report, "Policies and Economics of Urban Rebuilding." (The report, a successor to the 1972 AIA national policy task force report, proposes new federal, state and local policies and institutional structures aimed at creating a coordinated approach to reversing the "urban disinvestment syndrome.")
- "Publish in the *AIA Memo*, on a regular basis, economic information affecting the architectural profession, including information that can help firms increase their business.
- "Focus the 1975 series of AIA public service television spot announcements on promoting . . . public-interest programs that require architectural services."

The charrette had five actions to recommend to AIA components, but the first of them reflected the participants' own feeling that there were probably many other things components themselves could come up with. It recommended that components "sponsor state-level economic charters patterned after the national charrette to determine what action they and their members can take to improve the profession's economic condition in their areas."

The charrette also recommended that AIA components:

- "Work closely with state housing agencies to encourage the construction of more housing.
- "Create state and local public relations campaigns designed to increase the market for architectural services.
- "Create mechanisms through which individual firms can borrow or lend personnel as the need arises.
- "Encourage state, county and city governments to hire architects under the newly created public service employment program."

The recommended actions vary widely in their scope and focus, but each of them, the charrette participants felt, could make some contributions—even if only an indirect one—to brightening the economic picture for architects.

The charrette also felt that most of its recommended actions could be implemented within the next 90 days, although it acknowledged that some architects and firms may not be able to find their way into new areas of practice that quickly. The charrette was unable to tell just how much work was available in any of the fields. It could only assume that there was enough to make it worthwhile for architects to explore the uncharted territory.

At the charrette's end, Marshall told the participants that the Institute would "devote substantial energies" to the recommended actions and to others that show promise of helping the profession get through the economic crunch. "If necessary," he said, "we will put aside ongoing Institute programs that have marginal relevance to this problem so that we can be free to respond more effectively to the

profession's most critical needs." Marshall also pledged that the Institute would "do everything within its power to encourage AIA components, individual members and architectural firms to pursue the actions recommended for them."

The next day, Executive Vice President Slayton instructed the Institute's departmental administrators to re-evaluate all existing AIA programs and decide which of them were immediately relevant to helping the profession's economic situation, which could be made relevant and which were not relevant. Then he called them together to report on their findings and to begin the process of changing direction and focus.

Within a week, the Institute mailed a special "economic bulletin" issue of the *AIA Memo* to members and began gathering news of economic importance to the profession for use in future issues of both the *Memo* and *JOURNAL*.

The January grassroots programs were quickly revamped to focus on the crisis, and steps to refocus the 1975 AIA convention in Atlanta were set into motion.

By mid-January, two weeks after the charrette, the Institute had begun to implement each of the nine recommended actions and had set the stage for getting intensive feedback from the components at the grassroots meetings.

Whether these actions will produce results remains to be seen. Their effectiveness will inevitably be enhanced or retarded by forces in the economy that are beyond the control of any one group. But there was an air of determination at Institute headquarters—determination that if it were possible to make a difference AIA would do it.

The charrette took a positive view of the prospects. "Though there was deep concern around the table for the current economic condition of the profession," states its report, "there was also a genuine feeling of excitement about the very real opportunities the profession has open to it. We felt that the positive side of the picture was very positive indeed. We could see the profession emerging from its current problems stronger and more relevant than ever." □

The States Emerge as Primary Clients for Subsidized Housing

Jane Silverman



State government has often been called the "sleeping giant of federalism." Likewise, until recently state housing programs were all but dormant. But in the last six years, state housing finance agencies have undergone a vigorous awakening.

There are now 28 such agencies and six more are in the process of formation. Since 1968, they have financed construction of some 140,000 housing units, including 20 percent of all the apartments built under the Section 236 program of federal subsidies to moderate-income housing.

Section 236, now inoperative, was one

Mrs. Silverman, a city planner, is associate managing editor of the *Housing and Development Reporter* in Washington, D.C.

of the programs introduced in the landmark 1968 housing act, which gave impetus to the state agencies. Only six were in existence prior to its enactment.

Now an even more pivotal role has been charted for the state agencies in the 1974 housing and community development act. They are to be the major conduit for the new Section 8 subsidies, virtually the only surviving form of federal aid for lower-income housing.

Under Section 8, developers will build, own and manage apartments, and lower-income families will be paid a subsidy making up the difference between market rent and what lower-income tenants can pay. The subsidies will come through the state agencies which will also, in most

The New York State Urban Development Corporation's Roosevelt Island new town.

cases, provide the mortgages for projects.

How well are these agencies likely to play this crucial role? Their performance to date in providing lower-income housing is less than encouraging.

Besides producing moderate-income housing, they have been a conduit of mortgage money—more than \$1 billion of it—to middle-income home buyers.

In all, according to management consultants McKinsey & Co., 80 percent of state-sponsored housing has been new construction in the suburbs—and 90 percent of the buyers or renters have had incomes in the moderate to middle range.

**State housing agencies,
almost nonexistent six
years ago, have since
produced 140,000 units.**



Along with the new federal stimulus to help house those of lower incomes, the state agencies are being challenged to direct more of their energies to inner cities and rural areas, and to look less to new construction and more to rehabilitation.

Only four of the agencies have any rehabilitation programs, and even they are minor. "Rehab is a major problem that has not been addressed in any part of the country," says Frank Kristoff, chief economist for the New York State Urban Development Corporation.

In terms of housing the poor, the piggy-backing of a federal subsidy on top of state financing is crucial. State financing alone, usually through tax-exempt bonds, can produce an interest rate as much as

1½ percent below the market rate, but this still results in housing that is well beyond the reach of lower income families.

Tax-exempt financing has serious problems, too. Unlike public housing bonds which are backed by the full faith and credit of the U.S. government, the typical state agency bond rarely has such backing from its parent state. Instead, the agency bond is a "moral obligation" bond usually secured by a reserve fund, federal insurance or a state insuring program. If the reserves are exhausted, the state legislature is supposed to appropriate money to pay the bonds off. This financing technique, designed to get around requirements for public referendums on bond issues, was developed in 1960 by former

U.S. Attorney General John Mitchell while counsel to the New York State Housing Finance Agency. Its big drawback is that it hasn't been tested in a real financial failure, so no one really knows whether legislatures would actually appropriate the money.

The bond investor has been looking much more closely at "moral obligation" bonds lately. Bond buyers tend to be even more chary of taking risks than other investors, and this, coupled with the generally high interest rates for municipal issues, has had its effect on state agency notes and bonds. "It's ironic," one agency official points out "that social change is dependent on the most conservative sector of the economy."

Some state agencies feel that they might have better success on the taxable market. Section 802 of the Housing and Community Development Act of 1974 would provide federal subsidies in some cases to cover the added interest costs of state agency issues on the taxable bond market.

The state agencies vary widely in size and powers: The range includes financing, mortgage insurance, secondary market activities and housing planning.

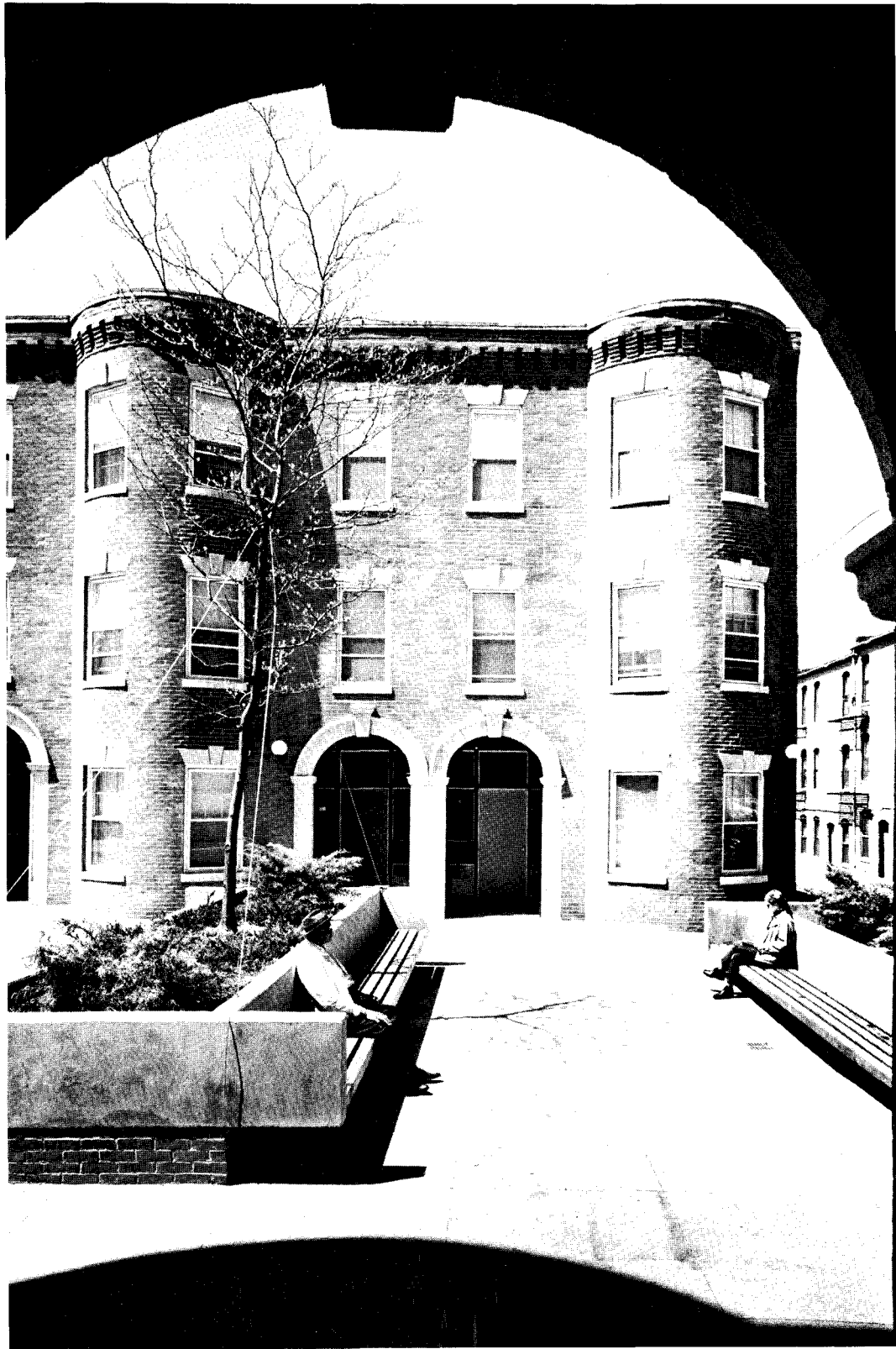
Many of the agencies have also set up interest-free revolving seed money funds to help nonprofit developers. This money, paid back at closing, covers front end costs, such as initial architectural drawings, appraisals and option payments.

Many states are starting single-family lending programs as well. These are usually tied to FHA or VA insurance, although several agencies have set up insurance programs of their own.

Some of the agencies have developed indirect financing programs, usually in one of two forms: a mortgage purchase program under which the agency buys loans that a bank is holding or plans to make, or a loan to lender program under which the agency makes low-interest loans to financial institutions which then recycle the funds at slightly higher interest but still well below the commercial rate. In both cases, the FHA exercises limited control over the lending activity, defining, for example, housing type and income range.

Although indirect financing programs are an efficient way to pump more money into the market quickly, they have tended to serve middle-income home buyers rather than low-income groups. For example, under the Minnesota Housing Finance Agency program, families whose adjusted gross income is as high as \$16,000 a year can qualify.

Michigan and Massachusetts have been the leaders in rehabilitation among state agencies. The Michigan State Housing Development Authority works closely with the Department of Housing and Urban Development to refurbish much of the run-down housing stock now owned by the federal government as a result of defaults on FHA loans. Thirty-three percent of the total units produced by the Massachusetts FHA have been rehab.





Massachusetts Housing Finance Agency projects: left, Cleaves Court rehabilitation in Roxbury by Bastille-Neiley with George Stephen. Above: Lincoln Village in Worcester by Henry Schadler Associates and United Front Homes in New Bedford by Wallace Berger of J.G.A., Inc. Right: Pine Grove in Brockton by Pietro Belluschi and Jung Brannen Associates with the Office of Samuel Paul.

West Virginia is probably the state most active in rural housing. Len Crosby, executive director of the West Virginia Housing Development Fund, says that one of the most serious problems confronting housing in rural areas is the lack of suitable sites. His agency has started a \$2 million revolving land fund for land acquisition and improvements such as sewers and roads.

Robert Alexander of McKinsey & Co. feels that "many low and moderate income families have not benefited from state housing programs because the product is wrong." This poses a serious challenge to architects in particular to explore ways in which housing design can be manipulated as a variable in cutting costs without substantially reducing quality.

Most state agencies have made innovative design a rather low priority. The sole exceptions are the Massachusetts Housing Finance Agency and the New York Urban Development Corporation (see following pages), which have a strong commitment to seeking out the best architects in their states and have set exceptionally high standards for their buildings.

In Massachusetts, the emphasis on design has been a critical ingredient in pro-

moting mixed-income developments as a major public policy objective. Mixed-income projects, pioneered by state agencies in Massachusetts and Illinois and the New York UDC, are not without their problems, but they may provide an important model for the future.

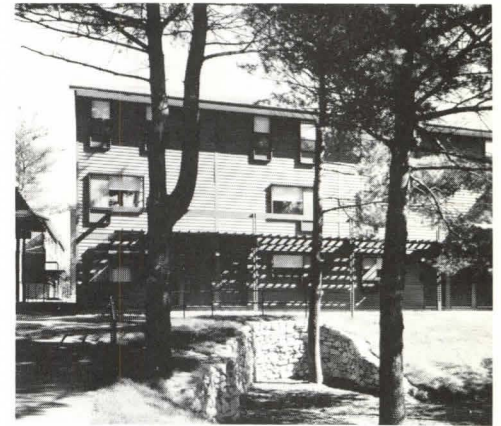
A developer working under the Massachusetts program is required to set aside 25 percent of his units for low-income residents. The average mix is 34 percent low income, 50 percent moderate and 16 percent market rate or middle income. The agency's requirement is greatly aided by a state subsidy program, modeled on federal subsidies.

Design is the other factor which has made the Massachusetts mixed-income program work, according to the agency's director, William J. White. "I would put our housing up against any in the state," White says. "It is very simply the best housing that poor people have a shot at. On the other hand, the attraction to those with more money is the visual appeal and quality of construction."

If the Section 8 program is the key to the state agencies potential, it is not without its pitfalls, and thus will be a critical test of the ability of the agencies to produce housing for the poor. The fact that developments under Section 8 will be managed by the owner—and not by public housing authorities or nonprofit organizations as has been the case in most previous federal housing programs—will undoubtedly keep developers away from inner city neighborhoods. The fact that developers are responsible for maintenance will encourage elderly housing but not multifamily housing.

On top of all this, the Section 8 process threatens to be a cumbersome one. Although the state agencies are responsible for mortgages and probably construction loans and for channeling the subsidy money, HUD may retain the right to process Section 8 applications after they have been cleared by the state agencies. This two-tiered review could cause long waiting periods and impose dual standards on projects. Moreover, since state agencies are providing the mortgage money, it will be the state and not the federal government which would be stuck with foreclosed projects.

The prospects are less threatening in the case of the community development



portion of the new law. The old federal community development programs have been completely restructured into a single block grant, giving states and local governments enormous power over the urban development process. State agencies with staffs skilled in housing development and urban renewal can play a large role in developing the mandatory housing assistance plans for local communities and the state as a whole. Even more important, a state agency can actually help implement the plans by developing housing on the appropriate sites.

These new opportunities would enable most state agencies to go well beyond what they have done in the past. Most of them have been narrowly concerned with production and have paid little attention to the larger environment in which their projects function. If they become active in the community development process, it would inevitably broaden their sights. □

Will New York Blunt Its 'Extraordinary Tool' For Housing Development?

Kenneth R. Harney

"A bit too revolutionary," snorted a *New York Times* editorial. It might actually "condemn whole sections of a city and erect completely new communities. . . ."

"Atrocious!" said Mayor John Lindsay, Percy Sutton and a long list of upstate and downstate Democratic politicians.

Suffice it to say that seven years ago when Nelson Rockefeller proposed the concept that has become the New York State Urban Development Corporation, there was not universal applause.

There never has been, although the identity of the critics and the substance of their complaints have changed with time. The original fears that Rocky's "super renewal agency" would ride roughshod over home rule have pretty much disappeared, helped along by a 1973 amendment by the legislature making it impossible for UDC to do so in the suburbs.

The early doubts that UDC could ever build the volumes of lower-income family housing, commercial, industrial and civic projects that its backers predicted have also been put to rest. The agency has shown itself to be the most extraordinary governmental tool for getting housing into the ground ever seen in this country: It has started or completed more than 34,000 housing units since 1969, many of them in the toughest, most depressed inner city areas of the state; snared one of every ten subsidy dollars available under the largest federal apartment construction program (Section 236), and has \$1.977 billion worth of commercial, civic, residential and land development projects (including three new towns) either underway or standing. It has done all of this with a high regard for good design only too rarely seen in a public agency. Its projects stress mixed income residency, "livability," and usually wouldn't be mistaken for public housing's segregated highrise gray slabs. AIA gave UDC its "Citation of an Organization" in 1974.

If the facts were simply these, this could be a rosy report on UDC as it nears age seven, documenting how the agency provides a strategic model for planners and

Mr. Harney is managing editor of the *Housing and Development Reporter*, published in Washington, D. C.



River Park Towers, the Bronx. Architects are Davis, Brody & Associates.

The state's pioneering Urban Development Corporation is threatened fiscally and politically.

housers in other parts of the country, builds brilliant buildings where others fear to tread, and disarms its critics. But the facts are not all rosy. UDC faces a future that is pocked with question marks.

More than other state housing agencies, it has suffered at the hands of the high interest rates and rising costs that constitute the one-two punch of the present national "stagflation." As a risk-taking, land-buying development entity, it has had a difficult time raising money in an increasingly skittish municipal bond market. When UDC went to Wall Street for \$275 million in tax-exempt bonds last September, it came away with a frightening 9 percent average interest rate—high enough to create doubts about the economic feasibility of some of its projects—plus new restrictions on its freedom to function. New York investment houses told Governor Malcom Wilson that UDC needed to be reined in; that its concentration on high-risk housing and commercial ventures in the worst areas of the cities worried investors. The bankers convinced Wilson to prohibit the agency from undertaking any new projects without his express permission. They set in motion a five-month study of UDC's operations, which in December recommended a slower pace and less vigorous profile for the corporation.

