

In this Issue:

Solar Comes of Age

Industrial Buildings

Architecture at A & M

Small Budget, Big Success

Houston Student Center

Plus regular columns. See Contents.

Texas Architect

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SOLAR COMES OF AGE

Contents



On the Cover: "Phototropic," a painting by Ralph White, Professor of Art, University of Texas at Austin.

Editorial 3

Solar Comes of Age 9
The sun is rising in Texas as a valuable power resource. Nine pioneer projects demonstrate why solar is here to stay.

Industrial Vernacular: Six Anonymous Buildings from the American Southwest 17
A pictorial presentation of industrial buildings as a class of architecture deserving "a more deliberate effort at discovery and documentation."

Small Budget, Big Success .. 26
Houston architects provide a facility for a full range of children's mental health services. Award-winning design at \$24 per square foot.

Houston Student Center: More than Meets the Eye 30
Innovative design preserves open space on an urban campus by going underground with an expansion facility and utilizing the roof as a landscaped plaza. Can you dig it?

A&M Architecture: The Past One Hundred Years 33
Aggieland's recent centennial celebration occasioned a look at A&M buildings as a study in collegiate architectural styles.

Endangered Species 39

In the News 42

Letters 52

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Solar Straight Talk

According to myth, Prometheus occasioned the rise of civilization by bringing man fire from the sun. All too often, talk of solar energy still abounds in myth. Straight talk is needed.

The federal government has responded to public enchantment with the idea of solar energy by increasing solar budget authorizations to almost 300 million dollars in this fiscal year. Solar heating and cooling research, development, and demonstration consume almost one fourth of the budget. The Department of Housing and Urban Development, for example, plans to fund demonstrations in 1700 dwelling units by the end of this fiscal year and has entered seven contracts for this purpose in Texas so far. The Energy Research and Development Administration will help finance large-scale demonstrations in buildings, including a \$1.2 million contract with Trinity University in San Antonio. A promising initiative in solar hot water systems begins this year. The current federal solar budget exceeds the sum of all previous solar authorizations and, in my opinion, has reached the limits of prudence.

On another front, in 1975 the U.S. House of Representatives approved an ambitious tax credit scheme to encourage the installation of solar equipment and some such measure undoubtedly will be considered again this year. Despite this growing impetus, some severe obstacles to competitive viability remain.

High capital investments pose significant marketing constraints. Uncertain long-run savings in operating costs do not have the consumer appeal of lower down payments and purchase prices. Builders and bankers are also sensitive to higher initial investment costs. Enormous conversion costs characterize the retrofit market.

Governments should pursue active roles in propagating performance standards to minimize product quality risks, accommodating building and zoning codes to the needs of solar technologies, and disseminating information to minimize cost uncertainties.

In the final analysis, the long-run efficacy of solar energy turns on trends in alternative fuel markets. Reality will eventually intrude on federal policies depressing the price of domestic fossil fuels. Continuation of price controls by the Federal Power Commission and Federal Energy Administration on oil and gas will eventually lead to insecure dependence on imports and environmentally uncertain dependence on coal and uranium.

ERDA hopes for solar competitiveness in fifty percent of potential markets by 1980, but this seems far too optimistic. We do know that the need for reducing dependence on foreign oil and finding substitutes for dwindling gas supplies will provide continuing stimuli to solar development in the next decade.

Demonstration projects will generate a vast amount of solar energy information during the next few years. A wait-and-see attitude is advisable; we have just begun.

Anxious architects should resist faddism, keep a vigilant eye on the relative economics of solar and conventional systems, and maintain flexibility. Then, adjustment is simply a matter of applying the innovative skills which have always characterized the profession. Significantly, the translation of "Prometheus," the ancient culture hero who first brought man the energy of the sun, is "forethought."



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Announcing a new *Texas Architect* feature: "Projects in Progress"

If you'd like to tell the whole world about your new project, why not start with us?

It may be that *Texas Architect* can help spread the word about that new design of yours. Our readers—some 2500 TSA members and almost twice as many "friends of the profession"—all are interested in monitoring the continually evolving practice of architecture in Texas. So we're introducing a "Projects in Progress" column to provide some insight into design activity across the state.

Frankly, we're not sure about what kind of response to expect or what kind of format we'll have in terms of layout or column inches. And even the basic concept is still somewhat fuzzy. We don't visualize a comprehensive construction index, nor do we see the column as a collection of design award winners or "prestige" projects. The feature we envision lies somewhere in between.

What we *are* sure of, however, is that we need your submittals. So, if you're excited about an unfinished project which has reached the stage of signed construction documents, tell us about it. Send us a good reproduction of a rendering or two, along with basic information—project description, client, contractor, consultants, square footage, cost estimates, anticipated completion date, etc. Also, tell us something about the design problem and how you solved it.

We don't promise to use all submittals (a lot depends upon what type of response we get). But if you'd like to tell the world about your new project, do let us hear from you. At least we promise to listen.

Please send all submittals to: Editor, *Texas Architect*,
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SOLAR COMES OF AGE

By Ray Reece

"The sun, compared to other stars, is somewhat less than average in size. Yet it is, except for the atom, the source of virtually all the energy which is used on earth. Solar energy is generated by a continuous nuclear chain reaction in the sun which converts four million tons of hydrogen into helium every second. The amount of energy, called solar radiation, constantly being released by the sun equals 380 billion trillion kilowatts. The amount of radiation striking the U.S. annually amounts to 9,000 trillion kilowatt hours, over 425 times the amount of energy used in the U.S. in 1972. The radiation reaching the U.S. is equivalent to the energy of 1,150 billion tons of coal. There are approximately 1,700 billion tons of known recoverable coal reserves in the country. In other words, the amount of solar radiation reaching the U.S. in less than a year and one-half is equal to all the energy which can be recovered from the nation's coal deposits which were created over millions of years."

This quote, from a booklet on "Solar Energy and Housing" by the AIA Research Corporation, was meant to apply to the entire United States, encompassing regions with as little annual solar radiation as Seattle, Minneapolis, and Burlington, Vermont. These cities lie in a range of only 1100 to 1300 Btu's per

square foot of radiation falling on a horizontal surface per day.

Imagine, then, the implications of solar power for Texas—no corner of which receives an average of less than 1500 Btu's per square foot per day, and most of which is well within the 1600-1900 range. Yet Texas, perhaps because similarly blessed with what once appeared to be inexhaustible deposits of cheap fossil fuels, has not been quick to capitalize on its solar wealth, nor even to research the best means of doing so. Planners and developers in and out of government, bankers, architects, engineers, educators, builders and homebuyers—with a few illustrious exceptions—have shied from or seemingly ignored the clarion call of solar power as a major feature of Texas' built environment.

We have had specific and defensible reasons, of course, for dragging our feet toward solar. One, as mentioned, is simply that solar has appeared unnecessary amidst the apparent plenty of conventional resources. Second, should those two fuels on which we most depend—oil and natural gas—grow scarce or unreasonably expensive, we have assumed the emergence of nuclear power as a rescue alternative. This has been particularly attractive because of its compatibility with Texas' electric utility grid, on the basis of which we have planned our metropolitan areas and designed our existing struc-

tures. Third, we have figured, there's always coal, which like nuclear can be used in conjunction with existing utility grids.

The continued availability of fossil fuels has given rise to a fourth and perhaps the most telling reason against a quicker shift toward solar technology: it is too costly at this stage in its development, at least in terms of initial financing. It is, furthermore, a largely untested technology, still somewhat unfamiliar to many architects, clients, and lending institutions, therefore risky and quite demanding from the viewpoint of design. This apprehension has been compounded by obstacles to solar in the form of government policies and tax structures, most of which—from building codes to investment subsidies and tax exemptions—strongly favor the current emphasis on fossil fuels.

It is perhaps unnecessary to say that most of the standard arguments against solar design, in three short years of oil embargoes, savage winters, and quadrupling utility costs, have begun to dissolve like seltzer tablets in a glass of warm water. Those inexpensive fossil fuels to which we have been accustomed are no longer inexpensive and certainly not abundant. The nuclear alternative continues to be crippled by delays and complications in plant construction, sharply increasing uranium prices, and deepening concern over hazards relating

especially to "disposal" of radioactive wastes which must be monitored for thousands of years. Coal is indeed an alternative, but a costly one both in price (particularly transportation costs) and environmental damage—nor is it less depletable, over the years, than gas and oil.

Push-Pull Factor

As for the vaunted high price of solar systems, there is a push-pull factor at work in the "market" which has already made any number of solar applications quite acceptable economically. The "push" factor is the run-away cost of conventional fuels: each escalation in such costs, rather a weekly occurrence now, plus the inevitability of future increases, diminishes the relative cost of solar—especially when a solar project is submitted to "life-cycle" cost analysis, where the investor makes a financial commitment not on the basis of initial construction costs but of operating costs projected over the life of the building. The "pull" factor in the solar market is determined primarily by improvements in system design and manufacturing technology. As systems and components are perfected, standardized, and increasingly mass-produced, the cost per unit shrinks accordingly.

The "push-pull" factor has become so intense that a recent study by the MITRE Corporation for the Energy Research and Development Administration (ERDA) has produced the following dramatic conclusions: (1) Solar space heating is now "economically competitive" with electric baseboard heating for well-insulated new homes throughout most of the U.S. (2) A 25 percent drop in the cost of solar heating would make it competitive with fuel oil or electric heat pumps in most areas, and a 50 percent drop would make it competitive with all fuels, including natural gas.

Among the areas surveyed by MITRE was Dallas/Fort Worth, where the study revealed that: (1) at \$20 per square foot of solar collector (roughly the current average price), fuel savings over electric baseboard heating now exceed annual payments for solar equipment in three years (the "payback" period); (2) at \$15 per square foot of collector, the payback period would be two years; (3) at \$10 per square foot of collector, fuel savings would exceed the cost of electric heating in one year, fuel oil in two years, and natural gas in three years (at present rates).

This brings us again to the question of government policy in regard to solar power. Developments favoring the "new" alternative, at least at the federal level, have proliferated so rapidly in the last three years that one is hard put to keep track of them. It is likely, for example, that federal funding for solar projects in 1977 will exceed \$300 million—a six-fold increase over 1974, when, spurred by the Arab oil embargo, the U.S. Congress took its first halting steps in a solar direction. Much of this money is earmarked for solar research and development, especially in pursuit of workable technologies for generating electrical power from solar radiation. Among the projects to receive such funding is a 10-megawatt electrical generating plant, administered by ERDA, which could be constructed in San Antonio—one of only three U.S. cities left in the running for site selection (a much-delayed decision is now due July 1, 1977).

Federal Money

Of perhaps more immediate interest to architects and clients, however, is the \$54 million in federal money to be awarded in fiscal 1977 to hundreds of "solar heating and cooling demonstration" projects around the country. Many such projects have already been funded—including several in Texas—with the money going both to public and to private interests who wish to incorporate some form of solar power into a new or existing building. College House, for example, a student housing cooperative in Austin, recently was granted \$133,500 for solar heating and cooling. San Antonio's Trinity University won a grant last year to install what may be the largest solar system of its kind in the United States, and a 50-unit San Antonio townhouse complex has been similarly supported with federal solar demonstration funds. The authority to disburse and administer these funds is divided between ERDA, which handles applications from commercial and institutional projects, and the Department of Housing and Urban Development (HUD), which processes residential applications.

In addition to direct funding activities, the federal government has expressed through other means a heightened interest in solar energy. Increasingly, such diverse government agencies as the Border Patrol, the Bureau of Corrections, and the General Services Administration have opted for solar components in the design

and construction of their own facilities, many of which include a monitoring function to generate data for further study. Federal tax exemptions are now available to encourage solar projects by taxpayers, and a swelling volume of information and technical assistance is being dispensed, particularly by ERDA and the Federal Energy Administration (FEA). The former agency has gone so far as to establish a "National Solar Heating and Cooling Information Center," operated by the Franklin Institute Research Laboratories, with a pair of toll-free numbers to call: (800) 523-2929 and (800) 462-4983.

State-level Efforts

Texas state and local governments have been less zealous, even recently, in their support of the solar alternative. By far the preponderance of state-level efforts have occurred in the form of solar research at state universities. Nor is the 65th Legislature expected to advance any solar initiatives of its own, according to Rep. James Nowlin of San Antonio, a member of the House Energy Committee, except perhaps to broaden a bill passed by the 64th exempting solar systems and companies from sales and franchise taxes.

It is safe to say, however, that this lag by state government in making a direct and comprehensive solar commitment is just that—a lag, not destined to prevail much longer. For in most other spheres of Texas' economy and built environment, as suggested above, the case against solar design is falling to pieces at a clip which could hardly have been predicted as little as two years ago. The evidence is springing up everywhere—in conferences, solar workshops, and seminars; in new solar homes, motels, restaurants, and office buildings; in solar engineering, manufacturing, and distribution firms; in professional societies and publications.

Solar energy has not only come of age in Texas, it promises to flower into one of the most sweeping and bountiful "growth industries" of the coming decade. Already there are architects, developers, and engineers who, identifying themselves as solar specialists, are tasting the sweet early fruits of a genuine boom in this new sector of the marketplace. A glimpse of the work in which they are busily engaged, from Dallas to Round Rock, Houston, and Marfa, is provided on the pages which follow.

Here is a highly abbreviated table of definitions for certain basic solar terms.

Active solar system: a system based on some combination of "solar hardware," particularly a collector and a heat-storage unit, with the necessary plumbing and complement of pumps, compressors, heat exchangers, etc. to make the system function. The main advantages of an active system are its ability to generate higher temperatures (150-200 degrees with certain collectors) needed for absorption cooling, and its ability to provide heat (due to the storage feature) even on sunless days. Disadvantages include high initial cost, maintenance demands, and some degree of dependence on conventional sources of electricity to power the fans and other mechanical components of the system.

Passive solar system: a system designed to function largely without the aid of mechanical devices or major items of "solar hardware." This system depends instead on more "natural" factors, such as heat-flow patterns induced by wall-design, thermal retention in massive walls and ceilings, etc. A passive system—exemplified by the traditional thick-walled adobe houses of the southwest—will generally have a much greater influence on the total design of a structure than active systems. Advantages include a relatively lower initial cost, minimal dependence on extraneous sources of fuel, and little or no maintenance. Disadvantages include a lesser degree of efficiency, more personal involvement in the day-to-day functioning of the system, and, in some cases, more vulnerability to cloudy days.

Solar collector: that part of a solar system (especially an active system) which gathers the sun's radiation, intensifies its heat, and transfers the heat to a substance (air or fluid) which can be circulated and stored. Most collectors are either of the "flat plate" type or the "concentrating" type, with the latter being generally more capable of higher temperatures. Both types must be tilted toward the sun at an angle as close to 90 degrees as possible.

Heat pump: often used in conjunction with a solar system to increase its efficiency. The compressor in the heat pump drives a refrigerant gas through a closed-loop coil unit which "picks up" ambient heat from outside air and directs it inside. The process can be reversed in summer, with the heat pump extracting heat from within a structure to direct it outdoors.

Radiation and re-radiation: simply the process of warming a substance from the heat of the sun and, when appropriate, of releasing that heat again. The "sky-therm" system, invented by Harold Hay, works entirely on this principle. The roof of a structure is covered with a heat-retaining mass of some sort—usually water in large plastic pillows. By day, in winter, these pillows are exposed to the sun, whose heat they gather and store. By night, the pillows are covered with insulating panels which prevent the stored heat from "re-radiating" skyward, allowing it instead to be absorbed by the indoor space below. In summer, the process is reversed.

Absorption cooling: a system for cooling interior spaces which employs the same principle as a gas-flame refrigerator. The sun's heat is intensified by the collector to 190-200 degrees, then used to activate an absorption device which cools the air by absorbing its excess heat.

Back-up system: a conventional heating or cooling system used to augment a solar system, particularly in the event of a prolonged absence of direct solar radiation.



Above, south elevation. Below, north elevation.



Houston: Private Residence

Architects: Laverne A. Williams and David D. Foster, Houston

Type of System: Passive

Major features: (1) total living area of 1800 square feet; (2) double-story "greenhouse sun rooms" on southern exposure function as passive solar collectors in winter, shielded during summer months; (3) attic of house designed to function as another solar collector in winter, in summer as a "thermal chimney" to stimulate natural drafts of cooler air from ground level; (4) rock-bed thermal storage chamber (3'x18'x30') beneath house to retain both heat in winter and cool air in summer, the latter vented to chamber by conventional air conditioning unit to be operated only at night (off-peak electrical generating hours).

Back-up system: conventional gas & electric

Construction costs: \$25 per square foot



Solar collector panels



2500 gallon water storage tank



Dallas: Motor Hotel

Owner: La Quinta Motor Inns, Inc., San Antonio

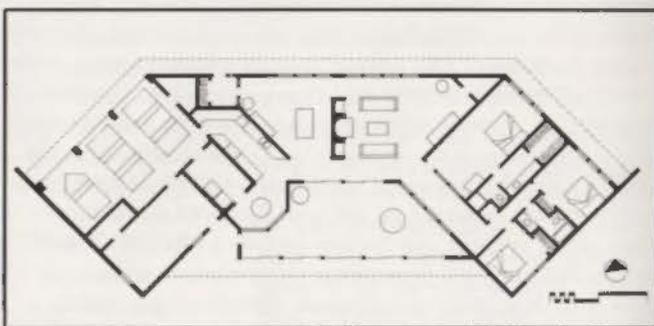
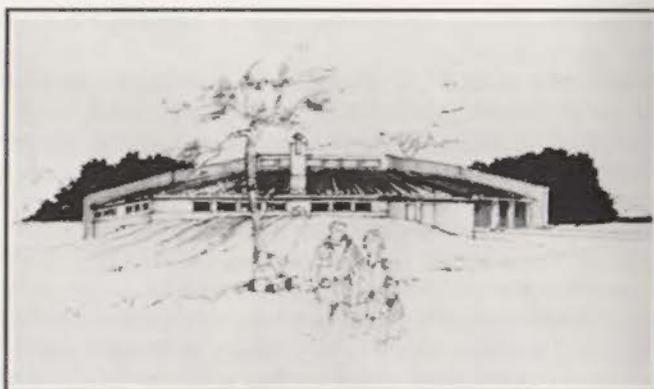
Type of system: Active

Major features: (1) motel addition comprising 26 guest rooms, meeting rooms, private club, corporate offices; (2) solar unit includes 19 roof-mounted flat-plate collectors totaling 200 square feet of surface, 2500-gallon insulated storage tank; (3) ancillary heat pumps to transmit heat from water to air for space warmth in winter, reverse function in summer; (4) system provides space heat and hot water for motel addition, plus 90% of hot water for remaining rooms in 131-unit complex, laundry, restaurant.

Back-up system: conventional electric

Projected solar efficiency: 80% of heating and hot water requirements

System costs: \$35,000 in corporate funds, anticipating seven-year payback



Nacogdoches: Private Residence

Owners: Archie and Maxine Erwin

Architect: George Way (Research Associate, Energy Institute, University of Houston)

Type of System: Passive

Major features: (1) total living area of 2275 square feet with "solar atrium" adding another 725 square feet; (2) south-facing atrium, enclosed in 400 square feet of glass doors and windows, "collects" solar heat in winter and "stores" it in massive rear wall and eight-inch concrete floor surfaced with dark tile; (3) deep overhangs block solar heat in summer; (4) atrium designed to act as "wind-scoop" in summer, maximizing natural ventilation; (5) atrium roof constructed to allow for later addition of solar collectors; (6) ceiling insulation of 12-inch batt fiberglass, walls six-inch batt, floor slab two-inch polyurethane; (7) all windows double-glazed; (8) solar-powered hot water system using 72 square feet of flat-plate collectors.

Back-up systems: wood-burning fireplace, central gas heating, electric cooling

Projected solar efficiency: 75% to 90% of heating and hot water requirements

Projected annual fuel costs: \$150 (1976 utility rates)

(Editor's note: Way is presently adapting this design for possible use in a solar-powered subdivision of 100 units to be constructed by Mariner Development Company of Houston.)



Demonstration solar collectors



San Antonio: College Buildings

Owner: Trinity University

Solar consultant: Bridgers and Paxton Engineering, Albuquerque, New Mexico

Type of system: Active

Major features: (1) this solar system—possibly the largest of its kind in the U.S.—has been retrofitted to an existing gymnasium and six dormitories on the college campus (total enclosed area of 284,928 square feet); (2) system comprises 1608 concentrating collectors (each 10'x1') designed to track the sun by means of small motors, cables, and pulleys; (3) system to furnish space heating, absorption air conditioning, domestic hot water; (4) system will be monitored for five years via 92 sensors and other instrumentation providing data for computer analysis.

Back-up systems: conventional gas and electric

Projected solar efficiency: 75% of heating, cooling, hot water requirements

System costs: \$1.7 million, of which \$1.2 million in the form of a demonstration grant from ERDA



Marfa: U.S. Border Patrol Headquarters

Owner: General Services Administration

Architect: Joe Federico, Dallas

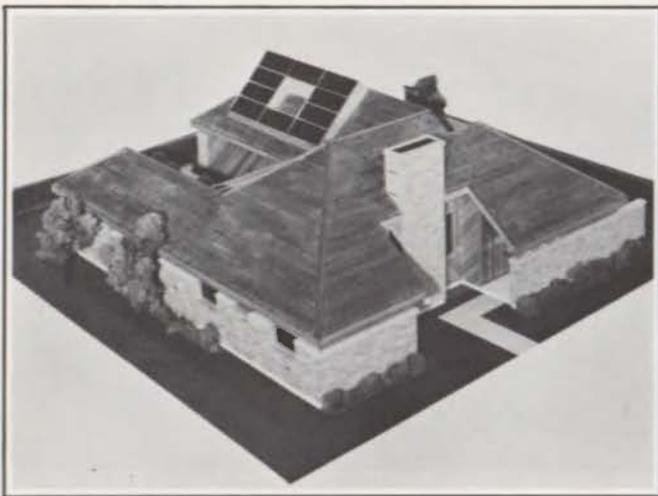
Type of System: Active

Major features: (1) three large banks of ground-mounted flat-plate collectors integrated into central power plant serving four separate buildings; (2) two-pipe system provides heating, absorption airconditioning, domestic hot water.

Back-up systems: conventional gas and electric

Projected solar efficiency: 100% of heating, cooling, hot water requirements

System costs: \$186,000



Dallas: Experimental Residence

Concept and testing: Dallas Power and Light Company

House design: Michael Miller

Solar architecture: Louis E. Thomas, Dallas

Solar equipment: General Electric Company

Solar consultant: Dr. H. A. Blum, Professor of Mechanical Engineering, Southern Methodist University

Type of system: Active

Major features: (1) not one but two houses, identical except that one is based on a "solar-assisted heat pump" concept, the other a conventional dwelling, each house to be monitored for comparative energy efficiency over a five-year period; (2) total living area in each house of 2300 square feet; (3) solar house incorporates 10 flat-plate collectors on roof (each collector 3'x8') and a 1200-gallon solar thermal water storage tank; (4) water in tank, heated via collectors to a temperature of 200 degrees, provides both space heating and domestic hot water; (5) all heating solar-powered until outside temperature reaches 50 degrees, at which point a heat pump cuts in for assistance.

Back-up systems: conventional electric

Market price of each house: \$70,000 to \$100,000

Cost of solar equipment: \$12,000

Projected solar efficiency: 30% of heating and 65% of hot water requirements



Austin: Student Cooperative Residence

Owner: The College Houses, Inc., Austin (Mike McHone, Director)

Architect: William Tamminga, Austin

Engineering: Ham-Mer Consulting Engineers, Inc., Austin

Computer simulations: George Smith, Inc., Austin

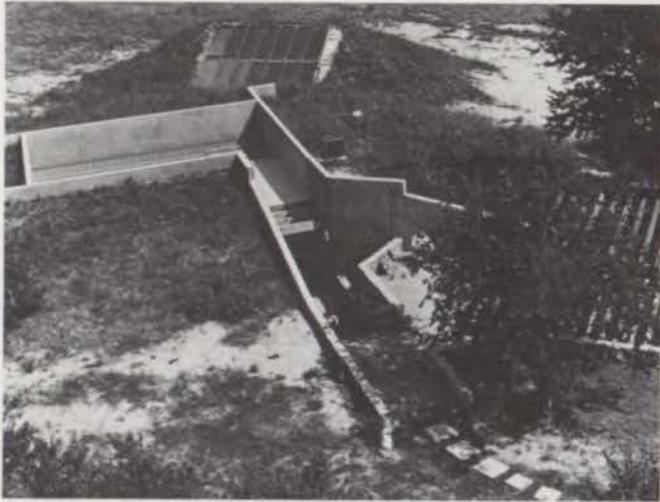
Type of system: Active

Major features: (1) solar equipment to be retrofitted onto 33,000 square-foot student co-op built in 1974 with such a possibility in mind; (2) a total of 2400 square feet of concentrating collectors, mounted on steel spans over roof, will furnish energy for heating, absorption air conditioning, domestic hot water, with a storage tank capacity of 6000 gallons.