In addition to its financial problems, UDC faces the equally serious question of what kind of housing it is going to build in the future. Now that the Nixon and Ford Administrations have apparently succeeded in making the impoundment of Section 236 subsidies stick, what is UDC going to use as its low-income housing vehicle? (Roughly 94 percent of its 34,000 units were built with the help of 236 subsidies.) The "Section 8" leased housing program that Congress passed last August as an alternative to Section 236 and other subsidy programs is shaky and untried at best. The Department of Housing and Urban Development shows little of the fervor for housing lower-income America that will be necessary if the leasing program is to produce significant numbers of dwelling units. The state of New York, caught in one of its worst budgetary binds in years, has no subsidy money.

And UDC faces a political situation unlike any it has experienced in its seven years: the end of the Rockefeller era in the Empire State. Hugh Carey, who clearly wants thorough-going changes in UDC, casts a long shadow over the organization. The new governor might ultimately see UDC on the one hand as an important element in his overall economic development plans. But he might also view it as simply one of the many semiautonomous public authorities that Rockefeller set up to build dormitories, nursing homes, parks and just about everything else, while avoiding the need for large annual tax-financed state appropriations or public bond issue referendums. Those semi-autonomous authorities, which Carey pledged in his campaign to bring under control, have made the state "morally" responsible for up to \$6 billion in debts for projects that neither the people nor the legislature specifically approved.

Carey made his first move in January, asking the state legislature for \$228 million in "emergency" funds to cover UDC's debts and operating expenses through March, plus a \$50 million reserve fund.

Then in early February he launched a full-scale investigation of UDC's problems and more particularly the wisdom of using "moral obligation" bonds for housing construction.

Calling the possibility of UDC's collapse both imminent and "unthinkable," Carey appointed developer Richard Ravitch chairman of the corporation's board and announced the resignation of Edward J. Logue as president and chief executive officer. He also dropped his request for the reserve fund.

UDC's present situation is hinged on what it is, where it has been and how it differs from other government efforts to provide housing. Its considerable strengths and accomplishments are intimately connected with its weaknesses and vulnerabilities.

UDC's enabling law bestows powers that are an urban planner's dream come true. The agency can, as the need arises, assume the roles of developer, lender, urban renewer, consultant and super-bureaucracy, either individually or in combination, anywhere in the state. Be-

yond the ability to act as a direct lender or mortgage banker — a power exercised by other state housing agencies — UDC has the statutory rights to:

- Acquire land by condemnation, purchase or lease. It can then hold on to the property, clear it, develop it, sell it, lease it or sublease it.
- Develop residential, commercial, civic and industrial projects without complying with local zoning ordinances, building codes and other restrictive local regulations, except in towns and villages, where its residential project proposals may be vetoed by the local governing body. (In other words, it has the legal power to walk in and impose a statewide building code and issue its own use and occupancy permits in New York City, Syracuse or any of the state's other cities, however outraged the local citizenry might be.)
- Enjoy full or partial exemption of its projects from local real estate levies (except assessments for local improvements).
- Create and fund subsidiary corporations anywhere in the state to carry out its projects.
- Issue bonds and notes aggregating up to \$2 billion. (This was raised from an initial \$1 billion level.) It also qualified for \$55.4 million in interest-free start-up loans from the state treasury, and has received \$33 million in appropriations to cover certain of its technical assistance activities that do not generate revenue.

UDC has used these powers to get an impressive range of projects going in a short span of time.

Renewal. When Rockefeller hired Edward J. Logue as UDC's president and chief executive officer in 1968, both agreed that rather than barging into communities with obvious problems, the new corporation should send a letter (under the governor's signature) to the leaders of every city and town in the state offering UDC's help. The most challenging early responses came from mayors of cities with large rotting holes in the middle of their business districts—usually urban renewal sites which had been bogged down in red tape, by the absence of willing private developers, or by the lack of imaginative, comprehensive development strategies.

The stalled urban renewal site problem

'To Wall Street, UDC's hundreds of millions of dollars of projects can be a very scary sight.'

had been one of the key reasons why Rockefeller proposed UDC in the first place. Traditional methods of renewal, the governor said in his message to the legislature, "have failed to meet the challenge of blight." A study at the time found that 44 of the 130 federally assisted renewal projects in New York State had been "in process" for between nine to 18 years, and a significant number had either been abandoned or might be in the future.

UDC's arsenal of legal powers was designed to unplug the entire renewal sequence by doing the things that no one else had been willing or able to do. UDC could take over as a redeveloper; put its staff to work on whatever marketing, planning and design tasks were necessary; apply to Washington for subsidies under the state "set aside" rights it had with HUD; orchestrate the required local and federal reviews; provide financial assistance for associated civic, commercial and industrial parcels in the area; get construction underway, while bearing the expense and risk of the entire project itself. It could then dispose of its interests in the various parts of the project by charging development, mortgage finance and other fees to the private or public purchasers or lessees of the facilities it helped bring into being. The "package deal" UDC could offer to a potential private investor was far less risky than what a local redevelopment agency could.

UDC's large central business district renewal projects—such as the \$100 million Southeast Loop project in Rochester, and smaller developments in Albany, Niagara, Troy, Buffalo, Ogdensburg, Ithaca and Syracuse—generally had their roots in the early exchange of letters. **Housing.** UDC has directed the vast bulk of its financial and technical resources toward stimulating construction of apartments for lower- and moderate-income families. The 34,000-plus units it has financed have been in projects as small as 96 units or as large as 5,000. Eighty-five percent of the total has been built in cities, 11 percent in suburbs and the balance in small towns and villages. Fifty-one percent of its units are in New York City.

The New York City sites illustrate

UDC's policy of building where the needs and risks are greatest. Of the 16,792 units built or started in the five boroughs through October 1974, 13,741 were located in what UDC terms "ghetto and transitional neighborhoods."

Project data for the entire state illustrate another of UDC's long-standing goals—that of mixing families of lower income with those of middle and moderate incomes to foster economic integration. From its first year, the corporation aimed at an average mix within projects of 70 percent moderate income, 20 percent low income and 10 percent low-income elderly. Its performance thus far, by its own measure, has been pretty close to target: 65 percent moderate, 23 percent low and 12 percent middle. Twenty-two percent of the total has been built for low- and moderate-income elderly persons.

Prior to the Nixon Administration's January 1973 moratorium on Section 236 and rent supplement funds, UDC established itself as the most skillful single competitor for federal housing subsidies in the country. By virtue of its having so many powers under one administrative roof, it could function almost as a 236 wholesaler for subsequent retailing of the subsidies in various parts of the state. As in its urban renewal activities, UDC could package highly marketable projects. And by taking on the front-end development chores—from market feasibility studies and application for subsidies through architect selection and beginning of construction—it could effectively shorten the time gap between conception and groundbreaking.

HUD, in turn, often found dealing with UDC superior to dealing with individual private developers on a project-by-project basis. Since UDC bonds were the source of the permanent mortgages for projects, usually at a rate about 1 percent lower than on the conventional market, the size of the required federal interest reduction subsidy was smaller than in the case of Section 236 projects financed by other mortgage lenders.

New Communities. The largest discrete projects undertaken by UDC have been its three new towns. The gargantuan among them in terms of cost to UDC is Roosevelt

Island, a two-mile long sliver in the East River between Manhattan and Queens. Begun in 1969 on the basis of a 10-year development plan designed by Phillip Johnson and John Burgee, Roosevelt Island is intended to have 5,000 residential units for a mix of income levels, 100,000 square feet of shopping facilities for the community's 18,000 residents, 200,000 square feet of office space, a mini-transit system, parks, sports facilities, schools, day care centers and an aerial tramway connecting it with Manhattan. By 1981, if New York City makes good on its promise, the island will also have a subway link to Manhattan and Queens. UDC's Roosevelt Island Development Corporation subsidiary is directing the project under the terms of a 99-year lease negotiated with the city. At maturity the estimated development cost of the island will be in the neighborhood of \$375 million. UDC's portion of that total will be about \$309 million, of which \$86 million has already been sunk into planning, design and on construction of the island's initial housing units.

A second new community, Radisson, is being developed on 2,700 acres that UDC acquired outside Syracuse. Although the 10-year total development cost for the town of 15-20,000 people is projected to be around \$500 million, UDC is limiting its direct planning, design and construction expenditures to about \$26.5 million; thus, private industry will have a far greater role in this project than on Roosevelt Island. An example of a firm taking on this role with gusto is the Schlitz Brewing Co., which is putting up a \$100 million regional brewery on a 193-acre site within Radisson. (The beer company's decision to locate in the town was critically important to UDC's entire new communities program. UDC staff members refer fondly to the Milwaukee-based brew as "Schlitz—the beer that made Radisson feasible.")

Audubon, UDC's third new town, sits astride the huge new campus of the State University of New York under development in Amherst, a suburb north of Buffalo. Total development cost for the town is estimated to be \$500 million; UDC's net expenditures will be about \$37 million, after sale and lease of the land it owns.

Other Construction. Although overshadowed by the agency's emphasis on residential development, UDC planning assistance and financial help for civic facilities, industrial park development and commercial projects—typically garages, parks, schools or recreational-sports facilities (UDC did the feasibility study for the Buffalo Bills' new 80,000-seat football stadium)—have cost \$52 million. UDC calculates that the \$31.4 million it has spent on industrial parks has helped retain or create 10,000 jobs. UDC has also undertaken a variety of public service projects that fit into no category, such as coordinating the state's 1972 flood relief urban renewal efforts after tropical storm Agnes destroyed millions of dollars of property in the southern Chemung Valley.

Two important threads run through nearly all UDC's activities since 1968: its assumption of risks and tasks that no one else has been willing or equipped to handle, and its emphasis on getting projects into the ground fast. Ironically, it has been these two characteristics that have spawned many of its present problems.

UDC's shouldering of the risks of renewal and commercial developments has inevitably led to some hard knocks. After

it spent \$7 million designing and constructing a large commercial building in downtown Syracuse for the Edwards department store chain, the company went into bankruptcy. Left with a big, costly empty building, UDC has since attempted to recover its investment by turning the store into an urban mall; 40 percent of the space was leased as of last month.

In Niagara Falls, UDC spent \$11.5 million constructing two Section 236 apartment projects on a parcel of land it bought from the Penn Central railroad company. Penn Central then plunged into bankruptcy. Once the dust settled, UDC discovered that the title it held to the land parcel wasn't too solid. Penn Central bond holders, it turned out, held mortgages encumbering this and other real estate; trustees for the bond owners theoretically could foreclose on the property for non-payment of principal and interest, causing UDC to lose its entire \$11.5 million investment in the projects. UDC took Penn Central to court but received an adverse decision. The entire matter is now tied up in the welter of Penn Central bankruptcy suits and countersuits, and may not be settled for years.

UDC has had a number of other em-

barrassments—sizable cost overruns on a few of its projects, high vacancy rates in some Section 236 apartment buildings, projects whose builders or owners have gone out of business.

But the hardest knock it has taken as a result of its role as a real estate developer has been in the financial community. To Wall Street, UDC's hundreds of millions of dollars of projects strung all over the state can be a very scary sight. Analysts for the bond buying public, such as Jackson Phillips of Moody's Investment Service, look through UDC's financial statements and find that the corporation doesn't expect to begin generating a positive income flow from its housing developments until after 1978—and that is only if UDC undertakes no new projects between now and then, and all of its risky Section 236 projects turn out all right. Meanwhile, the corporation is racking up expenditures of over \$1 million a day, is obligated to pay \$1 million a week for debt service on its outstanding \$1.2 billion in bonds, and can't promise anyone for sure that it will ever be able to raise all the \$700-800 million it needs to complete the projects it has going into the ground.

Almost totally dependent upon the bond market for its capital needs, UDC nonetheless has only the "moral obligation" of the state of New York to back its bonds in case of financial failure. Investors, particularly in today's market, prefer tax-exempt bonds that are secured by a "full faith and credit" pledge of a government. As the price of buying bonds with softer backing, investors demand a higher interest return—a situation which led to UDC's 9 percent rate last September.

New York bankers and investment brokers tick off other complaints they have about the agency:

- UDC has always insisted on using bond revenue for any "general purpose" it chooses—from the payment of staff salaries to the purchase of land for new communities. This means an investment analyst cannot connect a proposed bond issue with the income stream expected from a specific group of housing projects.
- UDC has been in such a rush to get housing up that it has required unprecedented sums of capital, \$1.2 billion in four



Lionel Hampton Houses, in Manhattan, are the design of Bond-Ryder Associates.

years. Investors demand higher than usual returns from borrowers who are constantly seeking \$100 to \$200 million at a clip.

- UDC has failed to limit the risks involved in its projects. Some analysts contend it shouldn't have concentrated so heavily on the Section 236 program or on building in marginal ghetto areas. Similarly, they worry about some of UDC's bigger investments, such as the \$309 million it is committing to Roosevelt Island, a fear which is underscored by the precarious state of new community developments throughout the country.

- UDC's unsuccessful fight to build lower income housing in a group of unwilling white suburbs in Westchester County tagged the agency as "politically controversial, unreliable and overly social activist," according to one investment banker. "That sort of reputation does you no good in the bond market."

Logue and his top assistants bristle at what they consider to be the financial community's unjust criticisms—and plain misunderstandings—of UDC's operations.

"I sometimes think they really want to view us as a bunch of lunatics," says General Counsel Stephen A. Lefkowitz. "Sure, we take risks that a banker wouldn't take. That's what being a developer is all about. We're building where no one else is building. We can't go out and show an immediate profit."

Robert P. Adelman, UDC's director of finance and ambassador to Wall Street, observes that the New York investment banking and municipal bond community tends to be pretty insular. "They talk to each other a lot—sometimes—instead of reading" UDC's explanations of why and how it differs from nondeveloper state agencies.

Pink-cheeked, paunchy Logue, the Irishman who rebuilt large portions of New Haven and Boston in his two prior jobs, takes special offense at the bankers' views on the suburban fair housing controversy. There is still a "philosophical sting" left over from the Westchester fight, he concedes, but on balance the resolution of the suburban issue "has been a plus, not a minus" for UDC. Almost every year until 1973, the agency was attacked in

the state legislature with so-called "ripper" bills intended to take away most of its powers or repeal its authority altogether. Once Rockefeller agreed to the compromise that gave suburban local governing bodies veto power over UDC residential proposals, the "ripper" attacks stopped. Defusing the suburban issue — "which after all only involved a very small percentage of our housing"—strengthened UDC's political position in the legislature.

If bankers think it weakened the agency, Logue says with a touch of bitterness, "then they just don't want to understand the facts."

UDC's crossfire with the financial community is highly significant for planners, legislators, housing proponents and anyone else concerned about urban redevelopment in this country. Seven years after its creation, UDC's biggest problem is not with politics, local government overrides, minority group protests or shoddy construction, but with municipal bonds and the people who buy and sell them.

The powerful engine for housing construction and social change that New York switched on in 1968 turns out to run on a special mixture of fuel that has been in increasingly short supply: capital from the tax-exempt bond market and subsidies from Washington.

UDC's enabling law—replete with so many other powers—gave it no method of generating subsidy money itself. Without funds to either write down land costs or subsidize mortgage interest rates, UDC is painfully vulnerable to the fits and starts of federal housing policy. The best it can do without a workable federal subsidy program is to finance middle-income housing—a job already being performed

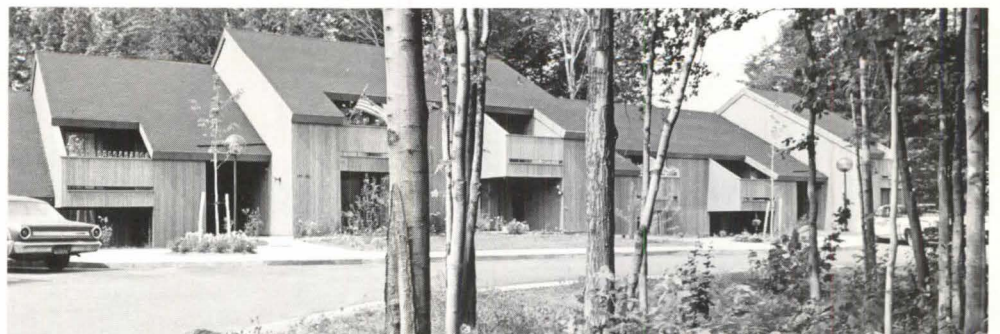
in New York by other agencies.

The dependence of UDC on the municipal bond market is even more ominous. UDC's social goals are never likely to be shared fully by the conservative bond-buying public. Nor is its freewheeling, risk-taking style—particularly as crafted by Logue—ever likely to be either accepted or appreciated by the financial underwriters to whom the agency must go periodically with palms extended.

As the bankers have already shown, their cooperation and confidence are essential if UDC is to remain in business. Without new bond issues, the agency must either turn to the legislature, as Governor Carey proposed as an interim step in January, or cease to develop any new projects.

UDC's future now rests almost entirely with Carey and his investigators. The resignation of Edward Logue as president, which Carey had clearly invited, was a step many observers of the housing scene view as an unfortunate, but politically and financially essential decision. Solution of UDC's financial problems won't be a simple task, and may well dictate an alternative method of funding in place of tax-exempt moral obligation bonds. It may well mean a thorough legal overhaul of UDC, and a temporary period of inactivity.

Whatever the ultimate financial solution, it would be a tragedy if it transformed UDC into simply another government housing agency, building mediocre projects in safe neighborhoods. New York should retain the best of the tradition established in UDC's first seven years—its identity as a vehicle for construction of well-designed projects where the needs are greatest—as it moves to strengthen its financial base. □



Centerville Court, Village of North Syracuse, designed by Schleicher & Soper.

The New York UDC As Client: A Record Of Accomplishment

Andy Leon Harney

Whatever its eventual fate, in the past seven years New York State UDC has built a record of architectural achievement perhaps unmatched by any public agency in the U. S.

As one of the nation's largest state level clients, UDC has provided 160 architectural and engineering firms with \$65 million in fees. Some of the firms have included Paul Rudolph; Sert, Jackson & Associates and Davis, Brody & Associates (winner of AIA's 1975 architectural firm award).

But UDC has drawn architecture of high quality from "name" firms and lesser-known practitioners alike. More than a dozen of its projects have won major design awards and AIA gave the agency a citation for its "concern for the livable environment, support for imaginative site planning, attractive design and responsible management."

Says Joseph Wasserman, AIA, of Hoberman & Wasserman, "UDC has changed the climate of design. Now any housing done in New York State must be measured against UDC's accomplishments."

UDC is now in the midst of a national competition for design of 1,000 units of housing on the Roosevelt Island new town in town. More typically, final selection of architects has been made by UDC President Edward Logue, itself evidence of top-level design commitment.

Logue's selections have been made on the basis of recommendations by UDC Chief of Architecture Theodore Liebman; Herbert Tessler, director of design and construction (also an architect); and the director of the UDC region in which a given project is located, part of whose mandate is to bring the sentiments of the community into the choice.