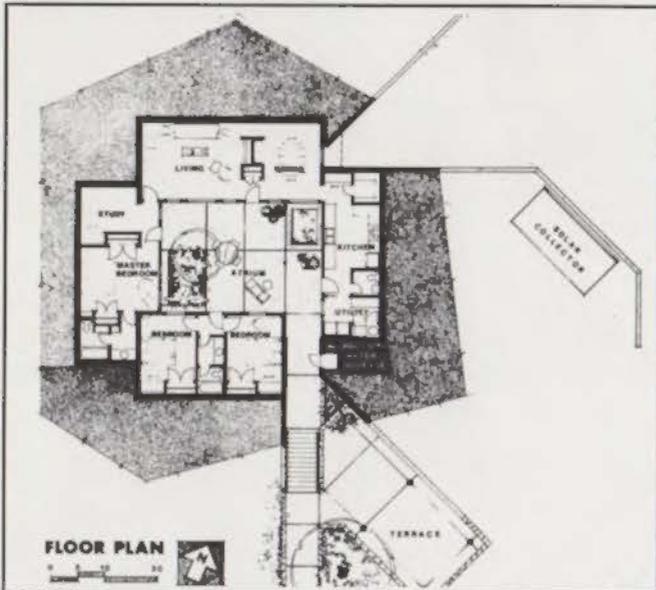
Back-up systems: conventional gas and electric

Projected solar efficiency: 45% of annual heating, cooling, hot water requirements, saving \$12,000 per year in utility bills (1976 rates), system paying for itself in 12 years

System costs: \$133,500 through a grant from HUD



Collector panels and view of atrium



Round Rock: Private Residence

Owners: John and Camilla Bordie

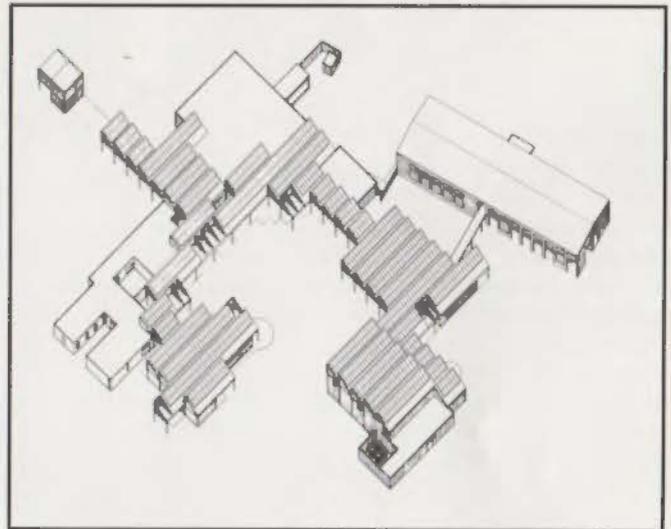
Architects: Coffee and Crier, Austin

Type of system: Active

Major features: (1) underground structure comprises 2000 square feet of living area designed around a sunken atrium providing natural light for all rooms; (2) solar system uses 240 square feet of flat-plate collectors mounted near house and 1000-gallon thermal storage tank to provide space heating and hot water; (3) precast concrete plank roof with waterproof membrane, 1-inch urethane foam insulation, 12-foot bermed earth overhead.

Back-up systems: conventional electric

System costs: \$10,000 in private funds, anticipating seven-year payback



Bastrop: Federal Youth Center

Owners: U.S. Bureau of Prisons and General Services Administration

Architects: Caudill Rowlett Scott, Houston

Type of system: Active

Major features: (1) medium security institution comprising four units of single rooms for 500 youthful inmates, plus support facilities to house administrative personnel, visitor areas, laundry and dining rooms, clinic, etc.; (2) solar system will utilize 30,000 square feet of flat-plate collectors mounted in conjunction with a central power plant to furnish space heating, absorption air conditioning, and hot water to any given point in the complex on a demand basis ("district energy management concept"); (3) water temperature capacity of 185 degrees.

Back-up systems: conventional gas and electric

Projected solar efficiency: 60% of heating, cooling, and hot water requirements

System costs: \$1.6 million (including maintenance) through a grant from ERDA, anticipating a 20-year payback period



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Industrial Vernacular: Six Anonymous Buildings From the American Southwest

Text by Drexel Turner
Photographs by Paul Hester and Drexel Turner

The buildings in the portfolio which follows were photographed several years ago in Texas, New Mexico, and Southern California. They represent an anonymous facet of industrial architecture recognized and admired by such early Twentieth Century observers as Le Corbusier, Demuth and Sheeler, but seldom documented even today. The buildings themselves are of interest as architecture rather than as sculptural objects or as large-scale machines, in contrast to the European kilns, towers and trestles documented by Bernhard and Hilla Becher under the title *Anonyme Skulpturen* (Art-Press Verlag, Wittenborn: 1970).

In most cases these buildings serve as key elements of landscape. The rice dryer in photos 1 and 2, for example, is perhaps the single most important landmark for fifty miles around and about Eagle Lake, a small community in the heart of the Texas rice belt. The impact of the coal dump pictured in photo 3 extends serially across several states through repetition at intervals along the Southern Pacific railroad west of Deming in New Mexico and Arizona. While both the dryer and the coal dump seem to fit comfortably into their surroundings, the acoustically-clad oil rig set alongside an electrical utility corridor in the suburbs of Los Angeles (photo 4) seems an improbable if not-quite-colossal interruption of an otherwise predictable tract-house landscape—a Christo without Christo counterpoint created out of environmental necessity. Similarly, the longitudinal mass of the rice dryer pictured in photos 5 and 6 intrudes on an otherwise continuous expanse of rice fields by erecting a virtual wall of tall, shining tubular elements.

Functionally these buildings encompass a small and rather ordinary range of industrial uses (agricultural production, mineral extraction, transportation), yet they admit a broad range of architectural expression and association. The correspondence of the cement and gravel hoppers (photo 7) to the projects of James Stirling; the coal dumps to early Corbusian compositions; and the hay shed (photo 8) to the formal preoccupations of Robert Venturi and Charles Moore are clearly evident.

As a class, these buildings deserve a more deliberate effort at discovery and documentation, not only through the architecture and engineering survey programs of the U.S. Department of the Interior, but through the involvement of individuals, professional societies, universities and state agencies.

Drexel Turner is a planner with the firm of Marshall Kaplan, Gans and Kahn as well as an assistant professor in the Department of Architecture at the University of Houston.

Paul Hester, a graduate of Rice University, has a master of fine arts degree in photography from the Rhode Island School of Design and now is teaching in Wellesley, Massachusetts.

Photo by Paul Hester



1. Rice dryer, Eagle Lake, Texas, 1907.



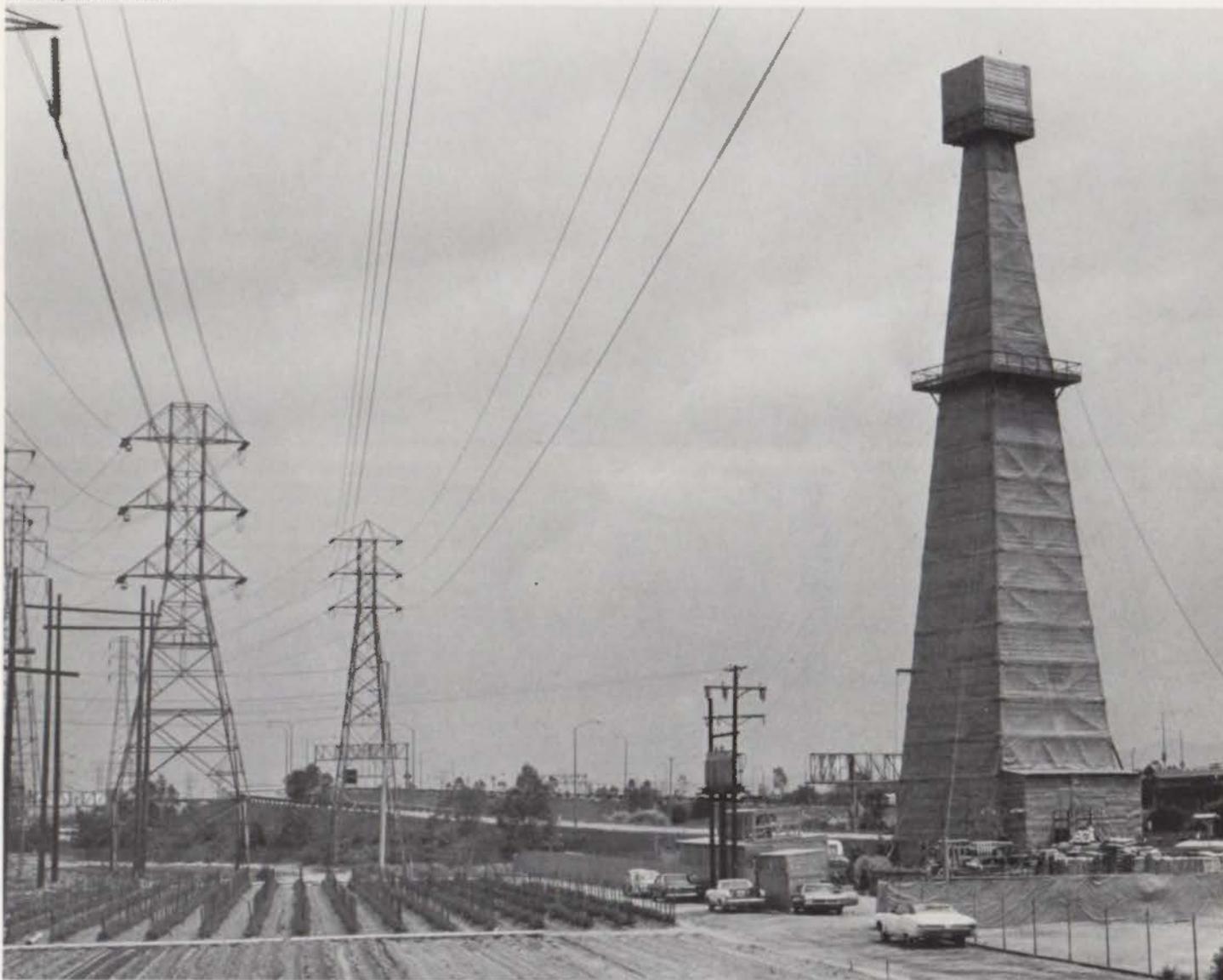
2. Rice dryer, Eagle Lake, Texas, 1907.