UDC does not apply a particularly unusual set of criteria in its selection of architects, although it does pay special attention to sensitivity to materials and site conditions and to the ability of firms to work within the rigid time and budget constraints common to UDC projects. It

Ms. Harney is a Washington writer and editorial consultant and frequent contributor to the JOURNAL.

also makes an affirmative effort to involve minority firms (who have received \$7.5 million of the total \$65 million in A/E fees).

Overall, UDC's success in selecting architects capable of producing quality and drawing good work from them seems to result mainly from a combination of concern and design sophistication on the part of its leadership. "Sure we've had some problems with UDC," says Bob Piscioneri, AIA, of Castro-Blanco, Piscioneri & Feder, but they have understood what we're trying to do in terms of design. It's like talking to people with the same vocabulary."

One area in which UDC does apply special standards is what it calls "livability," or the meeting of user needs. Liebman describes the agency as the "surrogate client" for those who will inhabit its buildings.

In this role, UDC has been developing qualitative housing criteria based on user needs. These criteria are fed into the programming phase of a project in the form of "design aids" given its architect. These are sheets which, in essence, deal with activities to be accommodated in various elements of the project, and draw from them spatial and functional requirements.

The sheets are included in a large loose-leaf notebook which each architect receives at the outset of a project, containing bulletins ranging from homilies to detailed suggestions on such matters as room sizes and kinds of equipment to be incorporated into the buildings. "In the early days," says one architect who has worked with UDC for several years, "they had a thin black book with a few notes. Now they use the loose-leaf notebook so they can keep adding to it --- and they do."

The livability criteria also come into play during the design review process. UDC maintains, and interviews with its contract architects affirm, that they are more helpful than restrictive to design, since to some degree they substitute explicit standards for subjective judgments.

UDC regularly engages in postconstruction evaluation to test, replenish and refine the criteria. It also makes a practice of having staff and contract architects live

in projects for a short time after they are built.

The criteria also have been used by Liebman's staff in development of prototypes for specialized building types such as housing for the elderly and community centers. As its criteria began to identify a number of negative factors involved in families living in highrise apartments, it started work on a series of prototypes of lowrise, high-density housing.

If one of UDC's key words is livability, another is context. The first task the architect must perform for UDC is a site reconnaissance visit and report. The results of this report provide the first information for objective criticism of the final design.

The report requires more than a simple eyeballing of the site and a meeting with regional staff people. It must include "situation maps" at macro and micro scales.

The macro maps indicate the relationship of the project to the area including location of schools, parks, recreation facilities, commercial areas, existing renewal plans, proposed land use changes, the traffic flow of the street system, access to public transportation and general growth and decay expectations.

The micro maps, accompanied by a photo montage of the project site and its immediate environment, include topographical information; existing vegetation; orientation, sun, view, light, zoning analysis, adjacent building intensity, height and character; the existing social mix and site opportunities and constraints.

From the first site reconnaissance visit and report, the architect goes on to draft his first sketches and basic design concepts. Then the design review process begins. Liebman and a representative from design and construction both push for livability standards and the best possible design. But the people in design and construction must also press for attention to budgetary and time constraints. The representative from the region pushes to make sure that any commitments to the community are met and that the design is sensitive to the context of that community.

"If we've had disagreements during the review process," says Bill Wilson of Gruzen & Partners, "it's been because

we've been breaking our backs to meet severe economic constraints and maybe gave up too soon on livability."

Added to the stated and written design criteria is a growing unwritten list of UDC "no-no's" which become evident as one talks to various staff members. These constraints are based on some of UDC's early experiences.

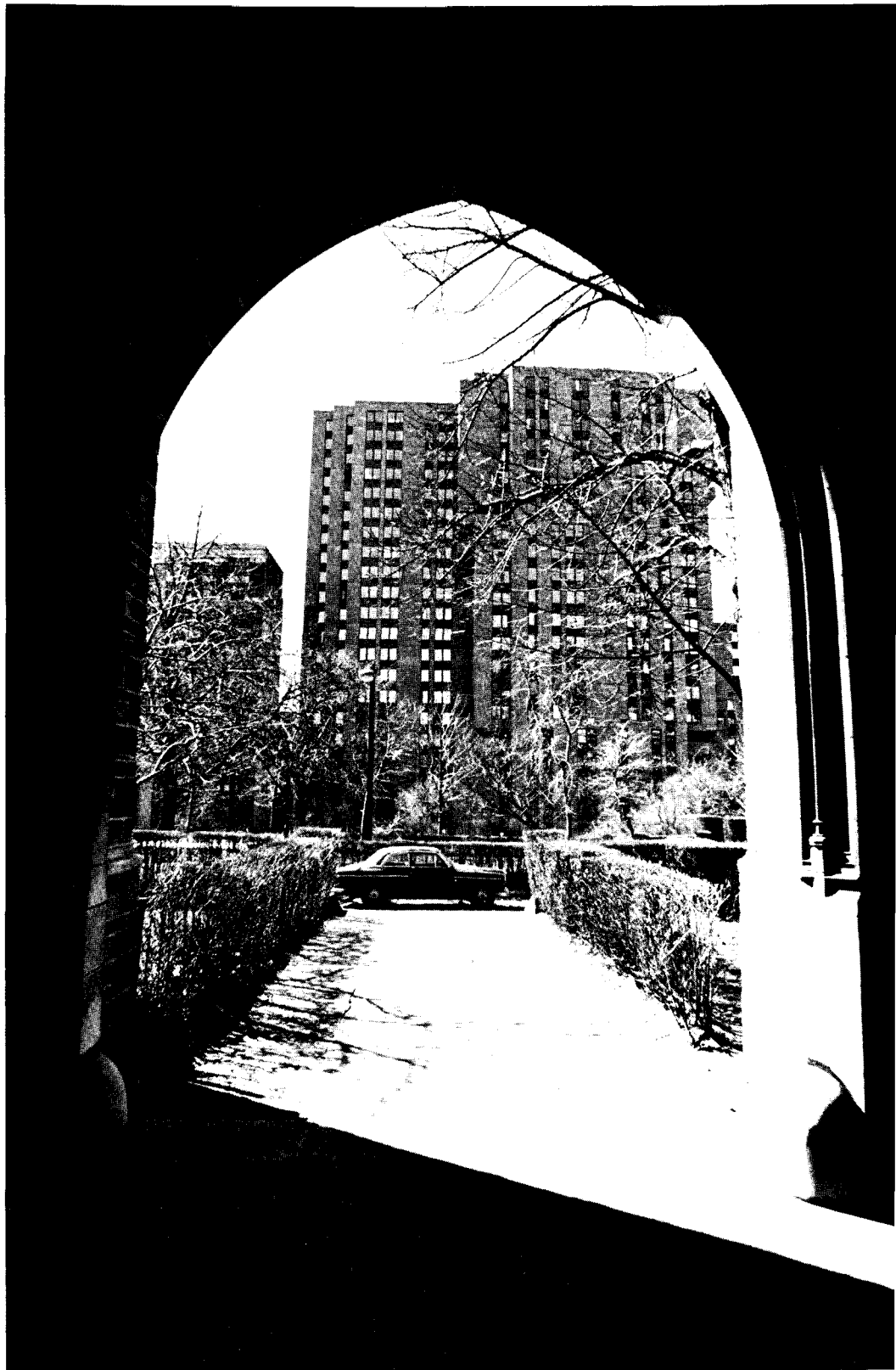
Perhaps UDC's biggest mistake was in using federal minimum property standards based on Section 221 (d) (3) to define room sizes. As a result, all UDC's early buildings, many of which are architecturally outstanding, have tiny rooms.

Probably the biggest single shift in UDC-designed buildings is from open plans to security-conscious 'defensible spaces.' "We invited the world into our buildings and sites to admire us and the world vandalized and graffitied us," says Joseph Wasserman. One of the agency's most recent proposals for a high-crime neighborhood is a multibuilding development that might best be described as a humane fortress.

UDC is constantly searching for new solutions. It is obvious that UDC has done its best to be flexible despite its size and huge public responsibilities. In its attention to user needs, it is reaching out to learn and to keep the organization from becoming so entangled in its bureaucracy that it loses touch with people. The bureaucracy which creeps into any large organization will have begun to take hold.

UDC's severe financial and political problems may force it to be more conservative in the number of risks it is willing to take. Probably the biggest single complaint from architects recently is that UDC has been exceedingly late in paying architectural fees. "The more difficult it is for them to get financing," says Don Ryder of Bond, Ryder Associates, "the more like a traditional bureaucracy they become."

Even if rigidity should set in, UDC has already demonstrated that well-designed housing can be built by a public client sensitive to both the architect and the user. □



*Cathedral Parkway, Manhattan, is by 1975
AIA firm award winner: Davis, Brody.*

Don't Count On Higher Fuel Prices To Halt Urban Sprawl

Sumner Myers

The economic urgency of tightening up our urban linkage systems is undisputed among planners and architects today. With inflation rampant, domestic supplies of raw materials shrinking and demand for urban services skyrocketing, we face a future of minimal-quality services haphazardly delivered by a bankrupt system unless we can somehow increase the cost-effectiveness of our public institutions.

If we can increase urban densities, we will have taken a giant step toward improving the effectiveness of local public services. A noted transportation authority says that "changes in land use patterns aimed at minimizing distances between essential activities could prove in the long run to be the least painful—and the most desirable—adjustment that society could make" toward conserving energy and economic resources. But while urban planners generally agree that compression of urban form is the least painful option for conserving energy resources, they should not delude themselves that the converse—that conserving energy (specifically, automobile gasoline) will tighten up urban form—is true.

It is the aim of this article to refute—with the aid of some simple arithmetic—the currently popular notion that raising gasoline prices will *per se* cause a significant shift of people from the suburbs back (or closer) to the cities. Although higher gasoline prices resulting from either direct or indirect (crude oil) taxes may very well conserve fuel—which goal is of the highest priority both politically and economically—fuel conservation measures such as taxation or rationing cannot be relied upon to yield, as a byproduct, a reversal of the current trend toward urban sprawl. And if planners and architects expect taxes to accomplish more than their primary intent—to reduce fuel consumption, they are putting their eggs in a basket riddled with holes.

Long-term uncertainty of supply of gasoline is obviously an unsatisfactory

public policy option for increasing city densities. Present federal policy is aimed at ensuring adequate continuing supplies of petroleum for domestic needs (partially through the development of effective conservation measures) while steadily reducing our reliance on imports. It would be politically disastrous for the Administration to announce that fuel supplies were to be an unknown variable for an indeterminate period of time, with no countermeasures being taken to alter the situation. Of course, long-term uncertainty of supply *would* make people think about moving closer to the cities. When a motorist doesn't know whether today's tank of gas is to be his last at *any* price, he will be forced, in the absence of other convenient transportation, either to move or to change his job. But a public policy based on maintaining uncertainty of supply would be far too irresponsible to become a reality. Thus uncertainty of supply *could* change urban form, but it's not going to.

Paradoxically, higher gasoline prices will remove the one factor—uncertainty of supply—that would induce large-scale relocation closer to the urban centers. Rationing of gasoline, a last-resort measure because of its "curtailment of freedom" implication and the complexities of administering it, is preferred by many Congressmen but would have the same short- and long-term effects on urban transportation patterns as higher prices—practically none.

During the most severe phase of the energy crisis, when gasoline prices rose sharply and supplies *were* uncertain, people did not relocate because they were hopeful that the crisis would be short-lived. They simply adapted to the shortage and higher prices by first curtailing discretionary driving and then reducing journey-to-work driving by joining carpools or (where possible) using public transit.

If motorists do curtail car use because of increased gasoline costs (which will help guarantee supply), they will almost always curtail their *discretionary* driving (weekend and vacation trips, visits with friends, shopping, etc.). The numerous perceived advantages of suburban living—greater space and privacy, fewer environmental assaults, better schools, etc.—will

far outweigh the irritation of paying a few extra dollars a week for auto gasoline. The relatively well-heeled suburbanite will not pull up stakes, as some simple calculations will demonstrate.

Sixty-eight percent of all workers travel 10 miles or less to work. A commuter who travels 10 miles one way to work (100 miles a week) and who drives a luxury sedan (V-8 engine, automatic transmission) averaging 12 miles per gallon will spend, at current gasoline prices of 60 cents a gallon, \$5 a week on gasoline. Even if the price goes up to 80 cents a gallon, the commuter will spend only \$6.67 a week, or \$1.67 more than previously. A price rise to \$1.05 per gallon (highly unlikely in the immediate future) would raise his gasoline costs to \$8.75 a week or just \$3.75 more than he is presently spending. That's a pretty paltry sum to give up a lifestyle for.

The owner of a domestic subcompact like the Pinto, averaging about 20 miles per gallon, will feel increased gasoline costs even less than the luxury-car owner. If the "subcompact commuter" also drives 100 work miles per week and pays 55 cents a gallon (for "regular" gas), he now spends \$2.75 a week. If he pays 75 cents a gallon, he will spend \$3.75 a week, or only a dollar more. And if he pays \$1 per gallon, he will still spend only \$5 a week—\$2.25 more than before.

Discretionary driving has little or no effect on urban linkages; in fact, social and recreational driving tends to be *away from* the cities. The fact that people have to spend more on such driving might cause a change in their social and recreational patterns without altering urban form in the least.

In the long run, higher gasoline prices will increase the demand for smaller cars (provided that their initial price is appreciably less than that of larger cars) and for improved fuel economy for *all* cars, large and small. And government policy aimed at bringing gasoline consumption within the limits of domestic production will further stimulate the trend toward more efficient (and possibly smaller) cars. A number of federal policy options for reducing fuel consumption are now under study, including a variety of direct meas-

Mr. Myers is director of urban systems studies at the Institute for Public Administration in Washington, D.C. This article is based on reasearch by Anne Chacon and Steve Hoglund.

Higher prices will be offset by improved gas mileage, so 'why should people move?'

ures to improve car efficiency (e.g., mandated technological changes; a mandated average fuel economy standard for new cars; a mandated maximum vehicle weight standard for new cars; graduated taxes on new car fuel efficiency, weight or horsepower). With both government and private pressures on the automobile industry to come up with more efficient vehicles, a substantial overall improvement in fuel economy can be predicted within the next few years.

Although it is wholly realistic to predict a substantial future increase in the overall efficiency of cars, we cannot make a definitive prediction that the 1973-74 trend toward small-car buying will continue without reverses.

Consumers' two major considerations in choice of new car are 1) capital (purchase) cost of the car and 2) fuel economy. When small cars tended to be much less expensive than large cars and gasoline was both expensive and in uncertain supply, consumers tended to buy small cars because their purchase cost was much smaller *and* their gasoline costs would be smaller.

However, recently the manufacturers have substantially raised small car prices, so that the price differential between small and large models—even when combined with gasoline-cost savings of small cars—has been insufficient to offset the traditional inducements (especially comfort and convenience) to large-car buying. Thus trends toward small- or large-car buying are highly unpredictable because they are so dependent on market factors.

The fact that people may continue to buy large cars even in the face of large gasoline price increases supports the major thesis: Not only will people not change a *lifestyle* for a few more dollars a week, they won't even switch to a small car.

The production of increasingly efficient cars will mean that although motorists will be paying a higher price for gas, they will use less of it in traveling the same distances as they do today (or perhaps greater distances). Higher prices will be offset by better mileage, and people won't spend any more on journey-to-work driving than they do now. Again, why should they move? We are indulging in fantasy

if we expect gasoline taxes to draw people back to the cities—to yield wonderful side benefits that will eliminate the necessity for some hard thinking on our part.

Let us return to some simple arithmetic: A commuter drives 100 miles a week to and from work in a 2½-ton Buick. He gets 15 miles per gallon and pays 60 cents per gallon, a weekly commuting cost of \$4.

In early 1975, the price goes up 15 cents, bringing his weekly cost to \$5. In 1980, the price goes up another 15 cents and his weekly cost to \$6. By now the Buick is seven years old and is starting to need expensive repairs.

Since he also does a lot of discretionary driving, the commuter turns in his car for a 1980 model. If by then General Motors has kept its promise to meet President Ford's goal of 40 percent increase in mileage (conditioned upon Congress maintaining present emission standards) our commuter would get 21 miles per gallon. Thus, his weekly cost would be \$4.28, even with higher prices.

Such a mileage improvement, annulling price rises, may be well within reach. The Environmental Protection Agency has estimated a 13.5 percent increase in gasoline efficiency of 1975 models over 1974s.

Another point should be addressed here. Although people who now live in the suburbs will not return to the urban centers because of higher gasoline costs, there is little doubt that city and suburban community densities will increase substantially in the next decade. Planned communities with relatively high-density housing will begin to replace unregulated sprawl as a development pattern, and "holes" within existing cities will be partially filled with high-density residential buildings (high-rise and walkup apartments, townhouses, and other multifamily dwellings).

But this higher density will *not* be in response to higher fuel costs; it will respond to the higher cost of land and housing (to both developer and consumer) and to the growing realization by local governments that economic and environmental costs and resource consumption are likely to be significantly less at higher densities to house and service a given population.

Moreover, even though city and community densities will increase, *jobs, on the average, are unlikely to be any closer to people's homes than they are now*. Even if 1,200 people live in a highrise apartment building, each working person in that building must still travel to work; and chances are that about the same percentage of workers in that building will drive 10 or more miles to work as in the population at large. Higher-density housing *per se* will not tighten up urban linkages.

If everyone in a large highrise worked in a factory a mile away, of course, urban linkages would certainly be tightened. But community planning that routinely integrates housing and place of work is a long way off, and even if such planning were less complex, it might not be perceived as a personal and social good by most people. Choice of housing is only peripherally dependent on place of work; it hinges far more on attractiveness of neighborhood. And even if there *is* some tightening up (if new high-density housing tends to be slightly closer to job centers than in the current housing-job pattern), the numbers involved will be so small as to hardly influence the overall pattern.

Urban sprawl is a problem very much in need of a real solution—not a pseudo-solution. While oil and/or gasoline taxes and other fuel-conservation measures may prove highly effective in reducing energy consumption—and thus in promoting US independence of foreign energy sources, they are a pseudo-solution to our urban sprawl problem. Increases on such taxes are far more likely to reinforce present urban linkage systems than to compress them.

Let's stop chasing pseudo-solutions. If we are going to increase the density of our cities and reduce the costs associated with urban sprawl, we are going to have to deliberately *plan* for such goals. We can begin to tighten up cities only if we zone for higher densities, if we create well-thought-out city development plans rather than permit present leapfrogging patterns to continue, if we can manage to coordinate public entrepreneurship with the kind of creative architectural and systems planning that will again make the cities attractive places in which to live. □

Architecture for Corrections: A Slim Chance to Help

Sandra Kashdan

Crown Center, in Kansas City, Mo., is designed to take care of you. The opulent hotel complex, with its boutiques, bars, beauty salon, bookstores and restaurants that run the gamut of cuisines, is a community unto itself, almost wholly self-sufficient. However, after two days of navigating the same corridors, after nodding at the same solicitous maids and porters, the same guests at the elevator, its novelty wore off—I wanted out! Fortunately, of course, I could get out. But I had to wonder, how much would this elaborate comfort console me if I could not? The question came naturally to mind given the circumstances that brought me here: the first Conference on Architecture for Corrections sponsored by AIA's committee on architecture for justice.