Photo by Drexel Turner

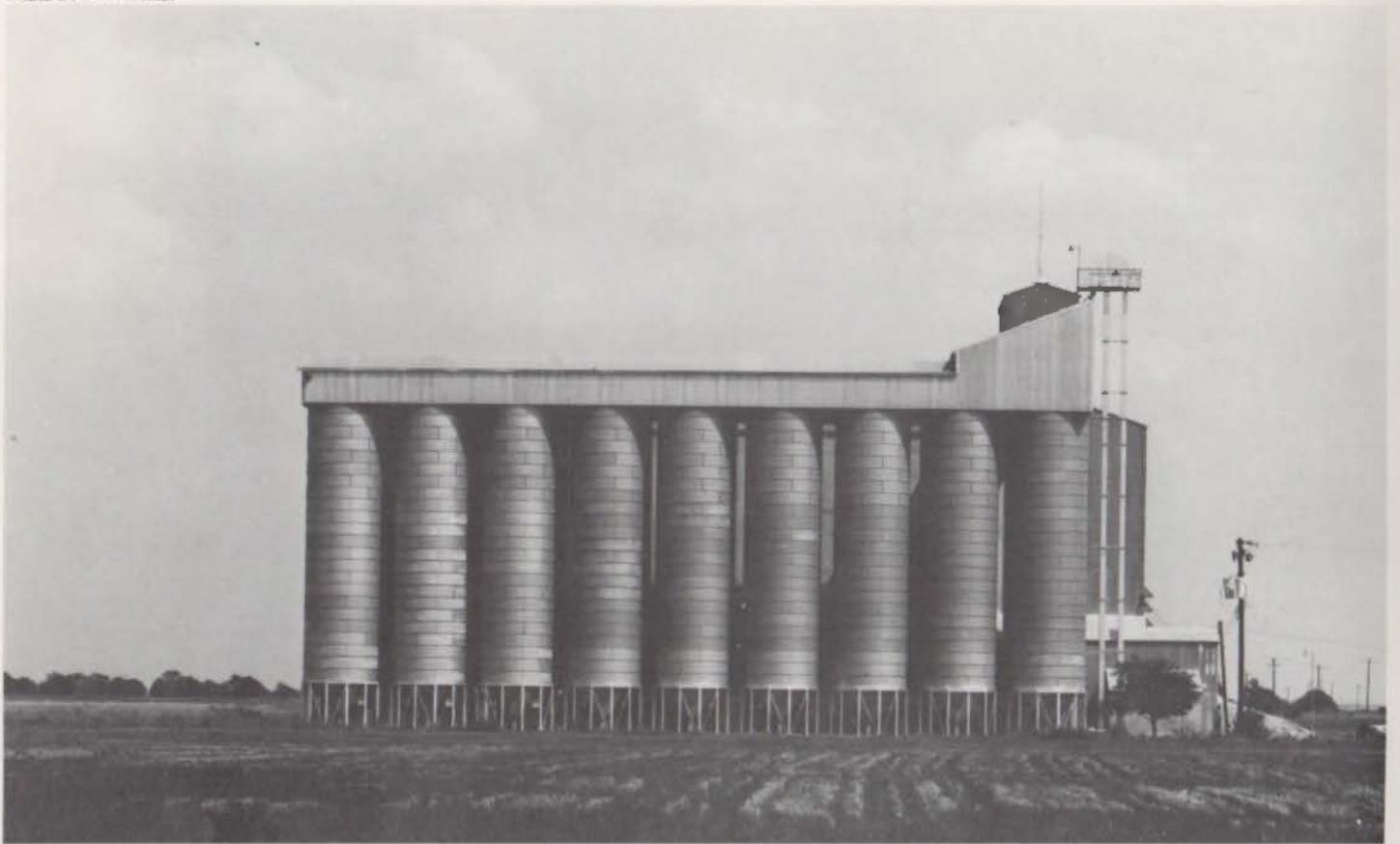


3. Coal dump, Deming, New Mexico, circa 1930.

Photo by Drexel Turner



4. Plastic-clad oil drilling rig, Downey, California, circa 1960.



5. Rice dryer, Cardiff, Texas, 1955, 1968.

Photo by Paul Hester



6. Rice dryer, Cardiff, Texas 1955, 1968.

Photo by Paul Hester



7. Cement and gravel complex, Houston, Texas, 1957.

Photo by Paul Hester



8. Storage shed, Columbus, Texas, circa 1940.



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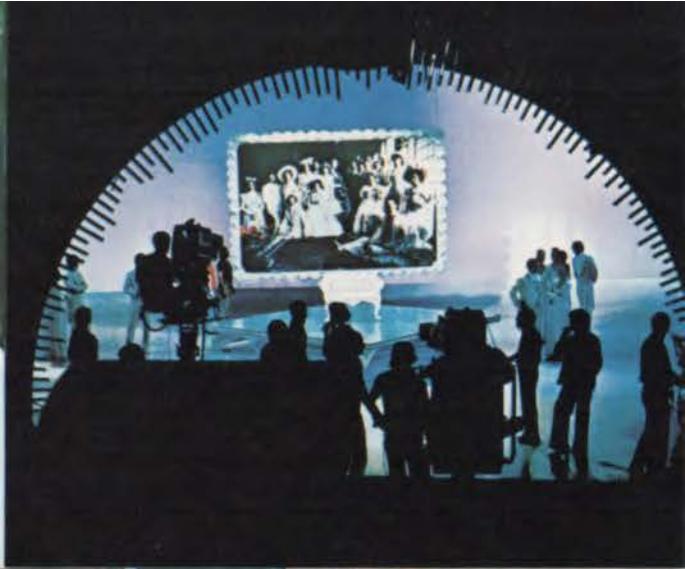
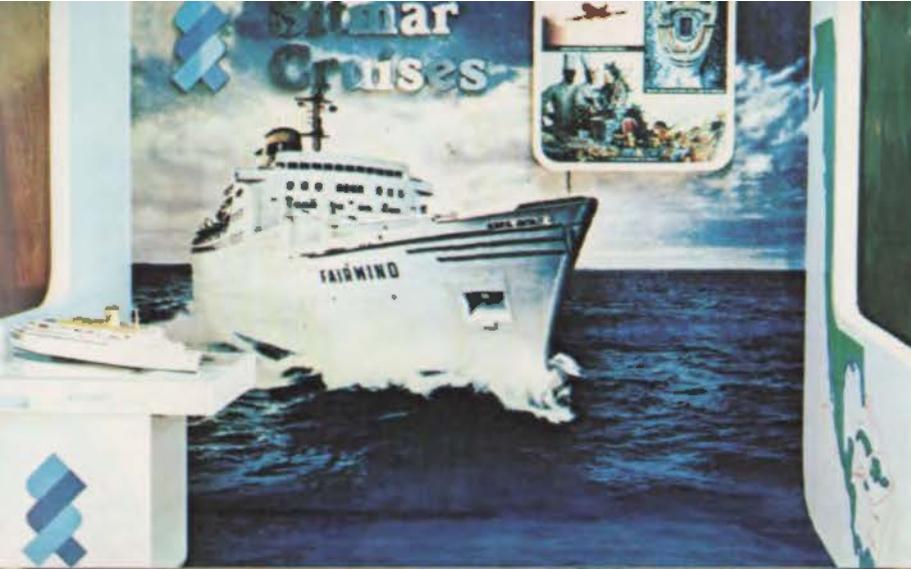
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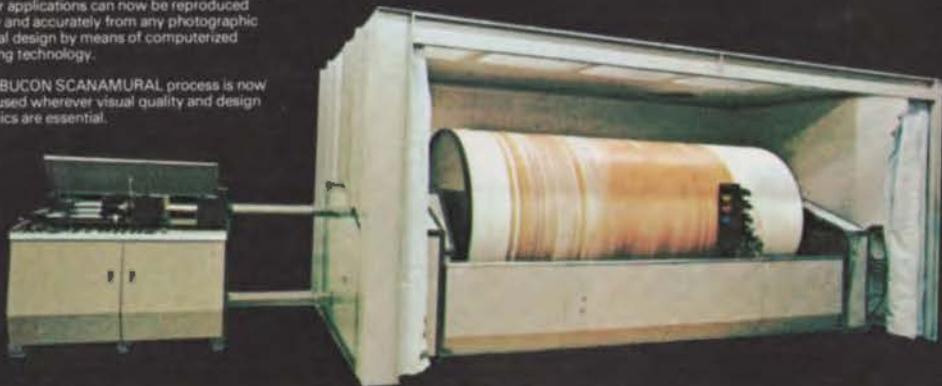
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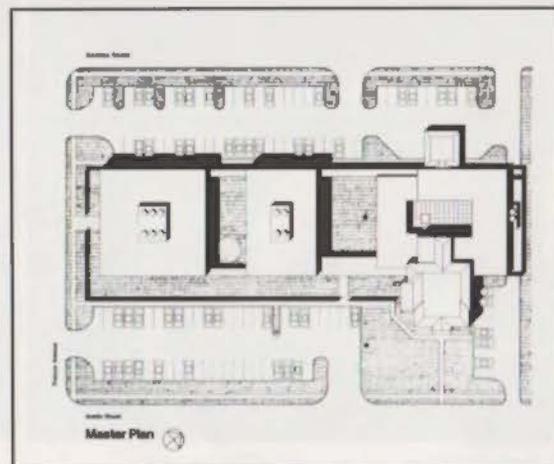
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Children's Mental Health Services of Houston, an agency of the United Fund, had allotted this no-frills budget to provide a 16,400 square-foot building—including partitions, carpeting, parking and landscaping—to house a full range of mental health services for children. The design solution won Houston architects Anderson Todd, FAIA, and William T. Cannady an Award of Merit in Texas Architecture 1976, their second consecutive win in the Texas Society of Architects' annual statewide design competition.

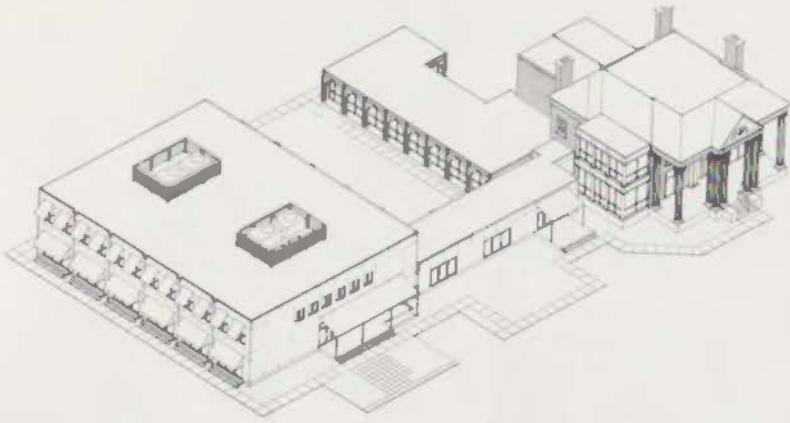
The two-story structure is the first stage of a master plan which calls for a linear arrangement of circulation systems—a "ladder" organization which becomes a framework and background for the fine old existing house on a neighborhood lot near downtown Houston. Existing and new facilities are linked by an enclosed, tree-shaded court and connecting passage-way, a design choice recognizing the increasingly urban character of the site and the required one-to-one ratio of parking area to occupied



Anderson Todd,
FAIA



William Cannady



space. The enclosed, protected play area created by the linking system—complete with “backyard” shade trees—contributes to the unimposing, non-institutional character of the whole complex.

The structure itself is organized into large, square, repetitive bays for flexibility and variety, yielding suitable space for multiple functions: hospital, nursery school, clinic, office, and teaching arm of nearby medical schools. The exterior is a tight, warm-colored skin of stucco, divided by white plastic drain pipes and enlivened by colorful canvas awnings which provide sun control and help achieve an inviting atmosphere for children.

It all adds up to success within a tight budget, and a few frills to spare.

Architects: The Offices of Anderson Todd, FAIA, and William Cannady, AIA, Houston

Structural Engineers: Nat Krahl & Associates, Houston

General Contractor: Baxter Construction Co., Houston



The Texas Society of Architects' 1976 statewide design competition yielded 7 Awards of Honor and 8 Merit Awards for projects which are being featured in Texas Architect during 1977.

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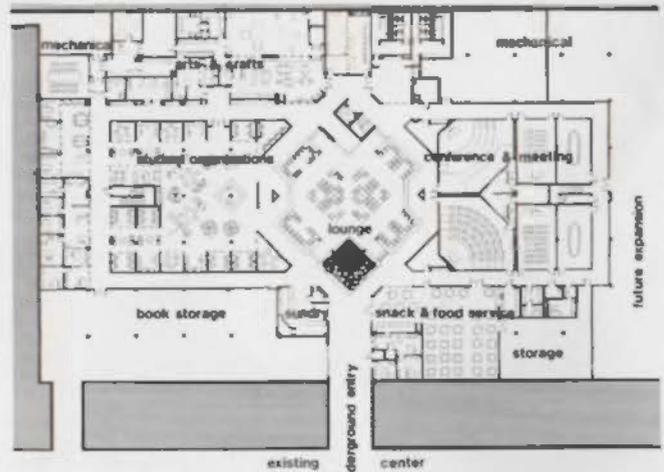
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Photo by Jim Parker



Merit Award
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Student Center: More than Meets the Eye

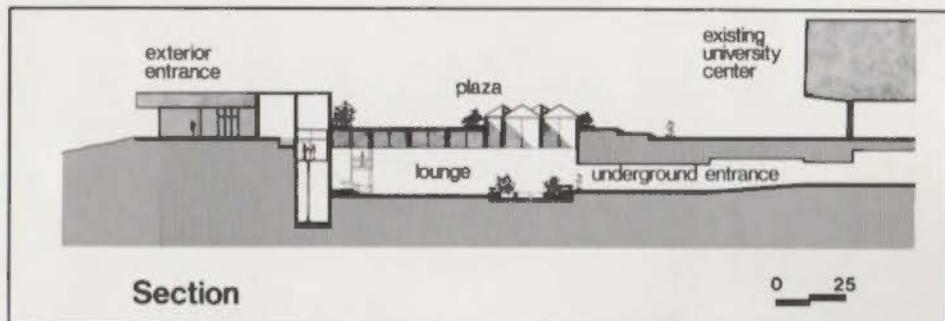
The problem was rather typical—expanded university enrollment called for expanded university facilities. But the solution was rather unique.

What with some 90 percent of its growing enrollment composed of commuting students, the University of Houston's student center had become increasingly important as a "home-base" for commuters during large blocks of time between classes. More student center space had become essential to accommodate this rising demand. But the existing structure, an award-winning design itself, had not been planned for expansion. A conventional "tack-on" addition would compromise the center's aesthetic qualities as well as intrude further into available open space—fast becoming a precious commodity. Though not an original program requirement of the client, the Houston architectural firm of Golemon & Rolfe quickly identified the preservation of open space as part of the design problem.

The innovative solution was to go underground with the new facility and utilize the roof as a landscaped plaza for student gatherings. The one-story underground expansion—a vast complex including commuter and international lounge, snack bar, crafts studios, student organization offices and other student services—is comfortably linked to the original center by a short tunnel emerging in the sunken central court yard of the existing facility. A basement effect was avoided by generous use of skylights, abundant planting, and a large fountain (which also serves to mask the buzz of conversation in the lounge).

The end result is an exciting on-campus retreat, below the ground, but above all expectations.—LPF

Architects: Golemon & Rolfe, Houston
Engineers: Walter P. Moore & Associates, Houston—Structural; Lockwood, Andrews & Newnam, Houston—Mechanical & Electrical
Landscape and Interior Designers: Marmon, Mok & Green; San Antonio
Contractor: Chambers & McGregor, Houston



The Texas Society of Architects' 1976 statewide design competition yielded 7 Awards of Honor and 8 Merit Awards for projects which are being featured in Texas Architect during 1977.



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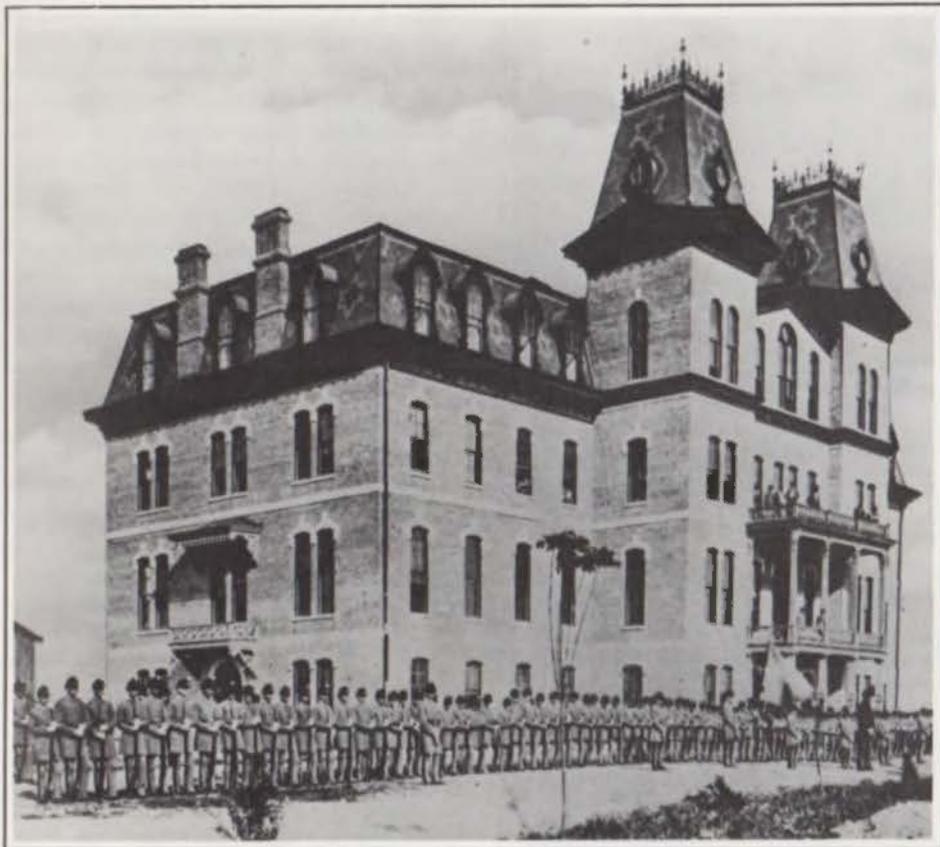
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"Old Main," 1875. Jacob Larmour, architect.



Architecture at A&M:

The Past One Hundred Years

By John S. Garner

Texas A&M University's one-hundredth anniversary celebration on October 4 was an occasion for touting past achievements and assessing prospects for continued progress. But one achievement which has never received special attention is Texas A&M's architectural development. Although Aggieland is better known for other accomplishments, a number of its buildings are fine examples of period collegiate styles. In fact, it has a rather interesting assortment when compared to other universities in the state. Though some of the earliest buildings have been destroyed, it is appropriate to review a few old and new examples in the context of 100 years of collegiate architecture.

No single building style or design feature dominates the scene of the College Station campus. Instead, a mixture of styles vie with one another for attention along the streets and within the quadrangles of the University's 900 acres. This abundance of space has made attempts at site unity difficult as clumps of buildings arose during various periods of expansion. Even the symmetric, Beaux-Arts mall and streets of the 1920s failed to bring order to the campus, and only in the student and faculty housing was a degree of regularity achieved. No stuccoed arches and red-tiled roofs or Gothic cloisters were constructed at Texas A&M to provide unity through repetitive motifs. Not even the patina of ivy could mute through floral covering what walls defied. However, the buff-colored brick of the buildings, used extensively since 1914, compensates somewhat for the variety of forms. And the fact that the University had no master plan in 1876, nor follows one today, has had a redeeming effect. In place of monotonous uniform blocks, a variety of buildings has appeared.

When Texas A&M opened its doors to 106 students in 1876, two brick buildings and five frame houses stood in the land-grant prairie near Bryan. Of these, the most formidable structure in sight of the Houston & Texas Central Railroad flag stop (later designated College Station) was the "Old Main," which had been



"Mess Hall," 1897. Glover and Allen, architects.



Academic Building, 1914. Gideon and Giesecke, architects.

completed the preceding year. Jacob Lar-mour of Austin designed the red brick edifice with Italianate fenestration and a French Mansard roof in the *Victorian* style of the period. Although \$100,000 had been appropriated by the Texas state legislature, probably no more than half that amount was expended for the four-story structure. The white limestone trim of the window moldings and string-courses as well as the blue-patterned slate roof kept the building from appearing too utilitarian. Unfortunately, this fine building fell victim to fire and was razed in 1912.

In 1897, architects Glover and Allen, of Houston, designed the "Mess Hall," which was constructed for the modest sum of \$25,000. The architects also collected a modest fee—\$825.42. This *Richardsonian Romanesque* building was influenced perhaps by Austin Hall at Cambridge, where Henry Hobson Richardson introduced the style to collegiate architecture in the 1880s. The bold turrets and round-arched windows are distinguishing features of the once popular style. Seated within the "Mess Hall's" two stories, more than 500 cadets enjoyed the novelty of dining under 54 electric lights. But the timber floors and roof did not protect against fire, and one night in 1911 it was also destroyed.

By far the finest early remaining structure on the A&M campus is the Academic Building, constructed in 1914. Today, it shares the center of the campus axis with the Sterling C. Evans Library and contains offices of the College of Liberal Arts. It originally was designed to replace the "Old Main." Samuel E. Gideon and Frederick E. Giesecke, then professors in the Department of Architecture, collaborated in designing the \$225,000 building. It is distinctive for two reasons: first, it introduced the style of *Beaux-Arts Classicism* to the campus, and second, it represented the first local effort of reinforced concrete construction. Although nearly disguised by the style and brick veneer, this new concrete building with its studied proportions gave the campus a handsome edifice in front of which the students could muster. Giesecke, who received his education at Texas A&M and MIT, calculated the size of the structural members by determining the minimum amount of steel necessary for reinforcement, and then doubling it. As a result, the fireproof floor slabs were nine inches thick. On the exterior, an Ionic Order with free-standing and en-

gaged columns separates proportionately the rusticated podium of the ground story from the attic of the fourth story, and a copper-sheathed dome surmounts the central pavilion. Details of the entablature and window pediments were produced in cast stone, ground from red granite and prepared on site. Inside, a rotunda supported by three tiers of Doric columns dominates the space. Prior to 1963, the Department of Architecture occupied the fourth floor of the Academic Building, the dome of which offered an excellent backdrop for photographing student projects.

Giesecke also designed the Geology-Petroleum Engineering Building of 1932. Its rocket-shaped central tower with emblematic reliefs identifies the style as *Moderne*. By an act of architectural savagery, the building was shorn of its tower in 1972. The tower, incidentally, contained a water tank that provided pressure to operate the campus water system. Even though the roof-line is now uniform and dull, the building still holds a surprise inside. The walls of the entrance vestibule display Art-Deco murals made from fossil forms, below which is a wainscot of colored-ceramic tile. Blue encaustic tiles were also applied to the exterior, adding further adornment to this \$207,715 commission.

After World War II and well into the 1950s, the campus' architecture underwent a reduction in scale from institutional to residential. The original wings of the Memorial Student Center and All Faiths Chapel reflect the *Wrightian* style. Low masonry walls, glazing under the eaves, and a pitched or hipped roof, together with attention to landscaping about the premises, help to distinguish this style. All Faiths Chapel, built in 1957 for \$255,483, provides an attractive center for religious services and activities. Richard E. Vrooman of the architecture faculty won the commission through design competition. The pitched copper roof rests on wood purlins supported by exposed steel struts. The simple lines of the open gable above the entrance and along the nave convey the image of a religious building without designating a particular faith, a problem resolved in the design of this interdenominational facility.

During the 1960s and 1970s, under the administrations of Earl J. Rudder and Jack K. Williams, the number of buildings on campus doubled and student enrollment reached 28,000 last fall. The



Geology-Petroleum Engineering Building, 1932. F. E. Giesecke, architect.



All Faiths Chapel, 1957. Richard E. Vrooman, architect.



Chemistry Institute Annex, 1972. Golemon and Rolfe, architects.

Chemistry Institute Annex of 1972 stands out as one of the better buildings of this most recent period of expansion. Houston architects Golemon and Rolfe designed this addition to the Chemistry Building for approximately \$4,000,000. Its functional massing and exterior finish of exposed concrete and brick are reminiscent of the architecture of Le Corbusier and Louis Kahn (for example, Kahn's Richards Medical Building at the University of Pennsylvania), and it can be labeled *Brutalist* in style. However, what is important about the design of the Chemistry Institute Annex is that it accommodates expansion while not detracting from buildings around it. Without replicating the building onto which it bridges, or overwhelming the appearance of structures nearby, it approximates the scale, bay width, material, and color of adjacent buildings. Without repeating, it complements; yet it is not ordinary.

In conclusion, Texas A&M University has managed to reflect its century-long development through a series of architectural styles. From subtle classicism to egregious modernism, nearly every style is exhibited somewhere on campus. By coincidence, it also reflects a fairly accurate image of collegiate architecture in America during the same period.

Note on Sources:

The *Annual- and Biennial Report(s) of the Agricultural and Mechanical College (1885-)* provide firsthand information about Texas A&M buildings. Ernest Langford's "Here We Build The College" (Texas A&M Archives: Manuscript, 1963) is an invaluable collection of facts about A&M's buildings, and, finally, Henry C. Dethloff has recently published *A Centennial History of Texas A&M University, 1876-1976* (College Station: Texas A&M University Press, 1976), which is an excellent comprehensive study.