The participants, 136 architects from 37 states, came to confront the dilemmas that complicate work in this field. One of the most basic of these dilemmas was outlined by Herbert McLaughlin, AIA, partner in the San Francisco firm of Kaplan & McLaughlin, and member of the U.S. Attorney General's ad hoc committee on corrections architecture: "There's an increasing feeling and belief . . . that rehabilitation doesn't rehabilitate, corrections do not correct." Indeed, most of the studies McLaughlin has seen "tend to demonstrate that the rate of recidivism is the same whether or not you have a bare bones, hard-ass joint or you just drape social workers around the neck of every convict like so many worry beads. As a matter of fact, the rate of recidivism in some studies goes up if you lighten the load of the probation officer so that he has more time to follow the ex-con. . . ."

With these facts in mind, J. J. Maloney, a reporter for the *Kansas City Star* and one of the two former prisoners who spoke at the conference, submitted that perhaps the most architects can do is to minimize the harm that inevitably is done by detention. As he sees it, there is a slim chance of making the prison experience less corrosive, but there is ample opportunity to make it even more so. Given these conflicts, conference participants

addressed themselves to ways in which architects can emerge from this market with their integrity intact. Not surprisingly, chief among the methods set forth was the use of innovative design.

One of the dominant themes running through the several case studies was the retreat from all that is institutional in design—the movement from formidable scale to intimacy; from cold hard surfaces to warm and varied textures; from unyielding, impersonal spaces to an environment susceptible to changes by and reflective of the individuals living in it. The thrust was toward an architecture that testifies to the self at a time when all else seems to conspire against an assertion of self.

In McLaughlin's view, the correctional environment is crucial not only because of its direct psychological impact on the inmates, but also because of the way it affects them indirectly, as in any institution, as it works on the guards and other staff. His recipe for decent institutional living is not unlike the recipe for humane living anywhere: the smaller the scale, the better; openness in the interior and exterior (the less obvious the walls and barriers, the better); variety (big and little spaces, rough and smooth); irregularity (a structure not organizationally apparent and diagrammatic, but one into which one can penetrate and be surprised); accessibility (a building one seemingly can get in and out of); noncentrality (particularly since large focal spaces—like dayrooms—can become negatively symbolic of a whole institution), and nonrectilinearity and nonlinearity.

The Purdy Treatment Center for Women, in Gig Harbor, Wash., 20 miles from Tacoma, typified several of the conference themes. It is a small (total population: 165) campuslike facility, designed by Walker/McGough/Foltz/Lyerla, Spokane, Wash., to accommodate the varied activities of whole people. Its flexibility mirrors the view of its superintendent, Edna Goodrich, who sees a flexible architecture as aiding and abetting a flexible program. In fact, Goodrich admonished architects to provide even more flexibility.

The community space at Purdy consists

Ms. Kashdan is assistant director of continuing education for the AIA.

of all-purpose classrooms, a multipurpose library, a dining room that doubles as a club meeting room, off of which juts a small cafeteria, and rooms expressly for home economics, sewing and art work. Goodrich deeply regretted the state legislature's refusal to subsidize a gymnasium or exercise yard, in the seeming belief that physical release is not as essential for women as it is for male prisoners.

Purdy's living quarters reflect two degrees of security in the two locked wings of the central building; each woman has a small, individual room, which she can decorate and arrange as she likes. The lavatory facilities are centralized in each wing, as are the individual showers with curtains. A washing machine and dryer are also provided for the use of the residents. In addition, a small apartment complex nearby houses 22 women on work release; each two-bedroom unit rents for \$90 a month, and includes a small kitchen and dinette area. These, in particular, are symbolic of the implied goal at Purdy: to help women return to a self-sufficient, vital life.

The Alaska Corrections Center at Eagle River, near Anchorage, designed by Hellmuth, Obata & Kassabaum, Inc., St. Louis, arose out of a program rationale similar to that of Purdy. The single-story, wooden-faced concrete complex, nestled amid a forest clearing, consists essentially of two elements: The facility is organized around a community center, which houses all of the centralized functions of the institution—the dining area and kitchen, snack shop, education and vocational facilities, a library, gymnasium and the administration facilities. There are also two free-standing housing units. Architect Patrick Leamy of HOK explained that to keep the facility at its present size, the site was selected and a master plan done in such a way that after the planned capacity of 200 beds is reached, it would be most difficult to further enlarge the population.

The arrangement and look of Eagle River reflects the philosophy of its architects, who, first of all, did not want an institutional looking building out in the middle of the forest, but more important, wanted to approximate what the residents

might return to when they left the institution. It also reflects a nonisolationist policy, a desire to reintegrate the men into the community as soon as possible and a willingness to draw upon the educational and vocational resources of the community to help the men while they're still imprisoned. Leamy said that there is no way the division of corrections, here or anywhere else, can duplicate all the resources of the community. Thus the classrooms and vocational areas are designed like high school shops; they are not self-sufficient, but intended to interest the men in different areas which they can then pursue on the outside.

Eagle River's cruciform-shaped housing units are based upon what Leamy described as the concept of the treatable group—the supportive family unit, wherein inmates work together as a team to help one another. Each unit is subdivided into four 80-square-foot clusters of 10 single rooms each, 10 individuals thought to be the largest practical number for such a working group. Each of these small groups shares a fairly normal looking living room, carpeted and with comfortable groupings of furniture, and manned by a counselor. The four living rooms lead to a dayroom in the center of the housing unit. While the men are locked into their housing unit, they can circulate freely within it, each holding the key to his room. The thermostats and electrical switches can be controlled by the inmates, and the furniture arranged as they please.

An emphasis on small group spaces and a nonpunitive, community atmosphere characterizes the two youth facilities described at the conference: the Jackson County, Mo., youth facility, designed by John Lawrence Daw & Associates, Kansas City, Mo., and the Northeast Oregon Regional Youth Center, designed by architect Richard Gabriel, AIA. The Missouri Center, described by Jim Walsh, director of juvenile court services in Kansas City, as a secure detention facility for the more aggressive delinquent, is a brightly colored, single-story building housing about 30 youthful offenders. There is a vocational school nearby. The facility's small spaces are created by flexible partitions, so that the building very often undergoes

changes along with the evolving program. The floor plan reflects Walsh's belief that individual rooms are effective only if they are clustered around a small dayroom, and all of this is effective only if there is continual, meaningful contact between the residents and staff. And his theory appears to be working: Since the youths have been residing on one floor, in small groups, and have been continually involved in educational, recreational and social activities, there have been far fewer problems that Walsh has encountered in older, larger, more rigid facilities. He attributes the relative serenity in large part to the "everybody-knows-everybody" kind of atmosphere facilitated by the building's design.

Gabriel's Northeast Oregon Regional Youth Center provides for a similar flow and intimacy. Designed for youths ages 12-17, who stay for an average of one week, mostly for pretrial detention, the 20-bedroom center was conceived by Gabriel to encourage a sense of community and to impart a feeling of benign concern. There is a casual, brightly-colored, homey sort of atmosphere, with counseling facilities, an activity and lounge area, dining, classroom and craft spaces.

The need for a feeling of normalcy notwithstanding, conference speakers repeatedly reminded architects that imprisonment is, after all, a most abnormal situation and that they must take into account all those problems that never would arise in a more ordinary building. Peter Leffe, a graduate student in architecture at the University of California, Berkeley, who spent two years at the California State Prison at Vacaville, alluded to some of these special problems in his critique of a prototypical 'new wave' correctional facility in Pleasanton, Calif. He also urged architects to keep uppermost in their minds the constant threat of danger to the inmate, a factor that figured prominently in Leffe's call for smaller, more specialized spaces. Not only do big spaces violate the yearning for privacy in a correctional institution, but they pose a clear threat to the individual who simply has no place to hide. This phenomenon was well illustrated by one of Leffe's slides in which inmates in a fishbowl-like dayroom were shown huddled in corners.

The answer is not to stop building prisons, but to make them both secure and humane.

Leffe said that at Pleasanton inmates' individual rooms, to which they possess the key, have turned out to be their favorite environment; they find them very personal spaces, spaces that allow for solitude, and so, by their definition, very good spaces.

Of course, for a private space to be truly one's own, it must be under one's control—a test that inmate rooms at Pleasanton, like those at other correctional facilities, fail in part. Leffe pointed out there is a prohibition there against inmates tacking up pictures and other personal articles on their walls. The stated reason? Fire hazards. Yet, Leffe noted, nothing else in the rooms is fireproof—neither the beds, nor the blankets nor the clothing. Could this regulation, then, reflect a fear of any self-assertion by the inmates?

The conferees also addressed the question of how the architect can retain potency in the predesign stages of programming—how he can step forward and play a more decisive role in influencing the type of facilities that he is asked to design. The architects unanimously eschewed unquestioning acceptance of a program. And they were well supported by the nonarchitectural conference participants.

Edna Goodrich, for example, exhorted that "you, as architects, have got to get involved in the total plan, you've got to know what the program is going to be and be guiders in the program."

Patrick Leamy warned against the power politics of correctional institutions. He cautioned architects to beware of strong-willed police chiefs, sheriffs, judges and wardens, and to weigh the comments of sheriffs and wardens, in particular, as those of people chronically frustrated by day-in-day-out security problems. Said Leamy: "If we can hold the client off for just a little while to establish the philosophy, then we can begin to make the decisions that will implement that philosophy."

Another problem confronted by those at the conference was: Who, in fact, is the client? Whose goals are we serving? According to Kenneth Ricci, AIA, whose New York City firm has broad experience in correctional facility planning and consulting, there is not always a clear-cut answer to this question. First and fore-

most, there is "society," the community, many segments of which participate in the goal setting. There are the correctional officers and their goals, which may be indistinguishable from those of the community they serve. There is the owner of the property, although, as Ricci observed, very often even though the owner is the client agency in name, the real, if absentee, client is the department of corrections. And then, of course, there are the offenders. What are their goals? Quite obviously, the distinction in this market between the client and the user is a crucial one.

But even when the architect clearly defines his client, no one group is monolithic. If the client is considered, for example, to be the administrators or professionals involved, then the architect must contend with an ever-shifting client, Ricci pointed out, since there is a constant turnover in the personnel of correctional institutions. And not surprisingly, the correctional programs will vary almost in a direct proportion to that turnover. Furthermore, the architect must watch to be sure his client group does not unaccountably change as the programming proceeds. For example, Ricci related that as he has progressed toward the working drawings, he has seen the monitoring of his program gradually shift from the program personnel to the operators—another word for security people. As a result, he has almost inadvertently wound up programming the world's most secure half-way house.

The problem of client definition perhaps would be less important if there were clear-cut, stationary goals—both immediate and long-range—in correctional architecture. But to the dual question of where are we now and how do we know, Ricci answered that we must in fairness say that we do not know. With \$3 to \$4 billion to be made available by various government sources in the next 10 years, Ricci would like to see architects in a position to advise clients on the allocation of funds, and to decide whether the money should be applied to new construction, to renovation or simply to maintenance of what now exists, or to argue forcefully at the highest level to reduce the need for these by reducing the prison population.

Of course, in order to formulate both

long- and short-range goals, there must be an effective mechanism for the evaluation of existing facilities. For example, said Ricci, architects have been proceeding on the assumption that old prisons produce bad guys and new ones good guys, but the evidence for this rationale simply is lacking. In fact, he pointed out, good architecture sometimes hinders program goals as it transmits a mixed message: The nice building explicitly suggests that the inmate is a nice guy, but the lack of freedom implies otherwise. The result is a heightened sense of charade. So Ricci warned architects to beware of superficial change as a substitute for real progress.

Ricci, like many others in the field, advocates that only the bare minimum new correctional facilities be built. He argues that, with the current state of the art, we really don't know if the application of more capital correlates positively with quality of performance. (More likely, he suspects, it goes up, then levels off and, after a certain point, may even begin to drop off.) With the lack of any adequate feedback on the difference between the intended and the actual performance of correctional environments, Ricci said that architects may unwittingly be perpetuating a system that may be, at best, counter-productive.

All of which points to this principle: The architect must reserve the right to say "no." McLaughlin was one participant who was firm on this point: "Now I'm not one of those people who says, 'let's stop building prisons.' I believe we should build them. We have an obligation to build them and we should build secure and humane institutions." But he did take exception to the warehouselike structures that reflect "what has to be, on the part of the judges, an irresponsible pattern of the use of arrest and citation in terms of human returns." And beyond that, said McLaughlin, "If one takes the attitude that for many people jail is an unnecessary and harmful experience, I think it is the architect's responsibility to inform himself of the plan and to react to those plans and decide not to take the commission if he feels it is going to lead to injustice, and I think a lot of commissions lead to injustice." □

Broadening the Base of The Profession Through Affirmative Action

Last September, AIA launched a professionwide affirmative action effort with a board resolution calling for the creation of guidelines for both components and individual firms. These guidelines, once completed, will be incorporated into the AIA professional practice manual.

Affirmative action is a big step beyond simple equal opportunity practices, and it is a difficult concept—one which is easily misunderstood and misinterpreted. Affirmative action is more than a numbers game—it means more than adding a black employee here and there to make statistics look good. Likewise, affirmative action does not mean merely adding “equal opportunity employer” at the bottom of classified ads. It does not mean, as many have charged, reverse discrimination—that is, turning down a qualified white male to hire a black or a female.

What it does mean is enlarging the pool of potential employees so that they are chosen from every sector of society. It means, at times, waiting a little longer to fill a position with a qualified black, Chicano or woman, or perhaps, looking a little harder for that new employee. Affirmative action means taking a long, hard look at the standards ordinarily used for hiring, and determining which may have worked to exclude blacks and others from consideration as potential employees.

Nor does affirmative action stop once minorities have been hired. Opportunities must be provided for training and growth. Affirmative action means giving minorities a chance to move up the job ladder, too.

In a preponderantly white profession such as architecture, affirmative action also means increasing the visibility of the profession so that minorities know they are welcome at every level of employment. It means putting the profession within reach of people who may have always considered it forbidden fruit.

The major thrust toward affirmative

action over the past decade has been the law. Title VII of the 1964 Civil Rights Act made it illegal for employers to discriminate in hiring or promotion. This law exempted firms with 25 or fewer employees, although many states have more stringent laws covering smaller firms. In addition, it is illegal, under federal law, for a firm with a government contract of \$10,000 or more to discriminate.

The law firmly establishes equal employment opportunity as a basic premise of hiring. But equal employment laws alone do little to undo the imbalance of years of entrenched discrimination. Without positive programs to change patterns of employment, the results of simply opening doors have proved to be negligible.

This is where affirmative action fits in. It is a concept which evolved through a series of executive orders that have been refined over the past decade. In a 1968 order, the U.S. Department of Labor termed an affirmative action program “a set of specific and result-oriented procedures” which include goals and time-tables. Ironically, it is the use of numerical goals which has caused the greatest controversy and at the same time has produced the most effective results. And the emphasis on results is the key difference between equal employment opportunity and affirmative action.

The establishment of goals and time-tables has led to angry charges of “quotas” and “reverse discrimination.” In many cases, these charges stem from misunderstanding and provide excuses for employers who simply do not want to change their hiring practices.

Some of the misapprehensions surrounding affirmative action stem from the confusion of goals and quotas. Quotas are inflexible—no more and no less than a certain number can be admitted—and imply exclusion rather than inclusion. Affirmative action goals are less rigid. They establish a reasonable target point for achieving equity in the make-up of a firm's work force.

And before crying out that more qualified whites are being deprived of jobs to pave the way for less qualified blacks and others, it is necessary to take a careful look

at the term “qualified.” There is no way of measuring the relative qualifications of potential employees with absolute precision. Thus few people are hired on a purely objective basis. Often, an employer uses discretionary criteria when hiring—and these criteria may be based on the characteristics of past employees. This can be a dangerous trap if most past employees are white and male. In addition, such criteria as degrees and test scores may serve to exclude a number of potentially productive employees.

Affirmative action does require a commitment: It is time-consuming, and sometimes more costly than hiring on a first-come, first-served basis. But if a firm is committed to having the best talent available, it must look for that talent in the entire population, not just among white males.

For architects especially, affirmative action poses a set of peculiar dilemmas. It is a white profession—less than 1 percent of all architects are black. This means that affirmative action requires an intensive and widespread effort at all levels—nationally, locally and individually. The profession must be prepared to reach out into the community, to recruit actively and to open itself up to minorities and women at all job levels.

Architects today may find affirmative action an even more perplexing problem. These are lean times, and many firms are cutting back rather than hiring, worrying about who the next client may be rather than who the next employee may be. For now, these firms may find that all they may be able to accomplish is to avoid undoing the good efforts of the recent past by being careful not to fall into a last-hired, first-fired syndrome. Once the economy picks up, the sticky questions of whom to lay off will become moot, smoothing the way for renewed attention to hiring and promotion. *Beth Dunlop*

How One Firm Goes About 'Cutting in' Minorities and Women

"This is a firm which determines how people live, where they live and what they live in," said consultant Gerard Anderson of Dalton, Dalton, Little, Newport, "and various segments of their clientele have for years been cut out of this profession." Dalton, Dalton, Little, Newport—a large, Cleveland-based architecture, engineering and planning firm—decided to "cut them in" with a broad-based affirmative action program aimed at not only getting minority and women employees but keeping them. The results so far: In one year, the number of minority and women employees at all levels doubled.

"We started from the 'human engineering' standpoint to help the firm better understand the people for whom they were designing," said Anderson. And after long analysis and reflection, the firm developed what their consultant terms "a profit-producing personnel practice which also discharges a corporation's social responsibility."

Dalton is a 425-person firm with offices in Cleveland and Akron, Ohio; Baltimore and Bethesda, Md.; Miami, and New York City. The firm has branched out into planning, transportation and research in the past few years, and, as a result, has added almost 150 new employees, a fact which has made it easier to engage in a full-flung affirmative action program. Between March 1973, and January 1975, the number of minority and women employees went from 58 (out of 291) to 123 (out of 425).

In terms of sheer statistical performance, this is impressive. But the firm has developed a several-pronged approach to affirmative action, and Dalton principals think their program could be adapted to fit much smaller firms, at least in part.

"Being an equal opportunity employer is *not* affirmative action," said the firm's president Calvin Dalton. "Most people say send 'them' to me," he added, "but when you study the program, you realize that there aren't that many of 'them'." He said his firm had to learn "a whole series

of things about why black people had always gone into what were considered 'safe' professions"—like teaching and social work. "We decided we had to show opportunity in our field."