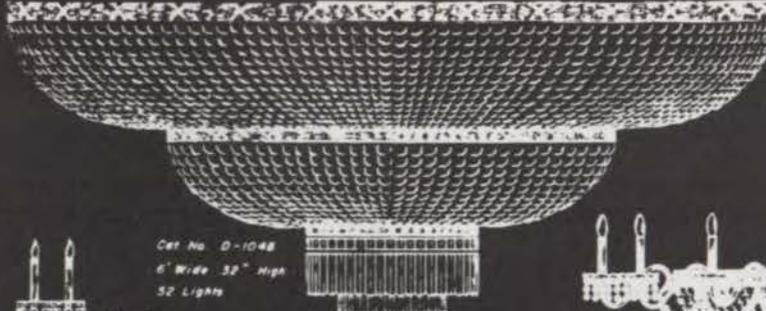


Architectural historian John S. Garner is an assistant professor in the College of Architecture and Environmental Design at Texas A&M University.

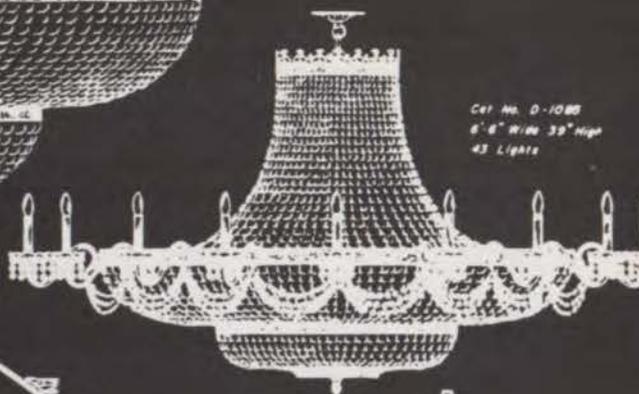
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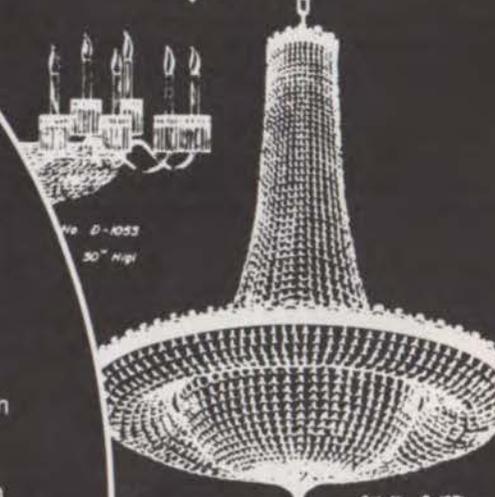
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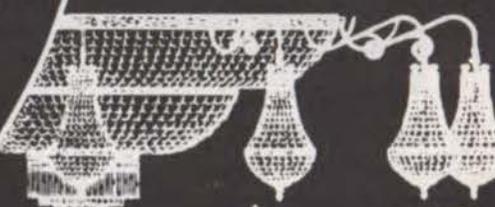


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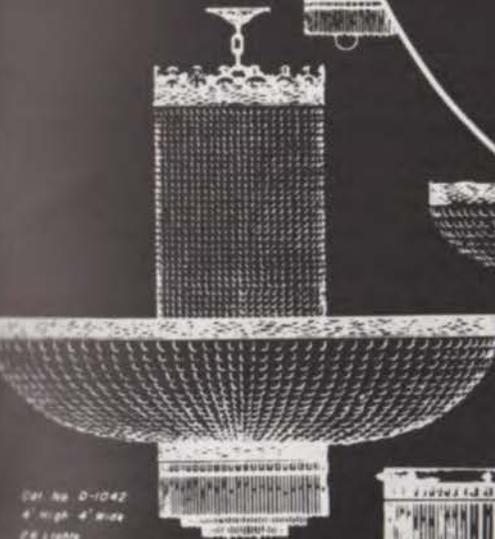
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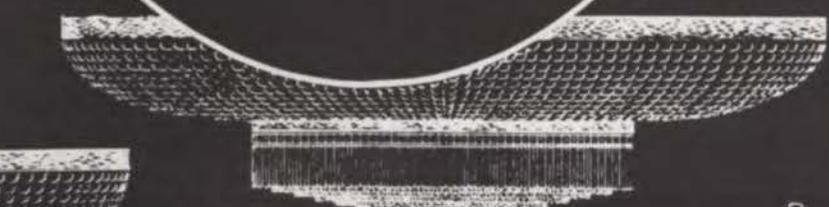


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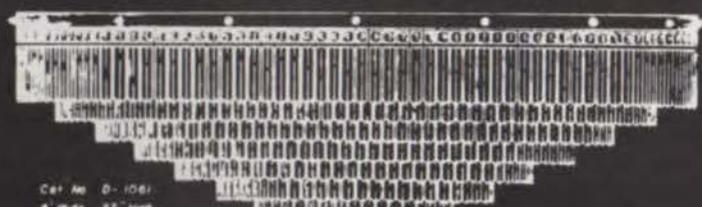
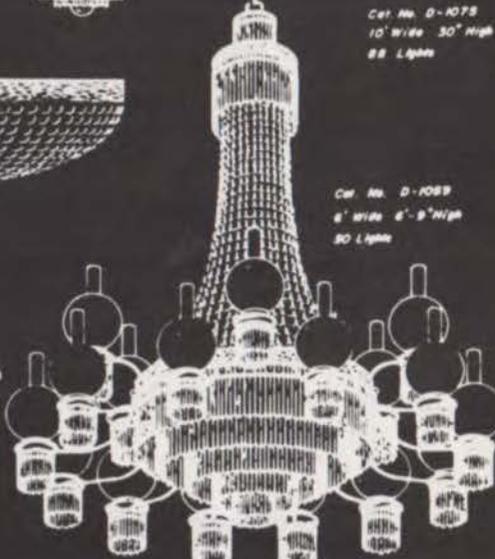


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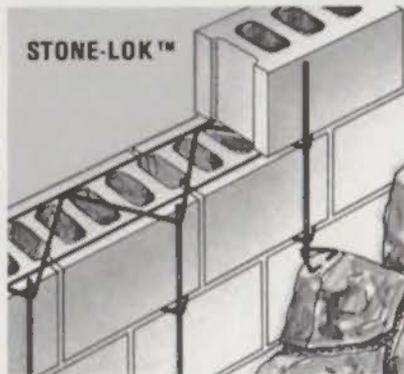


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6' Wide 6'-9" High
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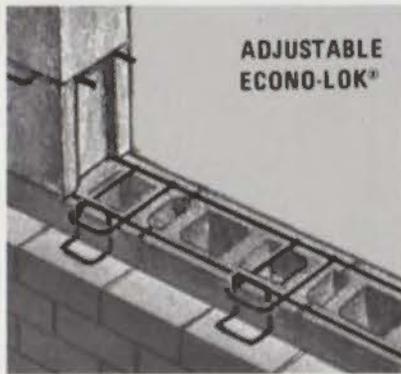


Cat. No. D-1061
6' Wide 27" High
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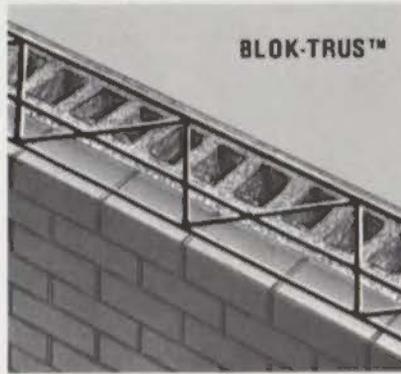
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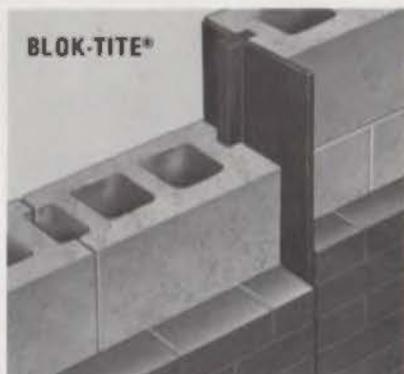
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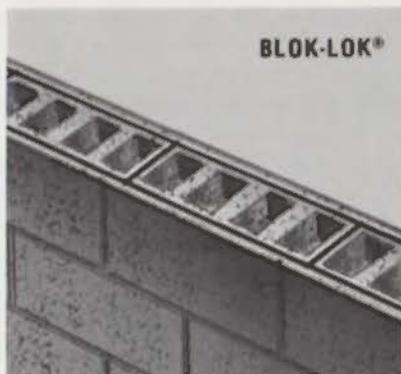
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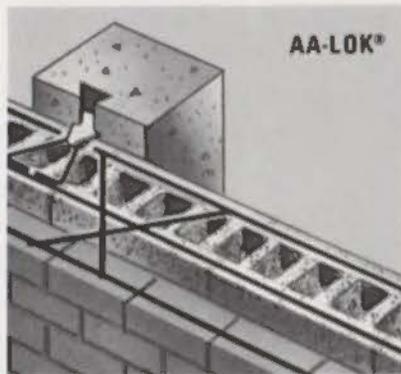
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Hirshfeld Property Preserved

By Sue McBee

The Austin Heritage Society has tied the ribbons on a big New Year's present for future generations of Texans. With a lot of help from its friends, it (1) purchased the Henry Hirshfeld Cottage and Mansion, 303-305 West Ninth Street in Austin, and (2) has resold both, with restrictive covenants to ensure their preservation, to a Midland couple interested in restoration.

The imposing Victorian mansion (1885) and the simple limestone cottage (circa 1876) rank high on the Heritage Society's priority list of historic properties in Austin. A substantial gift from owner Marie Bernheim Hanna, a member of the Society, made purchase of the downtown property a reality for the organization.

Mr. and Mrs. J. Hiram Moore of Midland, also Society members, bought the Hirshfeld property from the Society because "we admire what the Austin Heritage Society is doing for Texas—and we wanted to help!" The Moores have agreed to deed restrictions and to historic zoning from the Austin Landmark Commission.

Located within walking distance of the Texas Capitol, Governor's Mansion, Wooldridge Park, Bremond Block, and The University of Texas System complex downtown, the Hirshfeld property is a prime example of Austin Victoriana. Until this sale, it had remained in the family which built both houses. Mrs. Hanna, who was born and married in the mansion, is the granddaughter of Henry Hirshfeld. Her mother, the late Leila Hirshfeld Bernheim, born in the cottage and married in the mansion, was the last member of the family to live in the big house.

Henry Hirshfeld came to America from Germany as a 15-year-old. He served as a



member of Hood's Brigade in the Civil War and married an Austin girl named Jennie Melasky. Starting as a country peddler, Hirshfeld became owner of a mercantile store, and later was a founder and first acting president of the Austin National Bank, as well as a founder of Temple Beth Israel. He and Jennie built the one-story limestone cottage about 100 years ago.

Typical of the simple stone houses constructed in Austin between 1850 and 1880, the cottage has a double front door, bay window, porches typical of the era, and central hall with rooms off both sides. The original cistern is still in the back yard, and many young couples, including the Hannas, have started housekeeping in what has for years been called the "honeymoon cottage."

The Hirshfelds had borne eight chil-

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dren and lived in the cottage for some 10 years before moving into the more imposing two-story mansion they built next door. The mansion is part limestone and part brick, with impressive encircling porches, all elaborately "gingerbreaded." Its architecture is highlighted by a double front door, bay window, decorative carving in stonework, and stained glass windows.

The large house has 12 rooms, 14-foot ceilings downstairs and 13-foot ceilings upstairs. One of its most important features is a free-standing stairway, bathed in sunlight filtering through brilliantly colored stained glass windows at its landing. Several of the rooms have ornate

Victorian fireplace mantels, iron ceilings of Italian design, and marble-topped vanities. Music room doors are stenciled in a design similar to those found at Winedale Inn in Round Top.

Both Hirshfeld houses, listed on the National Register of Historic Properties, have received Texas Historical Commission Medallions. They are sketched and described in the Austin Heritage Society's recent book, *AUSTIN, The Past Still Present*.

Sue McBee is a past president of the Austin Heritage Society.



Referendum Saves Pier 19

Historic Pier 19, the only authentic oceanside vestige of Galveston's once-fabled wharf district, has been permanently rescued from demolition by a January 15 referendum in which pro-pier interests scored a two-to-one victory.

At issue was whether the 75-year-old facility, a conspicuous and valuable adjunct to the famous Strand area, would be preserved or dismantled by Galveston's Wharves Board to make way for a modern deep-water terminal serving large "containerized" freighters.

Aside from the historical significance of Pier 19, recognized both by the Texas

Historical Commission and the National Register of Historic Places, there were other important concerns. Pier 19 has long provided berths for a rustic "mosquito fleet" of more than 100 family-owned shrimping, fishing, and party boats, all of which would have been displaced. Destruction of the pier would also have damaged Galveston's important tourist industry, sealing off the entire wharf-way even to Galveston citizens. Finally, in driving the small fishing boats to other berths on the Gulf coast, loss of Pier 19 could have generated higher fish prices by eliminating small-boat competition.