This kind of thinking produced efforts that are aimed at opening up new vistas for people who, in the past, might never have considered either architecture or engineering. "When you go into a profession, you don't often think about the people who are left behind," said Dalton. "What we found out is that there's no way to attack this problem except at the roots."

To accomplish this, the firm has begun working with schools in Cleveland, Akron, Baltimore, Montgomery County, Md., Washington, D.C., and Miami. The high school program includes participation in vocational day programs, talks to students, tours through the offices of the firm and seminars for high school guidance counselors. The firm also provides work for four high school graduates in the summer.

Last May, the firm hosted a seminar in Cleveland for a group of Washington, D.C., educators. The seminar dealt not only with job opportunities but with new techniques, such as using computers to help produce drawings. Since then, the firm's staff has been working with the District of Columbia's office of interdisciplinary cooperative education helping drafting teachers and their students. At the end of the last school year, engineers from the firm critiqued students' portfolios, and one student was chosen to receive a scholarship and a job. The program has continued into this year, and school officials are now trying to involve more firms in it.

The Dalton firm is now working with elementary school children, too, by speaking at schools and offering tours of the office. For kids of any age, office tours and speeches present a special challenge since the aim is to make the often-technical fields of architecture and engineering lively and interesting. "We don't want to deluge them with information," said Thurman Davis, a black architect who is an associate and project manager with the firm. "We try to decode

the profession for them and help them begin to understand what it's all about."

The firm is also working with a number of black colleges, providing speakers and assisting faculty members and offering work-study and cooperative programs for students. This particular piece of the program grew out of a seminar held in December 1973, for the presidents of 12 black colleges.

The work with schools and colleges produces a ready-made recruiting effort. This year, Davis and personnel director Donald Parent visited two black colleges—North Carolina A&T and Wilberforce in Ohio—to attend career day programs, consult with faculty and recruit. When they do recruit, however, they do not use a hit-them-over-the-head approach.

"Our theory is," said Parent, "that we push the professions of architecture, engineering and planning and talk about what the firm does. This way you get people coming to you." Past trainees have become the best recruiters, simply because the firm does have to prove itself to groups of people who have in the past been outsiders looking in.

"It's easier having an affirmative action program here," said Parent, "because the commitment starts at the top." At the start, Parent said, he made a real effort to find people who wouldn't fail "so the next time around there wouldn't be any question."

But at the same time, the firm was careful not to have its affirmative action program misinterpreted as a social work effort. "We've told nonwhites when we've hired them, 'you've got an opportunity to go as far as you want here but don't trade on the fact that you're nonwhite'," said consultant Anderson. And, he noted, "there have been two or three people who've tried to use us, and they got fired."

A backbone of the program is on-the-job training. Right now, the firm has 18 nonwhite and women trainees who work

Our Standards May Let Talent Slip Away

Elizabeth Reilly Moynahan, AIA

and attend local colleges and technical schools. Dalton pays the tuition for 10 of these trainees.

Implicit in the firm's affirmative action program, too, is the opportunity to move up. Parent noted that, for example, one office manager started as a mail carrier and another started as a part-time secretary.

But it hasn't all been perfect. Everybody at Dalton quickly admits that there have been plenty of problems. Most of these arise in the firm's attempt to get all of its employees to understand the affirmative action undertaking.

"You can go out and hire anybody you want, but it won't be worth a hoot unless you educate the people who are already there," said Parent. In the early fall of 1974, the firm held seminars for employees in small groups, and, said Davis, a lot of resentment surfaced. "People asked 'does this mean the quality level will go down?', 'isn't this reverse discrimination?' and wondered a great deal about the reason for all this concern about minorities," said Davis. "We've made loads of errors," added Parent. "We've tried five or six different approaches in dealing with longstanding employees, and we still haven't really come up with a good clue about how to go about this."

Another weakness is training for fresh young employees. "Some of the kids we've brought in had never seen a drafting board before," said Davis, "and all they could do at first was filing." The firm is trying to come up with a better system for initiating brand new employees.

In any affirmative action program, there will be mistakes, some of them painful, and there will be costs. For example, said vice president Willard C. Pistler, an AIA board member, "The kids we hire in the summer are in hard terms nonproductive—they are absolutely 100 percent overhead. But you just have to decide whether it's worthwhile or not."

"It's got to cost money," said Davis. "But it depends on how you look at it.

If you're going to do it, it's going to cost money, but you're going to do it anyway." The firm tends to look at the positive results of spending the money rather than ticking off complaints about wasted dollars. Anderson noted that the turnover rate is much lower at Dalton than in other places. "We're not just shoveling people in. We want them to stay, develop and grow." And, said Parent, the turnover rate is no greater for black or women employees than for white males.

Another advantage is that trainees who have had a good experience with Dalton tend to stay or return once they have finished their education, which means "new" employees who are already experienced in the ways of the firm. And lastly, the program provides a good way to spread the word about the firm's products.

"An important key is that when you go to show people opportunity in these fields, you also get a chance to talk about your work," said Calvin Dalton.

The creators of the firm's affirmative action plan are pleased with the results so far. But how is it viewed by those who are participating in it?

Tommy Roberts, who at 23 has worked his way up to being an electrical designer with the firm, thinks it works well. Growing up in a middle-class black neighborhood in Cleveland, Roberts always thought he would become an accountant. Then he latched onto the Dalton training program through the advice of a high school counselor and has been working full-time and studying part-time for the past three years. He intends to finish school, become a registered electrical engineer and stay with the firm.

Likewise, Morris Bennett, a 25-year-old black trainee is working full-time and going to school part-time on his way to becoming a structural engineer. "Dalton has a fine company," he said. "They have high standards and they're looking for somebody who can do the job. And there's always a chance to advance." Both think highly of the firm's efforts in schools. "Kids in junior high may realize that there's a drafting field and an engineering field, but they don't really know that there's a job out there. Dalton has opened itself up to them." *B.D.*

What special abilities do you need to become an architect? Walter Gropius said this about architectural talent: "I believe that every human being is capable of conceiving form." Gropius, who was one of the greatest teachers of architecture of our time, goes on: "The problem seems to me not at all one of existence of creative ability but more of finding the way to release it." If this eminent educator was right in his belief that creative ability and the capacity to understand form exists in us all, what are we doing in our schools to release it? What do we tell our children about a career in architecture?

Architecture is a field that few high school boys and girls know anything about. This is understandable for there is not much in a child's life that shows him what an architect does. Children go to doctors and dentists, they hear about their parents consulting lawyers from time to time. Teachers, firemen and policemen are part of a child's everyday experience, but because most people don't hire architects, many adults as well as children are not sure what it is an architect does that an engineer doesn't. This lack of direct knowledge is not corrected by anything that is taught in public school. In our country, where the practical and the beautiful are frequently seen as contradictory qualities in the same object, an understanding of the visual arts is considered a luxury that people do not really need, something to be left to the experts: just as mastery of the verbal arts would be considered a curriculum frill were we not compelled to read and write in order to survive. Regretfully, this attitude is found not just in the naive but in almost all educated people not directly concerned with the visual arts. Yet all of us, poor and rich, old and young, male and female, have to live in and with what an architect designs for us, all of our lives, at home, at work and just moving around.

Architecture is our built environment,

Ms. Moynahan practices in Princeton, N.J.

and most of us don't know how to assess it or even realize we have the right to do so. What young person today knows enough about this generally unfamiliar field to consider entering it? For that matter, from what groups in our society does the profession draw its members? The overwhelming majority of architects are white men from the middle class, while the leaders, those running the big offices, those establishing the trends and appearing in the architectural magazines, are almost all from families rich enough to send their sons to private prestigious institutions such as Yale, Harvard or MIT. A striking exception to this situation was the period immediately after World War II when the GI bill enabled men and women from all classes to go to these influential schools.

However, considerations of class and money, color and sex are not the only limiting factors in the selection of architects.

The white middle-class boy is told that he has to be "good" in math because he is going to have to do a great deal of it later on. Yet many good architects can barely manage advanced algebra let alone enjoy it. A command of higher mathematics, like a command of good English or computer sciences or accounting or graphic design, is useful to the architect but simple mathematics is what he must have like any other businessman.

What we seem to be selecting from the high schools is a white middle-class boy who is good in math and who has heard about architecture outside of the public schools because he comes from a family who knows about such things. Can an intelligent, literate student who loves making things and looking at things, who doesn't particularly enjoy but can do math, and who is from a poor white or nonwhite family become an architect? He (or especially she) will never be invited to try. If this student happens to inquire about opportunities in architecture, what will be the reply? "Are you *good* in math?" and "take mechanical drawing." Mechanical drawing is to the architect what penmanship is to the writer; there is no relationship between these two skills of any serious consequence. In any event, girls are not always allowed to take mechanical

drawing in school. People who may be very clever usually do not go where they are not wanted.

Aside from questions of fairness and equal opportunity, how well does this selection process work? Using a small elite, a society can develop the esthetic sensitivity and technical competence needed for its architecture. It has been done in the past, of course, without any pretense that the needs and tastes of most people were being satisfied. However, for the past decade, increasing criticism, and some of it damning, has centered not on the technical and artistic accomplishments of our architects, but on the fact that buildings done even by the "best" architects not only do not serve the public, but through some environmental damage or neglect of basic human necessities have made the lives of us all poorer: windowless classrooms, sealed windows, tearing down good old buildings to make way for new ones, etc.

Perhaps we should try to select our architects differently. We may be leaving our best resources undeveloped because of the narrow and rigid screening outlined above. Architects from varied economic backgrounds differing in kinds of ability and interest, racially mixed, of both sexes, would bring to planning and design a deeper understanding of our civilization and a keener sensitivity to its needs. For example, consider the insight the son of a construction worker, the daughter of a nurse, the Spanish-speaking child of a free clinic patient together with the son of a doctor could bring to the design of a city medical facility. Yet only the last of these is apt to become an architect as things stand now.

What should be done? To begin with, three goals should be established:

1. Broaden the socioeconomic selection of students going into architecture.
2. Encourage students with varied skills and talents to go into architecture.
3. Increase the knowledge of architecture in all students to produce a more discriminating public. □

A Comprehensive Approach To Improving the Quality Of Contract Documents

Jerry Quebe, AIA

Shortly after graduation from college, I was doing construction administration work on one of the projects for our office when a contractor said to me, "Why don't architects and engineers produce a set of contract documents which visually and functionally are equal in quality to what they expect the contractor to produce in the building?" The question lingered with me for a very long time and served as an incentive to press for continued improvement wherever it could be made.

Four years ago, I was given the responsibility for production and scheduling at Hansen Lind Meyer, which has grown from the three principals in 1965 to a 65-man firm today. My charge was the establishment of techniques which would result in a superior set of contract documents at a lower cost of production.

We had always had in our firm a philosophy that a neat and well organized set of contract documents would result in less confusion during the bidding process and less need for interpretation during construction. This would mean tighter and lower bids and less chance for contractor/architect conflicts later.

After analysis of our present methods and subsequent research into new techniques, we implemented many new changes in our drafting and reproduction system. The major changes, described in detail below, were: divisional format, overlay drafting system, photographic techniques, standard details, standards and abbreviations, and computer techniques.

We determined that with the advent of fast-track construction techniques, our drawings were not organized to follow the construction processes. To accomplish this, we have developed a divisional format for our contract drawings comprising the following 12 sections:

Section 1 contains general information pertaining to all other sections. This would probably include, on a typical project, a cover sheet, a sheet which identifies drafting symbols and abbreviations, and schedules which pertain to all sections of the drawings, such as equipment.

Section 2 is site development. During

construction, phases of the site work usually are the first items to appear on the construction agenda and therefore should be bound within the set as one of the first sections. The site development section might include existing, as well as new, site plans; electrical and mechanical site work; landscaping, roads, walks, along with all details and schedules pertinent to the site work. This collection of site work information in one section is not a radical departure from more conventional ways of organized drawings, except that electrical and mechanical site work are also included within this section rather than being bound with the electrical and mechanical drawings.

Section 3 is the structural section, since the structural work is the next logical step beyond site development. This section contains all plans, schedules and details for the structural work.

Section 4 in our divisional format is building enclosure. Here a more radical departure has occurred from standard drawing organization. This section contains exterior wall plans and details, and exterior elevations. In the event that there are schedules for such items as windows, they also would be contained here.

Section 5, building division, contains all information necessary to the interior partitioning of the building. This would include interior floor plans, interior details relating to the walls, room finish schedules, door schedules and hardware schedules.

Section 6 contains all information about the ceiling construction, including reflected ceiling plans and the ceiling details.

Section 7 contains information on fixtures and furnishings, including all case-work plans, all millwork plans, miscellaneous equipment plans and any related schedules and details.

Section 8 contains all information about plumbing for the building, including plumbing plans, details and schedules.

Section 9 contains all information about piping for the building, including the plans, details and schedules.

Section 10 contains all information on the heating, ventilating and airconditioning for the building. Once again, all plans, details and schedules are included.

Section 11 contains all information about the electrical power for the building, including plans, riser diagrams, details and schedules.

Section 12 contains all information about the communications within the building, including systems plans, riser diagrams, communication matrices, details and schedules.

Other sections have been set aside for additional information which may be required for the completion of the building. Section 13, for example, could be the color schedule, Section 14 signage, Section 15 movable equipment.

The sheet numbering which we employ also follows the divisional format and contains flexibility within it. For example, drawings which are bound within Section 4, building enclosure, all begin with the number 4. Sheets are numbered consecutively through this section, 4.1, 4.2, etc. Basically those drawings which are difficult to estimate in quantity at the beginning of the project are contained at the end of each section; these being the details and schedule sheets. This means that we can add sheets in the building enclosure section without affecting the sheet numbers in the building division section.

This gives us the ability to number the sheets early, remain flexible as far as adding sheets, and still be able to key details when they are started, not waiting until the end of the project when all of the sheet numbers are normally established. It also allows us to avoid adding sheets in the middle of a set which are out of sequence numbering, such as drawing 20 and then drawing 20A before drawing number 21.

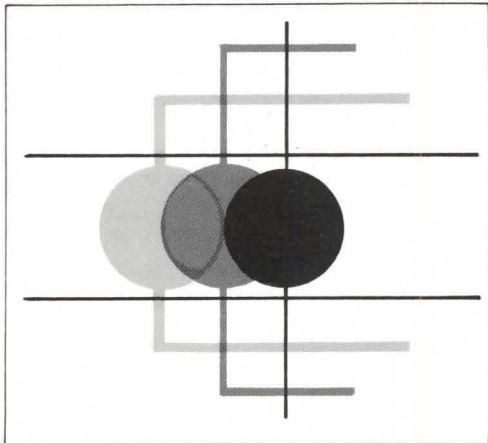
The overlay drafting system in our office is the backbone of all our drafting practices. Under this system, information which is common to various drawings is drawn only once. By means of an overlay to the base drawing, information is added to make other drawings. An example of this is the architectural floor plan. There is certain information on this floor plan which is common to the reflected ceiling plan, the fixtures and furnishings plan, the plumbing plan, the piping plan, the HVAC plan, the electrical plan and the communications plan.

Mr. Quebe is a principal in the Iowa City firm of Hansen Lind Meyer.

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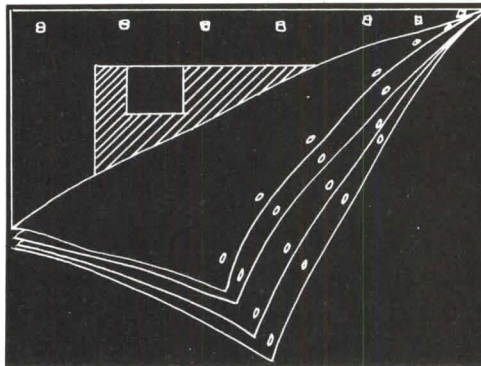
This common information is put on a base sheet. In order to develop an architectural floor plan, an overlay is made to this base sheet. The overlay might include such things as dimensions, architectural notations and detail keys. This overlay can be removed and another overlay can be added which might contain the reflected ceiling plan along with its detail keys. Or, it can be removed and an overlay added which contains information about the mechanical or electrical systems of the building.

One of the side benefits of the overlay drafting system is the ability to reproduce the contract drawings by means of the offset process utilizing various colors to rep-



resent various elements. For example, the base plan may be reproduced in a dark solid color on the architectural floor plan and the overlay information reproduced in another color, thereby eliminating a large number of lines in the same color and producing additional clarity to the drawings. This same base plan might then be reproduced in either a solid or a screened mode in a light color to which the customized information of either the mechanical or electrical sections might be added in a darker color, once again increasing the clarity of the drawing.

The primary benefit from the use of overlay drafting is its economy in the drafting process. The cost of implementation of this particular system in our office amounted to \$12.50 per drafting station. This was for the investment in a 7-pin stainless steel registry bar which is used to register the drawings by means of seven



holes punched in the top of our drawings. The company doing our reproduction work punches the holes in the drafting film before we receive it, which eliminates an investment in a punch for our office.

Mylar is the only drafting material that is practical to use with this system. It is important that a stable base material be utilized in order to maintain registration.

In our office we use two methods of determining what information goes on base sheets and what on overlays.

One is use of what we call sheet analysis forms, on which the project manager graphically depicts what information is going to be located in what position on each and every sheet of the drawings. There is also a place on the forms for general notes about base sheet or overlay data.

From the sheet analysis forms we go to the overlay sheet network. This basically traces the steps that a particular sheet will go through as overlays are added. Following production of the overlay sheet network, the project manager produces a list of each and every sheet which is going to go into the set of documents. The architectural personnel then begin the drafting process. The first step is developing the information which is common to structural and architectural drawings. Once this information is developed, a photographic reproduction is made. This reproduction is then given to the structural personnel for further development. Following this reproduction, information is added to this drawing relative to the building enclosure. Once this is complete, another photographic reproduction is made which is then used as the base sheet for the building enclosure section.

Following this, reproduction information is added which produces the base sheet that is used for the building division, reflected ceilings, fixtures and furnishings, plumbing, piping, HVAC, electrical power and communication drawings. Once this base sheet is finished, the architectural personnel then complete the reflected ceiling and fixtures and furnishings overlay. We have found that all of this information is pertinent to the mechanical and electrical engineers as they produce their drawings. Once this information is complete, we prepare a composite print on Mylar of the information on the base sheet and the reflected ceilings and fixtures and furnishings overlay.

This print is given to the mechanical and electrical personnel who use it as the base sheet for their drawings. This eliminates the problem of coordination of information. Should changes occur during this process, they are made by the architectural personnel on the base sheet and overlays and a new composite print is

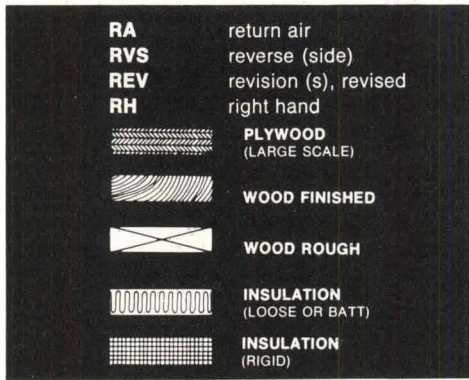
PROJECT NAME	ARCHIT. DEPT.	PROJECT NUMBER
<p>NUMBER 81. DOCUMENT IN EQUIPMENT TO BOLDS STEAM INTENTION AND TO THE WALLS FROM ARCH.</p>		
<p>ARCHITECTS: BROWN & SWARTZ & KORNBLITH SHEET NO. 1</p>		

made with the area changed circled. This print is given to the mechanical and electrical personnel who are responsible for changing their information. This has proved to be a very efficient communica-

tion tool among the personnel in our office.

We have found that check prints can be made several ways. There are commercially available small rubber pins that can be inserted through a couple of the prepunched holes so that the drawings may be held together. Once secured in this manner, the drawings can be run through a normal ammonia process printer and a progress print made. However, with two or more drawings going together to be printed, there is a slight difference in circumference in the location of these drawings going around a tube in the printing machine. This will result in a slight loss of registry to the progress print. For the most part this has not resulted in any real problem as the original is registered and the drawing can be checked for its content.

There are certain drawings, however, such as room finish schedules or progress prints that must be sent to the client for review which do require registration. In this case, our office uses what is known as



Using this method, we could use material which costs about \$5/sheet rather than using the photographic composite which costs over \$30/sheet. In searching for this vacuum frame, we ran across the plate maker. Since it seemed to fit the bill and was a compact machine, we evaluated the economic justification for its purchase and found that approximately \$30 million worth of building construction using the overlay drafting system would pay for this machine in material cost alone. One side benefit from it, which we did not consider in the evaluation, was the fact that photographic composites resulted in a 24 to 48 hour turn around time. By using this machine in-house, we not only had a product that cost less than one-sixth of the previous product, but turn around time could be about 20 minutes. Having acquired the machine for the production of these composite drawings, we have found that it can also be used in making progress prints for those drawings which require careful registration.

A question which frequently arises is, "What premium do you pay for the production of your drawings in colored offset versus more conventional methods?" There is no pat answer to the cost of reproduction in this manner. We have had projects which have ranged all the way from being the same cost to being one-third the cost of conventional full-sized reproduction with blue or black line prints.

The basic rule of thumb is that for normal sized sheets of 24x36 or 30x42 inches, reduced size reproduction in color can be had at the same cost as full size reproductions in blue or black line if the quantity of sets required is in the magnitude of 75 to 100. Once you start ex-

ceeding the 100 figure, the colored reproduction is actually more economical than an ammonia developed process.

In order that we can continue to improve the quality and efficiency of production of the contract drawings, a file of standard details has been established. When used correctly, the file eliminates the unnecessary duplication of details from job to job, reduces the possibility of errors and allows us to refine details with experience.

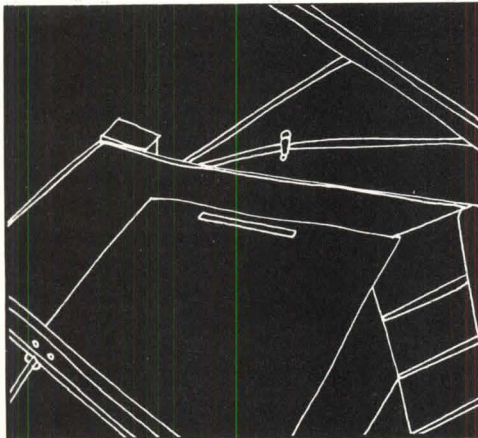
Another form of standardization which we use is that of standard abbreviations, symbols and material designations. All of these have been collected into one series of schedules which is reproduced on a single sheet, bound within the general section of the documents.

There are several techniques which we utilize within the office in order to speed up the drafting process. A few years ago we went through the process of evaluating various types of then available press-on materials. We finally found one which is manufactured by Chart-Pak, called "Velvet Touch," which has a tremendous amount of durability. We have since had Chart-Pak produce for us our own custom sheet which contains all of the mechanical and electrical symbols that we use on our drawings. These are rubbed on in less than 10 percent of the time that it took to draw them.

Another process which we use rather extensively is that of transparent stick-ons. In the event that we have an original of some form which is transparent, we can run it through the ammonia process machine onto adhesive backed Mylar.

A machine which we have found to be most helpful in the production of titles for plans, details and sheets is the Varitype Headliner Machine. This produces a photographic letter on 35mm material and develops this material inside the machine.

Having established the above procedures for our manual drafting practices, we have been seeking or developing some computer techniques to assist us in the development of the contract drawings. Like many other firms, we use the computer for structural stress analysis. However, we have modified the structural programs to produce schedules for columns, beams and

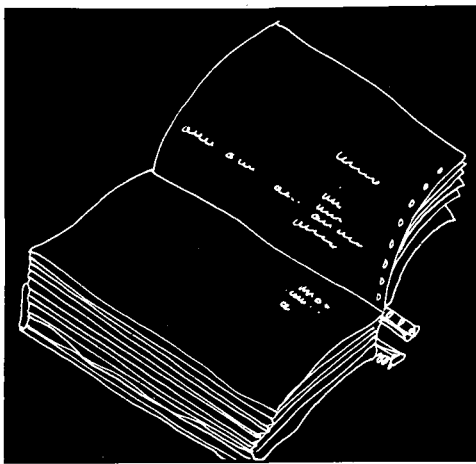


a flip-top plate maker, a machine that was originally designed for the exposure of offset plates.

Since our office was spending a great deal of money in having photographic contact prints made to produce composites, we evaluated the possibility of acquiring a vacuum frame so that we could use the frame and a light source to expose ammonia developed, reproducible Mylar. We would then use this for the production of our composite drawings, which are used as an in-house communications tool to the engineers and eventually discarded.

slabs which are printed out in a form that can be photographically applied to the drawings and used then as the communication method to the contractor for bidding and construction purposes.

Another computerized system we use, which directly relates to the drafting process, is what we call our contract document monitoring program. In this case, we utilize the listing of base sheets and overlays made before commencement of contract documents. Each is assigned a percentage of the final composite sheet. Then on a periodic basis we go through the drawings and determine the percent complete of each base sheet and overlay. This information is then entered into the computer and we receive back the percent



complete by section of the drawings, the equivalent number of sheets remaining to be completed in each section, the percent complete of each department and the last assigned base sheet.

The processes described above have come as a result of many years of research and evaluation and experimentation with techniques. We have made a concerted effort to send our employees to continuing education programs where they could learn of new techniques. Perhaps more importantly, we have not only permitted experimentation with contract drawings among the employees, but have actively solicited this experimentation.

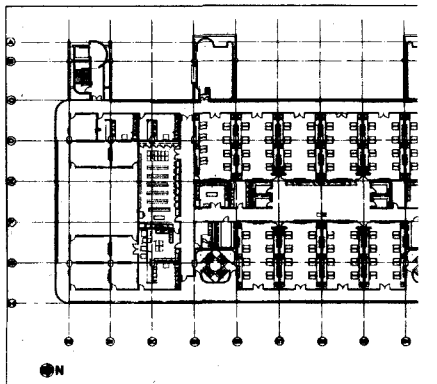
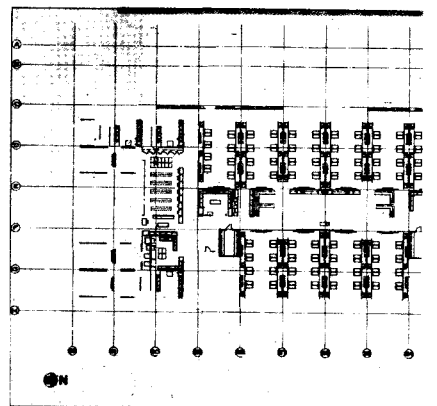
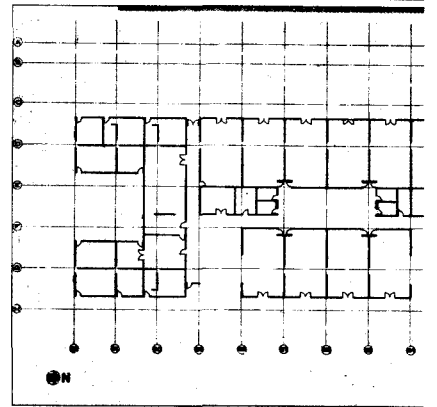
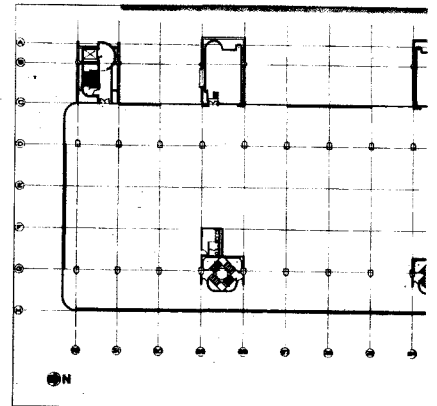
In order to assure that our documents would be accepted once they left the office and were used in the bidding and construction processes, we actively solicited comments from contractors on our docu-

ments as each experiment developed. We send a questionnaire to all persons who hold plans on our projects. We ask them certain specific questions depending upon what the experiment may be and also solicit general comments on their impressions of the drawings.

The goal which was established for our drafting practices four years ago was not only to improve the quality and appearance of our drawings but also to achieve more economy in their production. I would like to mention a few facts concerning the economics of the documents.

A normal design fee would have schematics at 15 percent, design development at 20 percent, contract documents 40 percent, bidding and negotiations 5 percent, and construction administration 20 percent. As a direct result of the drafting practices in our office, about 18 months ago we reduced the contract document stage from 40 percent to 35 percent, assigning an additional 5 percent to construction administration. We had found that our clients were becoming more and more demanding of our services in the construction administration phase, and as a result of some of the problems within the construction industry relative to material procurement and schedules, we needed to spend more time in that phase of the project. As a result of the efficiencies in our contract document production phase, we were able to give our clients this increased service without increasing the overall fee.

A recent analysis of our fee breakdown shows that contract documents on typical projects are running at about 32 percent in lieu of the 35 percent that we are budgeting. We are also analyzing a practice whereby the overlay drafting system is actually established in the design development stage. On a recent project when we completed design development, we found that our contract documents for the architectural department were 20 percent complete and the mechanical and electrical departments were 21 percent complete. This will probably result in the contract document phase coming down to 30 percent and possibly lower. These figures alone should speak for the success of our system. □



The Architectural Potential of The Power Plant

Peter M. Hasselman, AIA

That huge complex of facilities that produces and distributes electrical energy, commonly called a power plant, has within it all of the elements of a significant and monumental architecture: social necessity, sufficient capital and inherent architectural interest.

Yet there is a large gap between this lofty potential and the reality of the average power plant. It is likely to be a grim and disjointed assemblage of enormous elements, sprawling over vast amounts of land and emitting a variety of pollutants—in short, a most undesirable neighbor.

This fact has helped generate vocal and effective opposition to the construction of new power plants among environmentalists and residents of areas around prospective sites—at a time when it is virtually undisputed that many more will be required to meet the nation's critical energy needs, no matter how vigorous our energy conservation efforts.

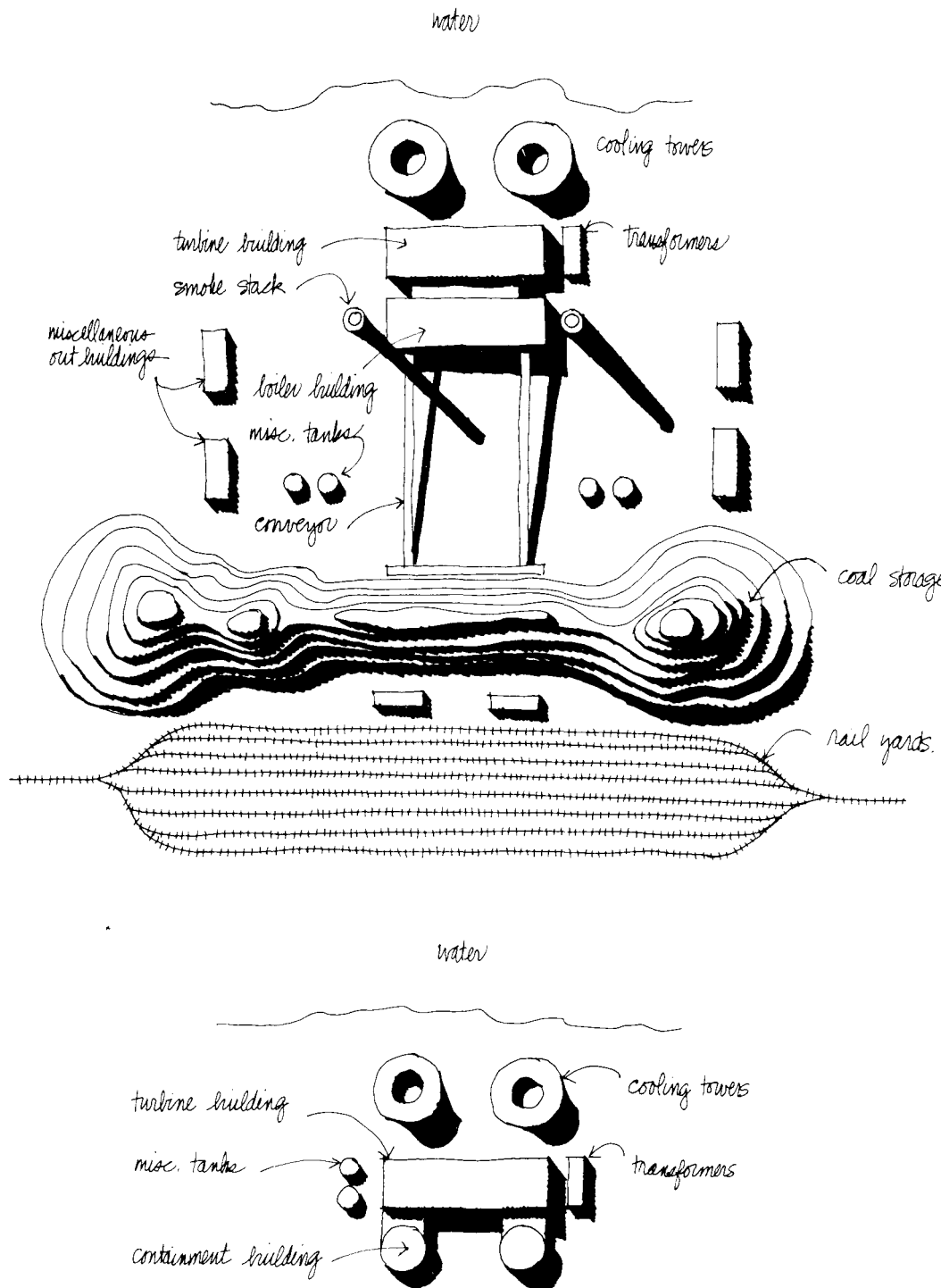
Manifestly, this situation creates a significant opportunity for the architectural profession. For the basic reason for many of the objectionable qualities of power plants is that they are not produced through a comprehensive design approach. They are the province of engineers and large construction firms, whose design attention is directed solely to the production of electricity.

Engineers should continue to design the energy processes, but architects should be involved in the siting of power plants for most efficient use of land and minimum environmental disruption, and in the shaping of the facilities themselves.

To understand the issues involved in design of this unusual building type, the architect must familiarize himself with the basic operation of the power plant and the trends that will influence its future nature.

The vast majority of power plants utilize high pressure steam, generated either by coal-fired boilers or nuclear

Mr. Hasselman is partner in charge of design in the Washington, D.C., architectural firm of Robert Calhoun, Segreti, Stillwell & Hasselman, and a member of the AIA committee on natural resources and regional planning.



Site plans for a fossil fuel power plant (top) and for a nuclear power plant.

reactors, as the main force in the production of electricity.

It is circulated in a complex pattern of delivery and redelivery to the massive turbines that drive the generators.

To condense the steam for reuse and keep operating temperatures stable, condensers fed with several hundred thousand gallons per minute of water transfer the heat from the used steam back to the heat sink of the environment. In all, only about 40 percent of the potential energy of the fuel is transferred into usable electrical power, with the remainder lost to incomplete combustion, mechanical inefficiencies, transmission and operational requirements.

The average power plant complex includes from 800 to 1,000 acres of land with several gigantic and awkward appearing buildings in an apparently random setting of outbuildings, coal dumps, railroad tracks and gravel roads, cooling towers and a nondescript scattering of tanks and ponds. The scale of the elements is massive: The boiler building with its vertical boilers, in themselves 125 feet high, may well exceed 200 feet in height (the nuclear equivalent containment building is considerably smaller and more concentrated). The turbine and generating building with its stacked and independent double overhead crane system can be 150 feet high and 500 feet in length. The smokestacks required in fossil fuel plants are between 700 and 1,000 feet in height.

In addition to visual impact, power plants also have substantial impact on the environment. The average fossil-fired power plant deposits over 750,000 tons of sulphur oxides, nitrogen oxides and fly ash pollutants into the atmosphere each year. A nuclear plant periodically vents minor gaseous liquid radiological waste, greatly reduced by half-life retainage, into the environment.

The power plant also has an effect on the water body it uses for condenser cooling: The increased water temperature at the point of discharge can place the ecosystems into a state of imbalance favoring the increased growth of algae and nutrients at the expense of more desirable oxygen-dependent water life.

The past decade has produced several

trends that future developments in power plants, to be truly effective, must address: first, the opposition generated by these abuses to the environment, whose successes in the courts have had a paralytic effect on a significant number of projects; second, rising fuel prices, keyed to imported oil, which suggests that new modes of generation, until now too costly, are now feasible to research; third, subsequent to the New York blackout of 1965, the utilities have augmented the national system of interlocking power grids. Thus, a power plant might react to regional influences of other areas with respect to location within the grid, output, fuel type and distribution system. Finally, new technology in electrical transmission will make possible a more remote relationship of load center to power plant.