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Charles Guerin, elected.

Texan Elected

University of Houston architecture student Charles Guerin will preside as 1977-78 national president of the Association of Student Chapters of the American Institute of Architects (ASC/AIA). He was elected at the national annual forum in Columbus, Indiana and will

serve in the organization's Washington, D.C. offices beginning July 1.

A fifth-year student at the University of Houston Central Campus College of Architecture, Guerin is director of the Texas ASC/AIA and has served as treasurer of the UH Chapter.

The ASC/AIA serves as the official representative and voice of 114 student chapters in North American colleges.

On a University level, Guerin served as the Student's Association senator from the College of Architecture, as a University Council member and as National Student Association delegate.

AIA to Present Medals

The American Institute of Architects has selected two sculptors, a design director and an American buildings collection for special recognition at the June 5-8 AIA annual convention in San Diego.

Two American sculptors—Louise Nevelson and Claes Oldenburg—will receive medals for artistic achievement related to architecture. Nevelson's sculpture, found in leading museums and private collections and on outdoor sites in many American cities, is strongly architectural

in its imagery, and reflects the sculptor's fascination with shadow and reflection. Swedish-born artist Oldenburg is best known for his works which translate everyday objects—bananas, lipsticks, clothespins—into monumental sculpture.

Arthur Drexler, director of the Department of Architecture and Design at the Museum of Modern Art; and the Historic American Buildings Survey, a collaborative effort of the National Park Service, the Library of Congress, and the American Institute of Architects; will receive medals for significant achievement in recording architectural accomplishments. The AIA jury commended Drexler for bringing the work of many American and European architects to public attention. The Historic American Buildings Survey, begun in 1933, is a long-range program to assemble an archive of American architecture.

Defense Department Award

An Air Force project by Robert Arburn & Associates of San Antonio has won an Excellence in Architecture award in the 1976 Defense Department Design Award Program for military construction. The award was presented for design of the Randolph-Brooks Federal Credit Union at Randolph Air Force Base in San Antonio.

The Defense Department began the awards program in September 1976 to promote excellence in military architecture and more pleasant surroundings on military bases.

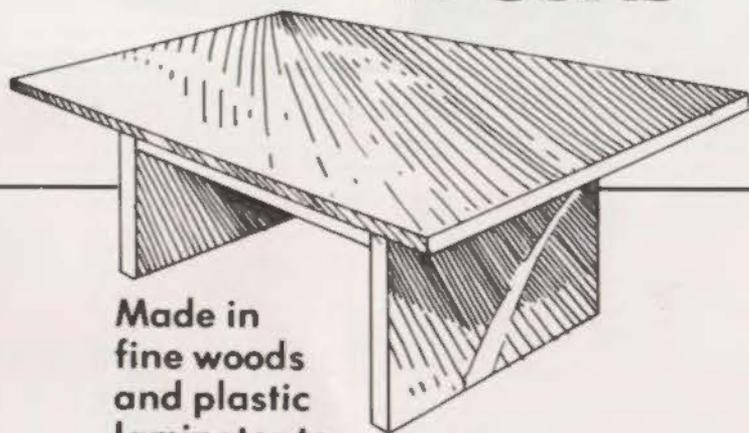
A jury of five civilian architects selected the winners.

Carvings Sought

The Institute of Texan Cultures in San Antonio needs help locating wood carvings by the late Peter Mansbendel, a Swiss immigrant noted for his mantels and frieze-work. Mansbendel carved a variety of decorative objects for private homes and public buildings from 1915-1940. He added finishing touches to architectural projects in Austin, San Antonio, Houston and Dallas, working with such architects as Birdsall Briscoe, John Staub, Alfred Finn and Harvey P. Smith.

The Institute would appreciate hearing from readers who can help locate Mansbendel carvings. Address correspondence to Al Lowman, The Institute of Texan Cultures, Box 1226, San Antonio 78294.

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Hospitals Exhibit

The 5th Annual Exhibition of Architecture for Health will be held in conjunction with the Texas Hospital Association Convention and Exhibit Show May 24-26 at the Albert Thomas Convention Center in Houston. This year's exhibit will include a special section on interior design.

Architects and interior designers from the United States and Canada are invited to submit health facility projects for the exhibit. Eligible projects are complete facilities or parts of facilities, including hospitals, long-term care facilities, health and diagnostic and treatment centers, medical office facilities, medical laboratories, staff housing and medical research facilities. Projects must have been completed after July 1, 1973, or for projects in the design phase, the design contract must be dated before Oct. 1, 1976. Entries are limited to projects designed and specified by the entrant.

For rules and entry forms, contact Richard Bettis, Convention Exhibits Manager, P.O. Box 15587, Austin 78761. Telephone: (512) 453-7204.

Contract Design Show Held

The Condes IV, Dallas Contract Design Show was held Jan. 19-21 at the Dallas Market Center.

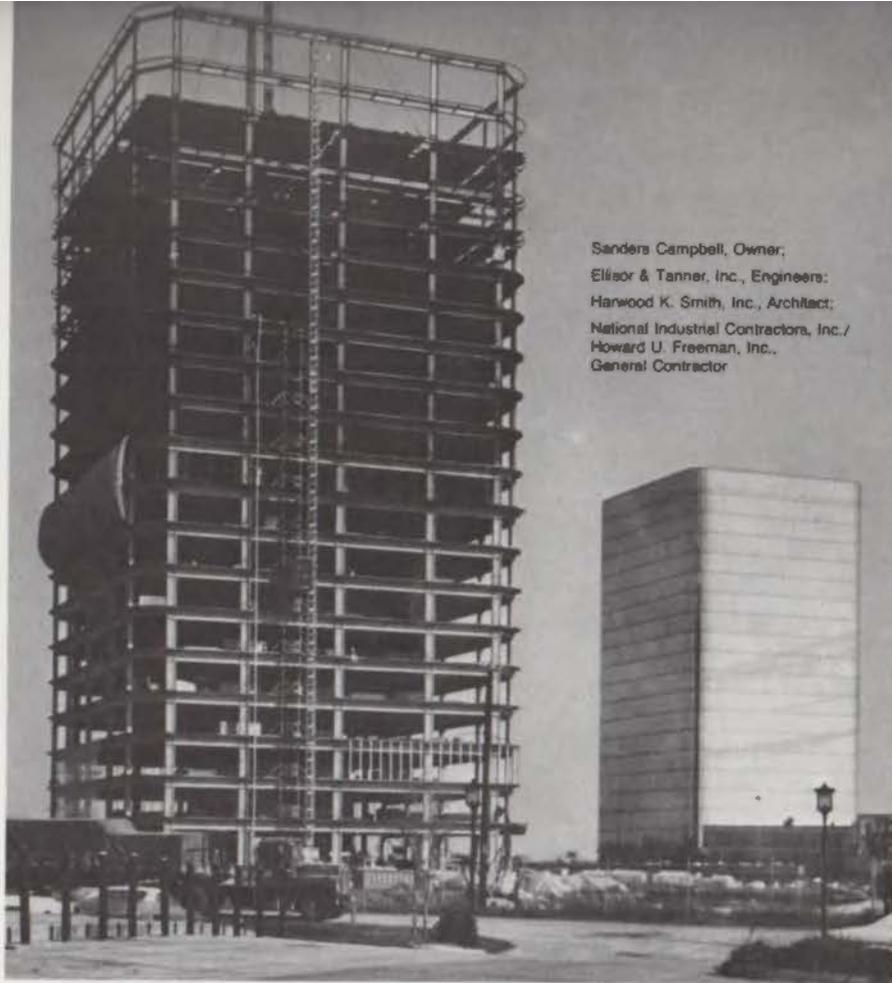
Seminars were conducted by the American Society of Interior Design, Institute of Business Designers, National Office Products Association and American Institute of Architects. Speakers included H. Albert Phibbs, national AISD president; Don Conway, AIA director of research; Andre Staffelbach, national IBD president; and Edward Ostrander, professor at Cornell University's School of Human Ecology and Environmental Design.

Nicholas Clayton Awards

The Masonry Institute of Houston-Galveston has announced its first awards competition, the 1st Nicholas Clayton Awards, and invites architects and designers to submit entries for buildings utilizing masonry.

Entries from commercial, industrial, educational and governmental construction will be judged by a jury composed of architects from outside the Houston area. The awards are endorsed by TSA's Houston Chapter.

The Nicholas Clayton Award will be



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presented to the most distinguished design from all entries. Excellence in masonry awards will also be presented.

The awards, original works of art, have been specially designed and commissioned for the presentation on April 22, at the Hyatt Regency Hotel, Houston.

Entry forms, and more information can be obtained by contacting the Masonry Institute, Houston-Galveston, Halbouty Center, 5100 Westheimer, Houston, 77056.

Health Facilities Report

A booklet entitled *A Guide to Agencies and Codes for Health Facilities in Texas* is now available free to TSA members.

The TSA Committee on Architecture for Health compiled the 13-page booklet to aid both the architect and client in the design and planning of health facilities. The booklet provides lists and summaries of standards and regulations affecting construction and agencies responsible for their enforcement.

Order booklets from TSA, 800 Perry-Brooks Building, Austin 78701.

Concrete Course

The Portland Cement Association (PCA) will sponsor concrete industry courses in April at PCA's Cement and Concrete Center in Skokie, Ill. Courses are Fundamentals of Quality Concrete for Precasters, April 4-6; Supervisory Management for Precasters, April 7-8; and Design, Production, and Control of Lightweight Concrete Mixes, April 12-14.

For information on enrollment, write or call the Registrar, Educational Services Department, Portland Cement Association, 5420 Old Orchard Road, Skokie, Ill. 60076. Telephone: 312-966-6200.

Antiques Festival

The Austin Heritage Society will sponsor an Antiques Festival combining its 12th annual antiques show and sale with a two-day tour of 19th Century homes and landmarks March 31 through April 3 in Austin.

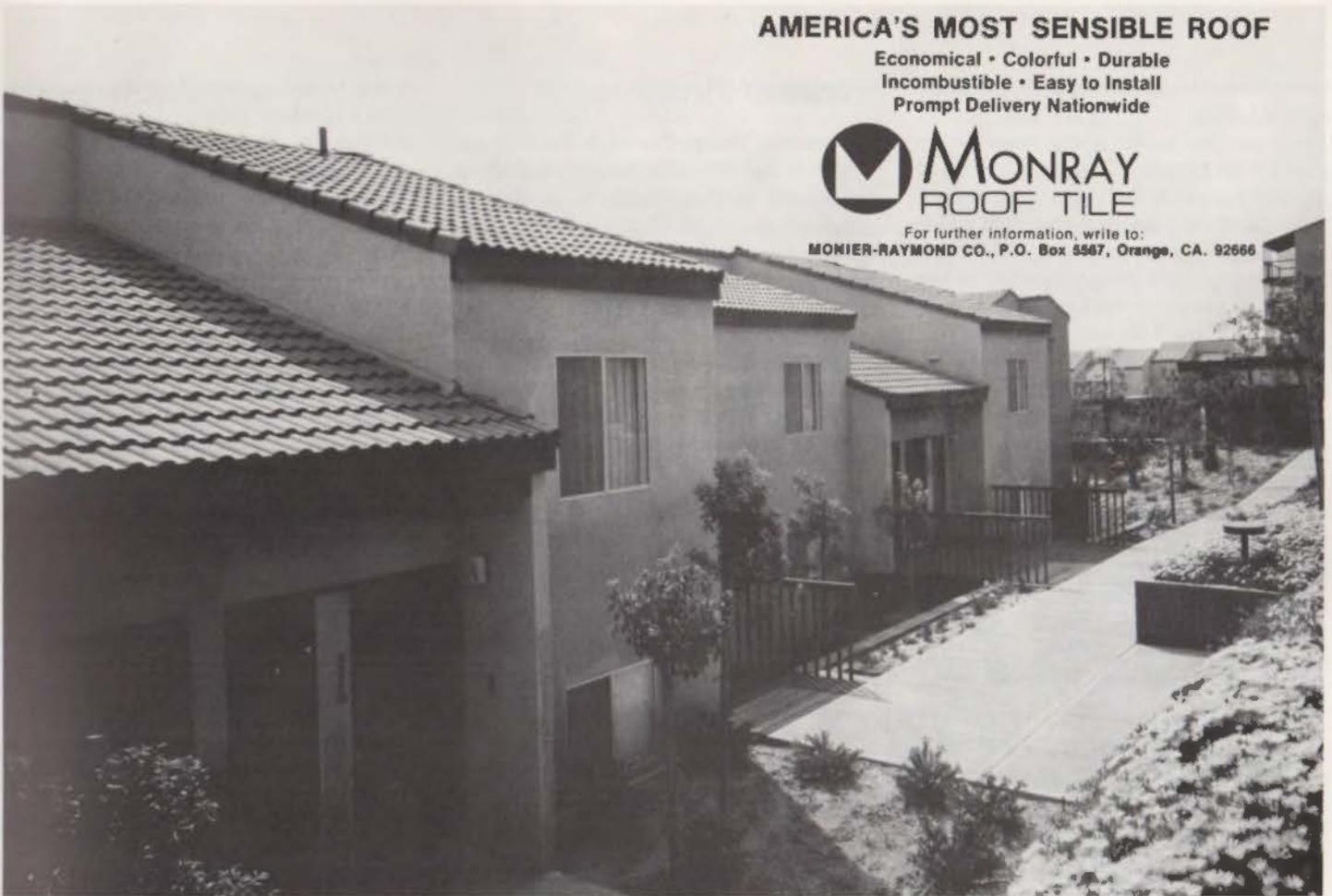
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exhibited by dealers from across the United States.