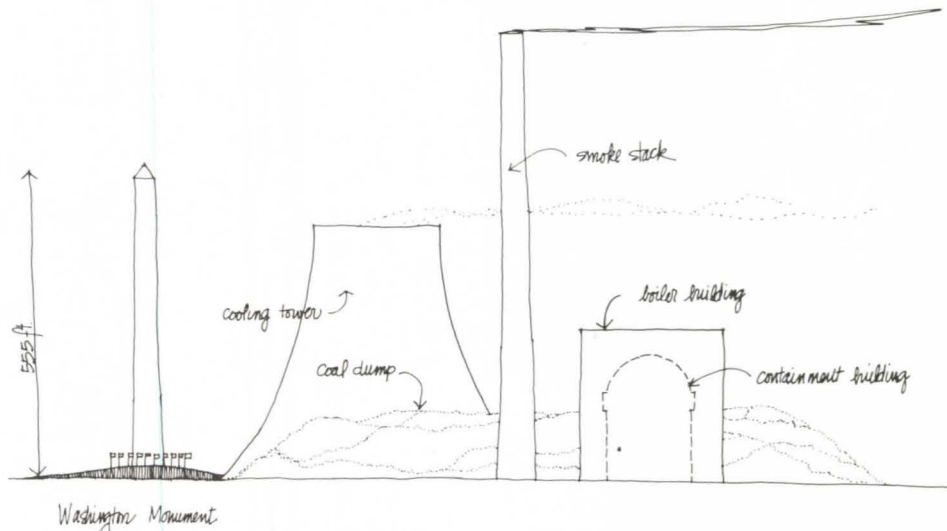
Changing administrative policies will also affect the design of future power plants. In the past, the time required to bring a power plant from conception to the production of power was often close to a decade. During this process, up to 100 permits, each with power to delay, were required of federal and local agencies. Several pieces of legislation have been proposed that would establish a "one stop" approving agency.

In response to the new stimuli of advanced power plant technology and environmental awareness, great opportunities arise. As an example, consider a new

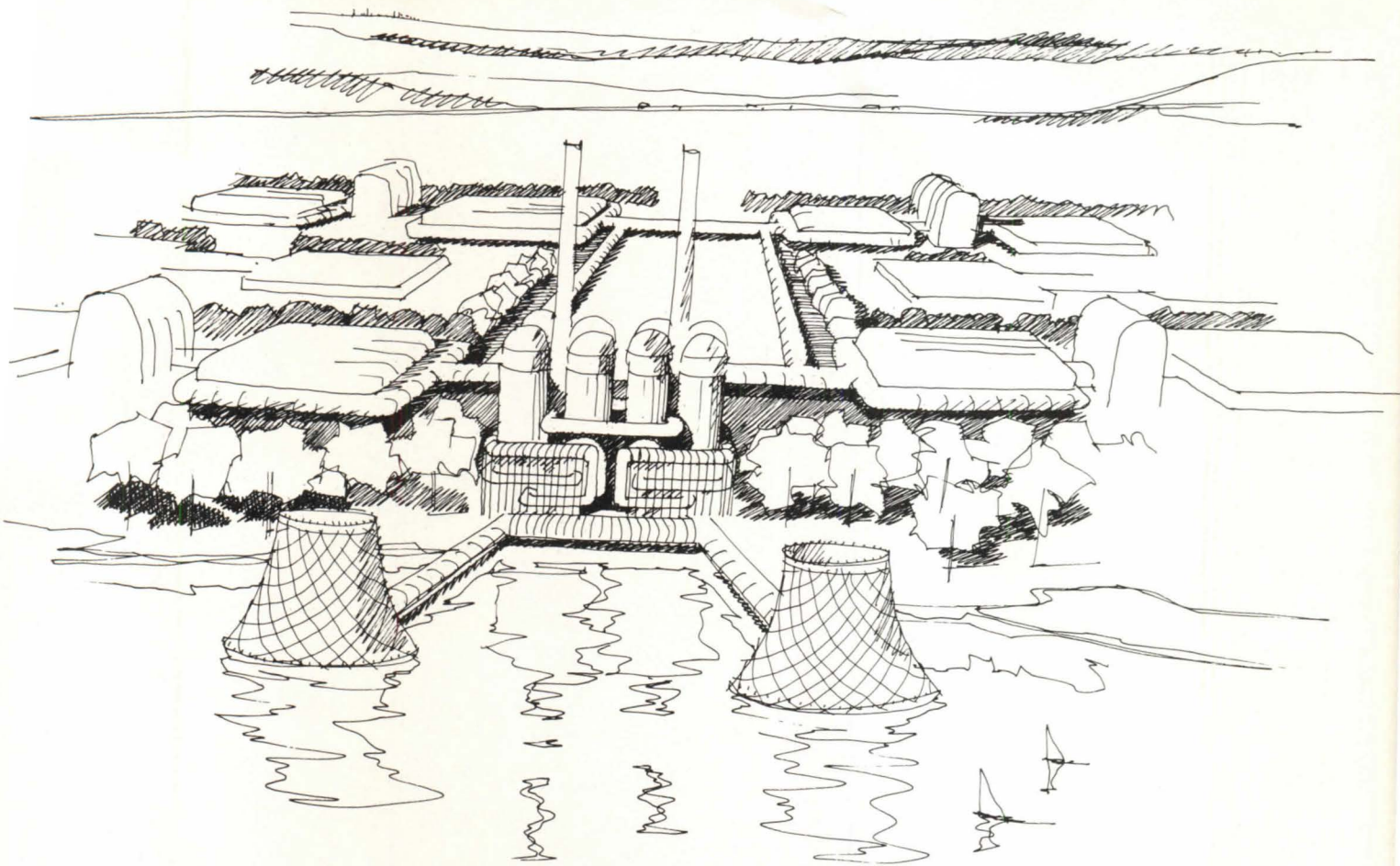
generation fossil-fueled power plant as centerplace of a regional industrial complex. In proximity to the plant is a sewerage treatment facility with sludge tanks providing dried sludge, solidified by the plant's waste heat, to supplement coal firing. Adjacent to the power plant is a regional refuse dump which also contributes separated combustibles to the boilers. Sewerage effluent could be utilized to cool the condensers with waste heat used to further stimulate bacteria action on the solids.

Also within the complex are chemical processing facilities for sulphur compounds purged from the stacks, and a construction materials plant which utilizes fly ash as concrete or brick filler. The waste heat generated in the plant, if in an urban environment, is utilized for industrial plants within the complex or for adjacent urban development. In rural or coastal areas, the heat is utilized to extend the growing season by heating vast greenhouses, reducing ice cover in sea ports, creating fish farms in northern waters or operating a desalinization plant.

In evoking the design potential of an individual power plant, the architect should first begin to reduce the number of elements to a minimum and relate them to a strongly defined site circulation system. In this respect, nuclear plants present less problems since they require fewer structures and need not provide for coal stor-



The Washington Monument's height (555 feet) shows relative sizes of elements.



Regional industrial center could be created to express esthetically technical processes and the land's potential.

...e piles and a profusion of equipment
...d outbuildings. Second, the minimal
...ments should be massed and organized
...the site with simplicity and respect to
... off-site vistas. Due to the exposed
...ge of the waterfront, these vistas be-
...me a chief factor in planning the site
... minimum exposure to the public.
... Since many sites will be in semirural
...eas, the existing land use can often be
...mpatible with the power plant. Ample
...vidence exists that crops and timber can
...urish in close proximity to the plant.
... Transmission lines need not require a
...l swath cut, but rather a "selectively
...uned" right of way, sensitively inte-
...ated into the landscape, particularly
...ong areas of public exposure.
... Opportunity also exists to combine the
...ant with tourist facilities based on the
...erest in the plant itself and its signifi-
...cant effect on the region's history and pro-
...ductivity. Since the condenser discharge
...ll attract great quantities of game fish
...d game fowl, the waterfront should be
...veloped as a sportsman's haven to the
...aximum extent compatible with security.
... All too often the architecture of boiler,
...rbine and containment buildings has
...en expressed as great cubes of corru-
...ted metal siding or worse, as concrete
...ad in metal siding. This is particularly

regrettable since concrete work associated with power plants (particularly nuclear) is among the world's finest.

The very essence of the generating process suggests unique expression. There is first the opportunity to express movement in terms of fuel delivery and processing, torrents of water and massive machinery. Also there is the element of heat exchange that warrants expression in color, light and conduit configuration. In addition, there is great untapped potential in the design of the great machines, turbines, cranes and other elements of industry.

The very scale of a power plant suggests architecture: Consider the gigantic structure needed to brace a 200-foot-high wall against a hurricane, or the foundations to gird the building against an earthquake.

Could an imaginative architect rise to the challenge of the potential given him? Or clad the pure geometry of the cooling tower to mirror the sky? Or light the complex with its own internal process to create a nocturnal landmark? Could he seek to reduce the mass of the plant to its most expressive elements—then shape the mass into solids and voids that express a process?

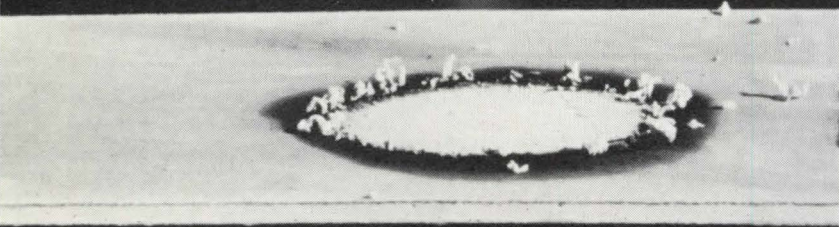
The success and acceptance of power plants will require this kind of search—

and it is one that only the architect can undertake. The current emphasis on alternative energy sources and future advances in reducing environmental impact will also lead to new concepts to which architects must give form and expression. Of particular interest will be seaborne power plants removed altogether from the land and with only minimal transmission and maintenance facilities at the coastline.

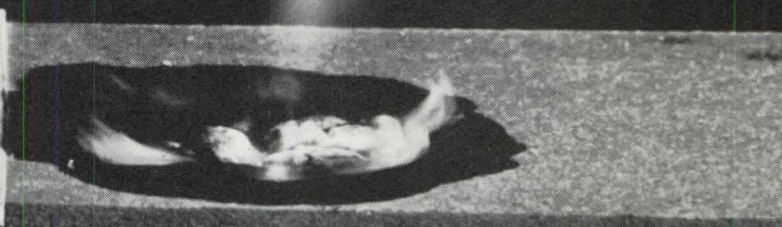
Already under study are the following: 1) a series of floating windmills that convert the ocean wind currents to electrical power by means of contained generators; 2) a natural or man-made archipelago that can be controlled to fill with tidal action and empty through the power plant turbines; 3) a vertical loop of freon-charged conduit, exposed to the severe temperature differentials of deep and shallow sea water, which activates a floating turbine by means of gaseous pressure; 4) island plants, perhaps constructed in a shipyard and floated to their location where the foundation structures will be flooded and permitted to settle.

With such concepts challenging the architect's imagination, his renewed objective must be to house the nation's power system in structures which esthetically express both the technical processes and the potential of the land. □

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STEEL FRAMES FOR HOSPITALS: BECAUSE THERE'LL BE SOME CHANGES MADE!

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

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

A fine example of imaginative and economical structural steel design is the new 409-bed Presbyterian Hospital in Oklahoma City, Oklahoma. This hospital offers patient care to the general public and a full teaching pro-

gram for medical students attending the adjacent University of Oklahoma campus.

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

This technique provides a building framework that is essentially a series of structural sandwiches or full height service levels between patient floors. Within these intermediate spaces (service levels) certain equipment and virtually all mechanical, electrical and communica-

tion lines, and distribution and collection systems are housed and maintained. Thus achieving an absolute minimum of servicing interference with normal hospital functions.

The Center has 7'-0" deep interstitial spaces, while the NURSING TOWER has only 3'-6" deep spaces: The reason for the deep trusses (where men can work efficiently) is that the *functions* of the Diagnostic/Treatment Center require frequent alteration due to changing





modifications and advances in the technology of health care delivery. Conversely, the nursing function is relatively static requiring only limited access to the interstitial spaces—and that is why the height requirement of those levels is less.

The interstitial space design is a developing concept. Over the past 6 years, 35 hospitals and clinics are known to be using this system. They are finding it effective in reducing maintenance and

operating costs because of the inherent flexibility of interstitial space design—functions can be modified or replaced at will. We'd like you to know more about structural steel framing for hospitals and other medical facilities—and how it can accommodate long-range needs. For a copy of the Presbyterian

Owner: The Presbyterian Hospital, Inc.

Architect/Engineer: (Including Mechanical and Electrical Engineering) Benham-Blair & Associates, Inc., Oklahoma City, Oklahoma.

Hospital Consultants: Block-McGibony+Associates, Inc., Silver Spring, Maryland.

General Contractor: Manhattan Construction Co., Muskogee, Oklahoma.

Structural Fabricator: W & W Steel Co., Oklahoma City, Oklahoma.

Steel Erector: Allied Steel Construction Co., Oklahoma City, Oklahoma.

Hospital Structural Report (ADUSS 27-6220-01), or for any other information, contact a USS Construction Representative through your nearest U.S. Steel Sales Office, or write: United States Steel, Room C379, 600 Grant Street, Pittsburgh, Pa. 15230



TRADEMARK

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Adhocism: The Case for Improvisation.

Charles Jencks and Nathan Silver. Garden City, N.Y.: Anchor Press, 1973. 216 pp. \$4.95. **Modern Movements in Architecture.** Charles Jencks. Garden City, N.Y.: Anchor Press, 1973. 432 pp. \$4.95.

Architecture is no longer the art and science of building; it is now considered the art of shaping ideas for future implementation. As proof, architectural historian Reyner Banham, who incidentally qualifies as a great architect by this definition, wrote in a newspaper: "... History is about process; the objects the process creates are incidental."

Jencks and Silver give further evidence. Jencks, who has become a major voice, says that "men's consciousness is a deliberate construction to be developed through the proffering of ideals. . . ." While Silver and Jencks set forth adhocism as an ideal, Silver refers to a building that "manages to . . . look adhocist, which at present is a valuable contribution to the sensitivity." Jencks similarly writes of an architect: "Not that his buildings work extraordinarily well, but (more important) they look and make the inhabitant feel as if they did: i.e., they are the 'essence' or representation of function."

They are not the only ones. Many others prefer *ideas* by stating a preference for designs that further the *state* of the art. This never seems to refer to technical or human aspects but, rather, to an "essence" which can be easily perceived from photographs and communicated in words.

Jencks insists on referring to buildings as semantics or rhetoric. The essence, referred to above, with the accent on group influence and definition of new limits, is what I understand to mean the rhetoric or semantics (or now simply the architecture). Silver says that rhetoric needn't take over. But hasn't it already? How can we then be so contemptuous of the rhetoric in the visual arts of the 19th century, including architecture? Our buildings no longer have to tell a story of the past; they have to create the future!

Jencks speaks of ideas as weapons and describes the on-going battle of London, in terminology of politics and war. The war would seem to be for people's minds, with the hope of being named architect/

father of the peaceful environment to follow. Jencks also makes an interesting attempt at directly relating buildings to politics, which left this reviewer completely unconvinced.

Adhocism, with its numerous entertaining illustrations, is really like two books written by two authors. It is built around the idea that good environment can be assembled from available parts. I was most interested in Silver's convincing argument that this idea, if used without apology, is the most effective principle we can expect in improving our cities. He speaks of optimum rather than perfect solutions in an *ad hoc* approach. He describes the *ad hoc* method as one of having information available and being able to see all of the choices beforehand.

Jencks agrees and envisions a city of 10 million lay architects to replace professionals. But do we not already have too much "natural growth of cities"? This book can serve not to bestow further ineffective leadership to new members of the priesthood but to encourage architects and planners who know the truth in the *ad hoc* method and are acting accordingly. I sense this to be Silver's intent. The next step would be to give glorious credit for the decision making in entrepreneurship to the clients, where it has always been deserved. The clients should then be sufficiently envy-free to employ true professionals (rather than underutilized professionals or subprofessionals) for collaboration toward the best results.

In *Modern Movements in Architecture*, Jencks develops his six traditions of modern architecture as in his *Architecture 2000* (see Nov. '73, p. 47), but in a more political way this time. Mies van der Rohe and Philip Johnson seem to suffer the most from this treatment. Jencks attacks Mies primarily for believing in having "discovered an order in the universe."

Frank Lloyd Wright and Walter Gropius are criticized for their "collapse into formalism." Conversely, Jencks seems rather gentle in his attack on Le Corbusier's beliefs, in spite of referring to him as a madman.

Jencks sustains a long discussion of Alvar Aalto's "relaxed, anthropomorphic architecture." It is at this same semantic

level that the book becomes questionable, as in its bitter reference to Wright's Guggenheim Museum as a "concrete pill-box with machine-gun slits" or in approvingly calling Eero Saarinen's Dulles Airport "still a convincing symbol of light" in spite of its "Chinese-pagoda-conning tower." These associational comments are a surprise as a serious basis for judgment.

In the concluding chapter on American, British and world architecture, Jencks' investigations within new frameworks, such as Pop and Camp, are informative, even as he admits that you can't trust any framework completely. He displays his own particular choices of OK and not so OK architects and buildings. Maybe *Modern Movements in Architecture* is fun because it's the one uneven piece of his that I've read. I was alternately infuriated, entertained, enlightened, intimidated, perplexed, encouraged and stimulated to think. That's a lot for the money.

The postscript to this book and the last chapter of Jencks' section of *Adhocism* concerning waiting for a revolution, defined as the direct participatory democracy that would follow any sudden change of power (preferably bloodless). He admits that it probably could never be sustained. But I prefer Jencks' writings when he feels that he does not have to sell his own brand of order in the universe. I'm sure I'm not alone in preferring his undebunked quote from Le Corbusier: "The real revolution lies in the solution of existing problems." This is really what *Adhocism* is headed toward.

Adhocism, or everyone doing his best as he sees it with what means are available, has always been a reasonable conclusion. When any architect gets an opportunity and devotes himself to producing a fully effective building, why should it be criticized on the level of philosophical intent? Why don't we face the fact that *ideas* or *concepts* are disposable but that conscientious buildings are rare and precious? How can writers dwell on the rhetoric in buildings and consider *it* the architecture? I think that Silver is already on our side, and I'd like to hope that Jencks may use his brilliance to help us put buildings back into the definition of architecture. *John Blanton, AIA*

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 's history.

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 f 15 rounds per minute, compared
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 tor. Its eventual adoption by numer-
 giments in the Union Army hastened
 nd of the war. It saved the day for
 Union forces at Chickamauga, Wilder-
 and Franklin. *William Lyman, AIA*
Birmingham, Mich.

EVENTS

Apr. 5-6: Workshop Conference on Hous-
 Opportunities, AIA Headquarters,
 Washington, D.C. Contact: Housing Lab
 , AIA Headquarters.
Apr. 13-14: Institute on Building Design
 Conserve Energy and Support Human
 Performance, University of Wisconsin,
 Madison, Wis.
Apr. 17-19: American National Metric
 Council conference and exposition, Wash-
 ington Hilton Hotel, Washington, D.C.
 Contact: ANMC, 1625 Massachusetts
 e. N.W., Washington, D.C. 20036.
Apr. 19-20: Seminar on Cost Control in
 Concrete Construction, Del Webb's
 owne House, Phoenix, Ariz. Contact:
 American Concrete Institute, Box 19150,
 etroit, Mich. 48219.
Apr. 21: Deadline for receipt of entry
 rms, architectural exhibit at the 1975
 ational Interfaith Conference on Reli-
 on and Architecture, to be held in San
 antonio, Tex., Apr. 14-16. Contact:
 uild for Religious Architecture, 1777
 urch St. N.W., Washington, D.C.
 036.
Apr. 23-25: Association of Collegiate
 hools of Architecture teachers' seminar,
 niversity of Nebraska, Lincoln, Neb.
 Contact: Dave Clarke, AIA Headquarters.
Apr. 10-11: Conference on Decision Mak-
 : Cost, Productivity and Inflation,
 amrock-Hilton Hotel, Houston. Con-

tact: American Association of Cost Engi-
 neers, 308 Monongahela Building, Mor-
 gantown, W. Va. 26505.

Apr. 11-May 6: Architecture and Gardens
 Tour of Japan and Taipei/Hong Kong.
 Contact: K. M. Nishimoto, AIA, 147 S.
 Los Robles Ave., Pasadena, Calif. 91101.

Apr. 14-16: National Interfaith Confer-
 ence on Religion and Architecture, Hilton
 Palacio del Rio, San Antonio, Tex. Con-
 tact: Guild for Religious Architecture,
 1777 Church St. N.W., Washington, D.C.
 20036.

Apr. 15: Applications deadline, Kate Neal
 Kinley Memorial Fellowship for 1975/76.
 Contact: Dean J. H. McKenzie, College of
 Fine and Applied Arts, 110 Architecture
 Building, University of Illinois, Urbana,
 Ill. 61801.

Apr. 16-18: Symposium on Meaning in
 American Art, Philadelphia. Contact:
 Friends of Independence National Histori-
 cal Park, 313 Walnut St., Philadelphia,
 Pa. 19106.

Apr. 16-19: International Conference on
 the Preservation and Restoration of His-
 toric Gardens and Landscapes, Dumbar-
 ton Oaks, Washington, D.C. Contact:
 Garden Library, Dumbarton Oaks, 1703
 32 St. N.W., Washington, D.C. 20007.

Apr. 20-23: Environmental Design Re-
 search Association annual conference,
 University of Kansas, Lawrence, Kan.

Apr. 21-22: Annual symposium, Wash-
 ington Paint Technical Group, Marriott
 Twin Bridges Motel, Washington, D.C.
 Contact: B-348 Building Research, Na-
 tional Bureau of Standards, Washington,
 D.C. 20234.

Apr. 21-23: Joint Engineering Legislative
 Forum, Shoreham-Americana Hotel,
 Washington, D.C. Contact: National So-
 ciety of Professional Engineers, 2029 K
 St. N.W., Washington, D.C. 20006.

Apr. 21-24: Design Engineering Confer-
 ence, Americana Hotel, New York City.
 Contact: Clapp & Poliak, 245 Park Ave.,
 New York, N.Y. 10017.

Apr. 23-28: Society of Architectural His-
 torians annual meeting, Copley Plaza
 Hotel, Boston. Contact: SAH, 1700 Wal-
 nut St., Philadelphia, Pa. 19103.

Apr. 30: Submissions deadline, Yale R.
 Burge Memorial Interior Design Scholar-
 ship. Contact: National Society of Interior
 Designers, 315 E. 62 St., New York, N.Y.
 10021.

May 5-10: International Union of Archi-
 tects Congress, Madrid. Contact: Secre-
 tariat of the 12th UIA Congress, Paseo de
 la Castellana 10, Madrid 1, Spain.

May 18-22: AIA annual convention, Civic
 Center, Atlanta. (Reconvened session,
 Rio de Janeiro, May 23-June 7.)

May 26: Entry forms deadline, 1975 Red
 Cedar Shingle & Handsplit Shake Bureau/
 AIA architectural awards programs. Con-
 tact: Red Cedar & Handsplit Shake
 Bureau, 1143 Washington Building,
 Seattle, Wash. 98101.

GOING ON

going on from page 15

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C. H. Faltermayer, Haddonfield, N.J.

Henry W. Johanson, Ridgewood, N.Y.

J. P. Joseph, West Covina, Calif.

Erwin R. Kilgus, Southampton, Pa.

Nat O. Matson, Cross River, N.Y.

Theodore J. Prichard, FAIA, Moscow,
 Idaho

Roy Ruhnka, Chestertown, Md.

Denis H. Smith, Palos Verdes, Calif.

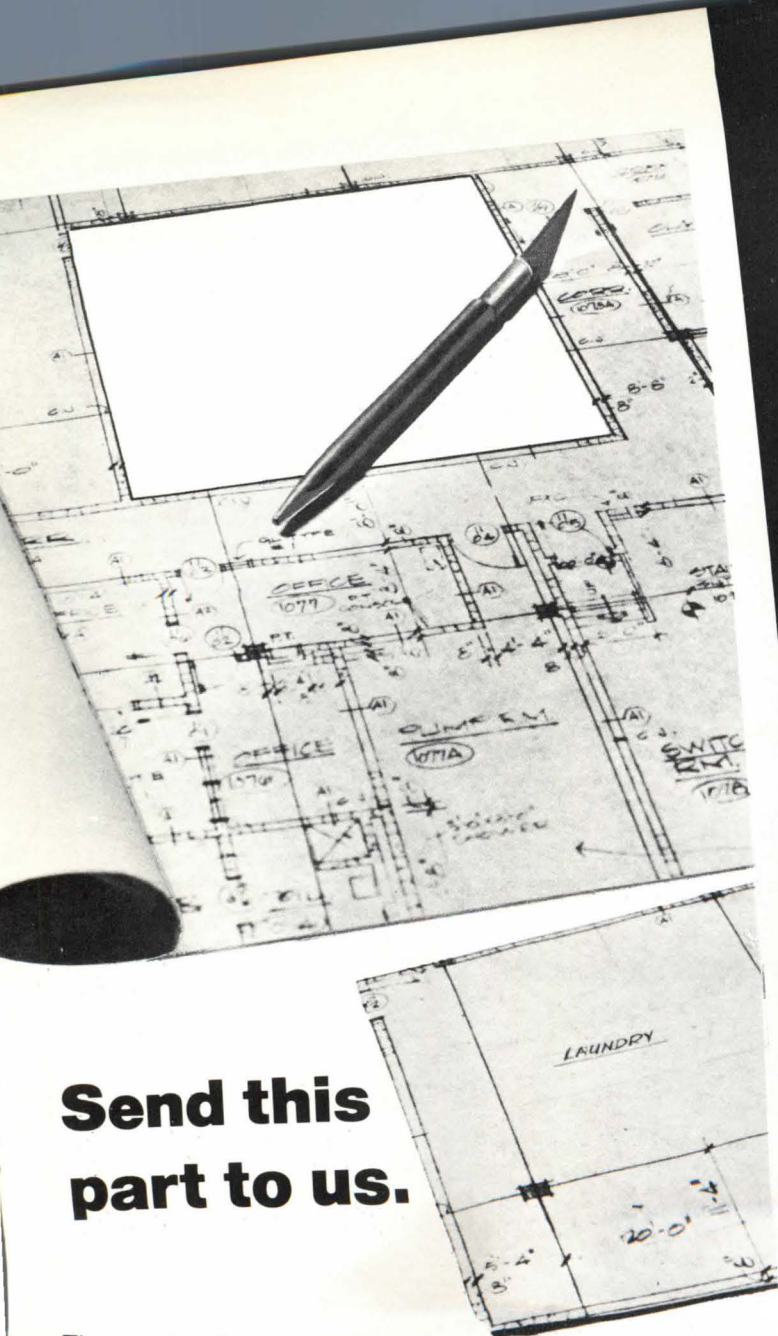
Harold Clarence Whitehouse, FAIA,
 Spokane, Wash.

Leo J. Wolgamood, Colorado Springs,
 Colo.

Samuel Chamberlain, Hon. AIA: A grad-
 uate in architecture from Massachusetts
 Institute of Technology, a practicing
 architect from 1919 to 1925 and an
 assistant professor of architecture at the
 University of Michigan in 1925-26,
 Samuel Chamberlain nevertheless devoted
 the major portion of his career not to
 the design of buildings but to recording
 with his pencil and camera the landscapes
 and the architecture of such places as
 France, Spain, England and the U.S. He
 was the author and illustrator of more
 than 40 books, including *Sketches of*
Northern Spanish Architecture, *Domestic*
Architecture in Rural France, *Cape Cod*
in the Sun, *Tudor Homes in England*,
Historic Boston in Four Seasons and
Behold Williamsburg. Chamberlain, who
 died on Jan. 10 at the age of 79 in Mar-
 blehead, Mass., also wrote and illustrated
 many magazine articles for such architec-
 tural publications as *American Architect*,
Pencil Points, *Architectural Record* and
 the *AIA JOURNAL*.

In addition to his great interest in both
 the natural and the man-made environ-
 ment, he was also author of several books
 on the culinary arts, including *Clémentine*
in the Kitchen, and was a frequent con-
 tributor to the magazine *Gourmet*.

The recipient of many honors and
 awards, Chamberlain's artistic work is
 represented in the British Museum, Bib-
 liothèque Nationale in Paris, the Library
 of Congress, the Boston Museum of Fine
 Arts, the Art Institute in Chicago and
 other collections. He was recognized for
 his contributions in World War II, re-
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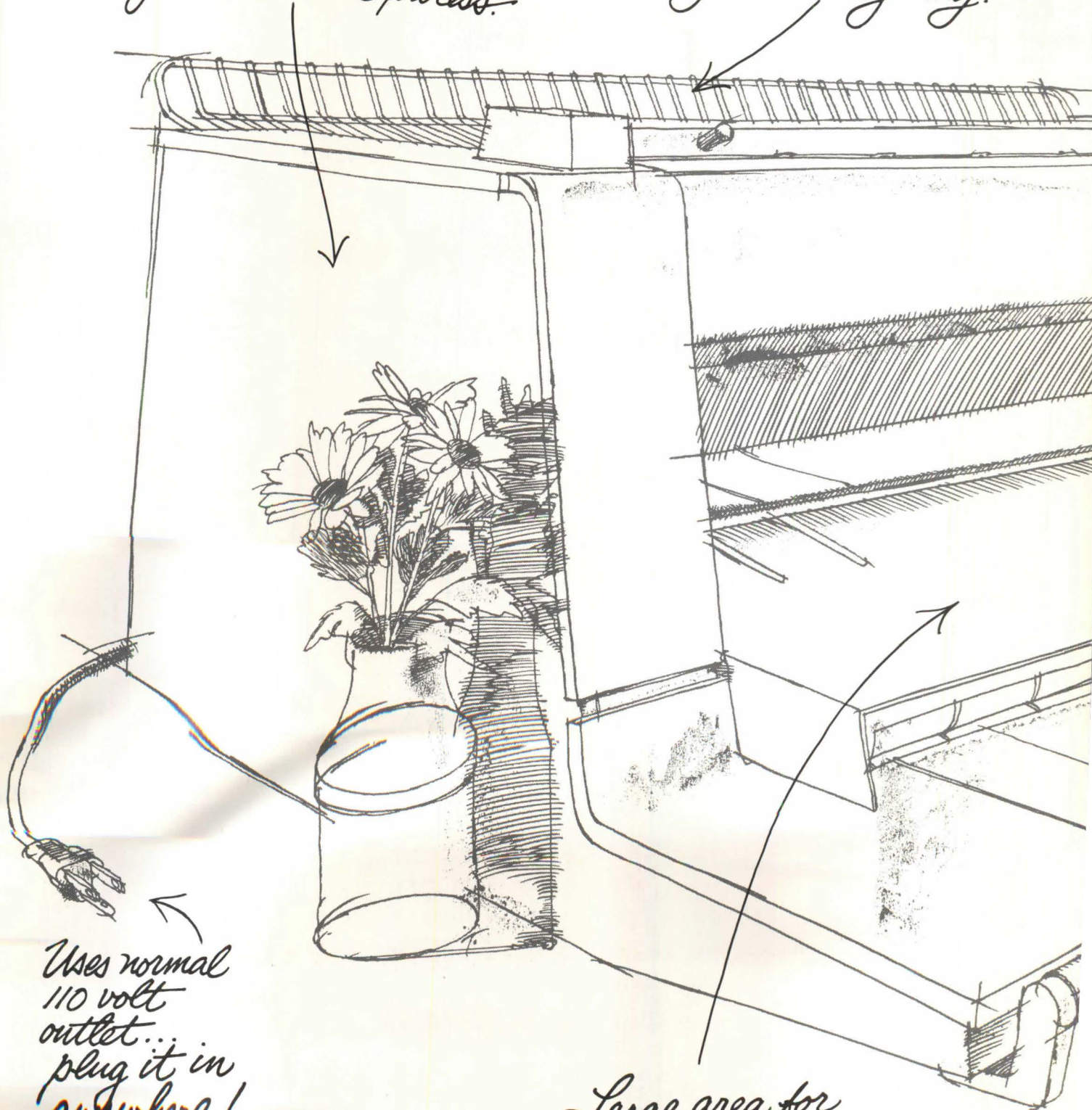
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Newslines

Edward H. Matthei, AIA, vice president of Perkins & Will and a member of the Hospital Planning Council of Metropolitan Chicago, has been elected secretary of the National Easter Seal Society for Crippled Children and Adults. He serves as liaison between AIA and the society in the work to eliminate architectural barriers to the handicapped.

Merchants National Bank in Bangor, Me., designed by Eaton W. Tarbell, AIA, of that city, has been given an award by the Maine State Commission on the Arts and the Humanities. The building was cited for its "significant contribution to the cultural life of the state" through its action as a "catalytic agent in the redevelopment of downtown Bangor." Among the five other individuals and organizations also cited was Greater Portland Landmarks, Inc., an architectural preservation agency.

University of Wisconsin-Milwaukee has invited nominations and applications for the dean of its school of architecture and urban planning. Candidates should have administrative experience, an interdisciplinary view of both architecture and planning and an orientation toward research. More information may be obtained from Professor Damie Stillman, Sandburg Hall W 1340A, University of

Wisconsin-Milwaukee, Milwaukee, Wis. 53201.

Architects who freelance to earn extra money even though salaried, as well as persons totally self-employed, received a tax benefit when the Employee Retirement Security Act was signed into law. Moonlighters may now allow the first \$750 earned that way to be put away into a Keogh plan—and deducted from current income taxes. Most stock brokerage firms, mutual funds, banks and insurance companies offer IRS-approved plans.

Lawrence E. Jones, one of the youngest engineers ever elected president of the Maryland Society of Professional Engineers, has been named "Young Engineer of the Year" by the National Society of Professional Engineers. He was praised for his "activist effort to wipe out scandal and unethical conduct in Maryland and restore public confidence in consulting engineers."

Shreve Lamb & Harmon Associates, a New York City-based firm that is now in its fourth generation of principals, recently celebrated its 50th anniversary. In addition to its design of the Empire State Building in 1931, the firm has been responsible for many other well-known structures, including banks, office buildings and educational facilities.

Robert F. Borg, president of a construction company in Scarsdale, N.Y., has been elected chairman of the national construction industry arbitration committee of the American Arbitration Association. The committee is made up of eight national associations, including the AIA.

The Society of Fire Protection Engineers has released two reports of interest to architects. The first, "Progress Report on Chicago High-Rise Requirements" (TR 74-4, \$2.50) describes Chicago's proposed code for reducing the life-safety hazard in tall buildings; the second, "A Field Study of Non Fire-Resistive Multiple Dwelling Fires" (TR 74-5, \$3.25) reports on structural and design factors that contribute to the spread of fire. The reports may be purchased from SFPE, 60 Battery-march St., Boston, Mass. 02110.

O'Neil Ford, FAIA, a principal in the San Antonio, Tex., firm of Ford, Powell & Carson, has been elected an honorary fellow by the Mexican Society of Architects.

The American National Metric Council will hold its first annual conference and exhibition on Mar. 17-19 in Washington, D.C. The theme of the conference is "Managing the Change to Metric." For information, write ANMC, Suite 700, 1629 K St. N.W., Washington, D.C. 20006. □



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President William Marshall Jr., FAIA, who visited Brazil last year with the Congressional Urban Growth Study Group, leads a 15-day architectural study tour of Latin America's fastest growing country and a side trip to Bogota, Colombia. The cost is \$1,485 per person. Departure date is May 23, immediately following the 1975 AIA convention. Don't miss it.

For further information, contact Jacqueline Watson, coordinator, architectural study tours, at AIA Headquarters, 1735 New York Ave. N.W., Washington, D.C. 20006.

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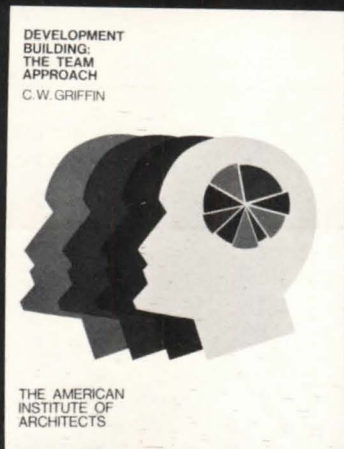
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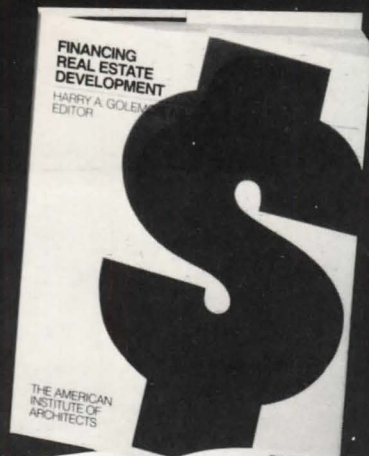
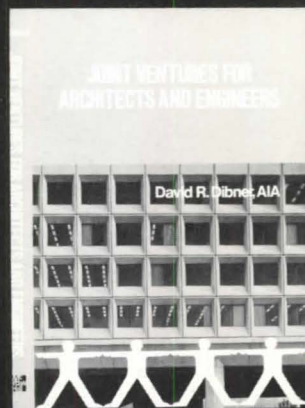
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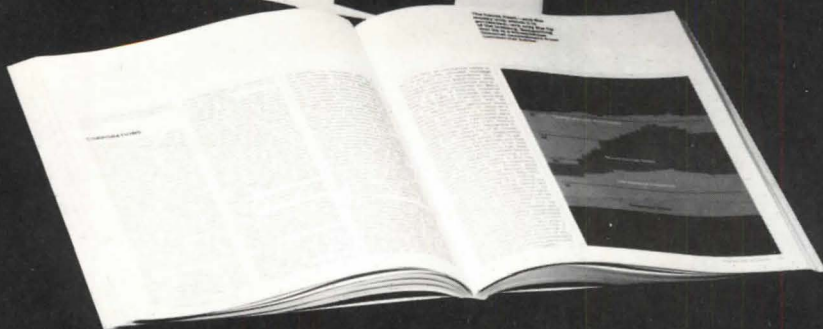


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