A preview buffet at the Show will be held 6 to 10 p.m. Thursday, March 31. Donations are \$15.00 or \$50.00 per person. Hours for the show and sale will be 10 a.m. to 9 p.m. April 1-2 and 11 a.m. to 5 p.m. April 30. Admission tickets, good for the entire weekend, will be \$1.50 for adults, and \$.50 for children 12 years and younger.

All Antiques Festival proceeds will go to historic preservation projects of the Austin Heritage Society.

News of Firms

Koetter, Tharp, Cowell & Bartlett, Architects and Planners, Inc., Houston, has appointed Stayton Nunn Jr. as director of production and Carl V. Daniel Jr. as director of design. Other staff additions include Lannis E. Kirkland, designer; Floyd Hopkins, project manager; Roy Perlmutter, project manager; James Weaver, production draftsman; and Ellen Bahme, intern.

Space planning and design consultants **ISD Incorporated** has promoted Michael

Pinto to vice-president in charge of the firm's Houston office.

Clyde A. Jackson has joined **Gensler and Associates** to manage the Houston firm's architectural design projects. As senior architect, Jackson's work will involve project planning, building design, and program implementation.

Diversified Design Disciplines (3D) has appointed Walter Cunningham as senior vice president and director of engineering for 3D and 3D/International.

Warren A. Waters has joined the Houston-based firm of **James M. Sink Associates** as head of construction management.

Pierce, Goodwin, Alexander, Architects, Engineers, Planners has named Steven Peters and Donna Johnson as associates in the Houston-based firm.

Marmon & Mok Associates, San Antonio, has elected James R. Foster and Robert A. Monroe as partners in the firm.

Lawrence Bernstein Associates Architects, Houston, has named John H. Bowley as partner in the firm.

Denny & Ray Architects/Planners has added Donald B. Wines to their Houston-based firm. The new firm name is **Denny, Ray & Wines**.

Peter R. Dawson has formed **Freeman Dawson Associates, Architects**, with offices at 10521 S. Post Oak, Suite 105-A, Houston 77035.

Ken Arthur II has formed the new firm **Ken Arthur Architect**, with offices at 3810 Medical Parkway, Suite 212, Austin 78756.

Appointments

Austin architect **Charles B. Croft** has been appointed by the AIA Board of Directors to serve on the AIA Documents Board. Croft is past-president of the Austin Chapter AIA, and has been active in both TSA and AIA affairs since 1960. The Documents Board works with insurance and legal counsel to write, update, and review contracts and other documents involving architectural practice and technical matters, and recommend their adjustment, revision, or withdrawal to the Board; serves as the AIA editorial advisory board for the "Handbook of Professional Practice" and prepares materials for the Handbook Supplement Service; and serves as AIA's representative with other professional societies, construction organizations, and government agencies on matters involving the practice documents.



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News of Schools

UT Austin—The first visiting critic during the fall semester in The University of Texas School of Architecture was an architect specializing in climate and its relationship with people and buildings.

Jeffrey Ellis Aronin, principal in a New York architectural firm, is the author of a book titled *Climate and Architecture*, published in the early 1950's. The book deals with energy and how buildings can be designed to conserve energy. He has lectured extensively on this subject and has completed a new

book, "Ecology and Architecture," which will be published soon.

UT Arlington—The School of Architecture and Environmental Design at The University of Texas at Arlington will present a 1977 lecture series entitled "Insight," which will include the following prominent architects: **Harry Weese**, Chicago, March 15; **Ricardo Legorreta**, Mexico City, March 22; **Charles Moore**, Los Angeles, April 26; **Reima Pietila**, Helsinki, Fall; and **O'Neil Ford**, San Antonio (time to be announced).

The purpose of the series is "to ex-

plore an architecture that considers the culture and landscape of an area, the importance of a continuity of tradition, high craftsmanship in building, and the nature of 'design for man and not for cause.'" The series will take place Tuesday evenings at 8:30 in the studio theater of the university's fine arts building.

Industry News

Acme Brick Company has promoted Harrold E. Melton to general sales manager and Gerald R. Jewell to regional sales manager for the Louisiana-Mississippi region.

Texas Interlocking Pavers Sales Manager Joe Dino has announced the opening of offices and a showroom at the World Trade Center in Dallas. The company has manufacturing facilities in Dallas/Fort Worth, El Paso, San Antonio and Houston.

Austin Chapter Awards

TSA's Austin Chapter has been presented a bronze Bicentennial Commem-

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dation Medal by the Austin Heritage '76 Committee for the chapter's support of Austin Bicentennial activities. Then Chapter President Charles B. Croft accepted the award, presented at the Chapter's annual December Gala by Mr. Beverly Sheffield, who served as Director of Bicentennial Affairs, and Maline McCalla, Co-Chairperson of the Austin Bicentennial Commission. Mrs. McCalla received the Austin Chapter Medal of Honor for Public Service for her influence and work on the Commission.

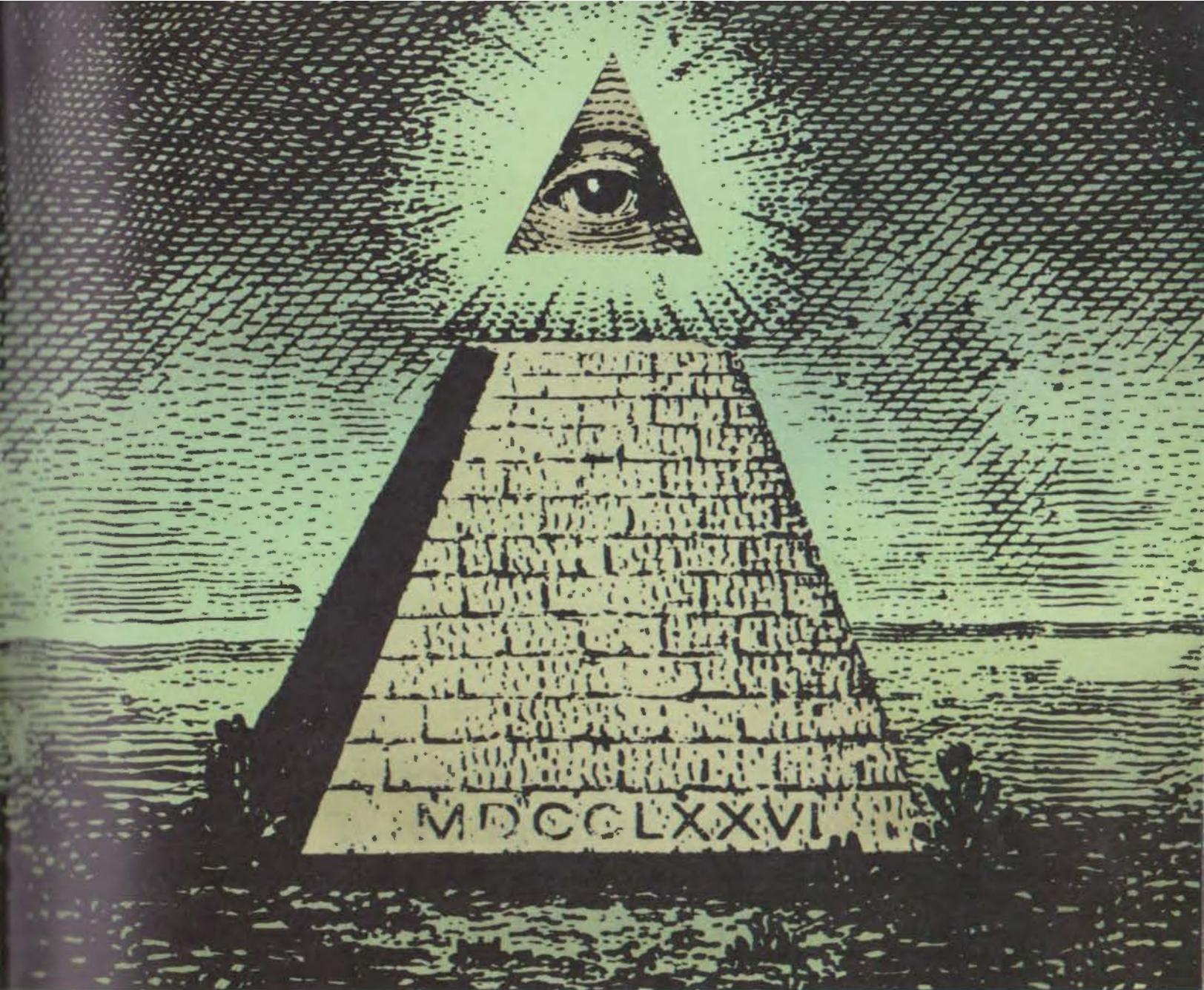


Left to right: Sheffield, Croft, McCalla

The Chapter also presented five Medals of Honor: the Craftsmanship Medal to James Avery, the Industrial Arts Medal to Mr. and Mrs. Beaumont Mood, the Allied Professions Medal to Dr. Gary C. Vliet and Dr. Jerold W. Jones, the Citizenship Medal to Jane Sibley, and a Special Medal to Roxanne Williamson. In addition, TSA Executive Director Des Taylor was made an honorary member of the chapter in recognition of his interest, service and support as a friend of the chapter and as executive director of the Society.



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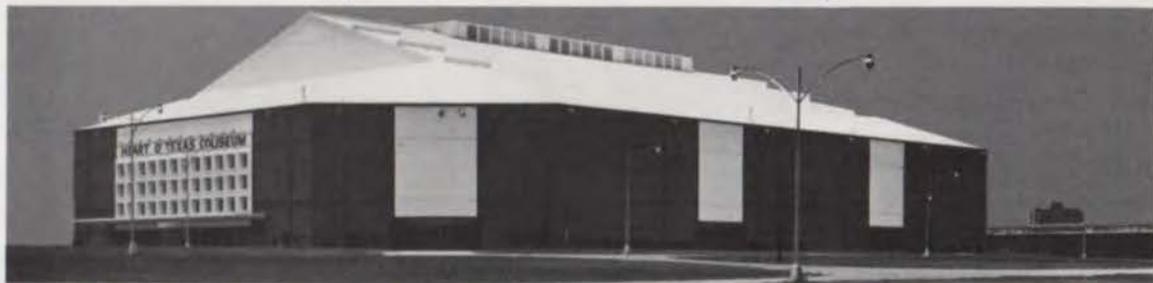
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Letters

Editor: Thanks for the accolades in the last issue, however, the real credit goes to the unquestioning faith of many past TSA Boards of Directors; as well as advertisers' support; client/reader interest and appreciation; and Publication Board members' insight and dedication.

Our dream of a professional staff to sell advertising, gather, develop, and polish article material and to attend to the day to day mechanics of publication has been realized, and the staff is an excellent one!

Efforts can now be concentrated on the primary goal of the magazine—communication with our clients and the general public regarding our concern for the environment and our natural resources; responsible planning and design; the state of the profession and the many issues and challenges facing the construction industry.

We've got a long way to go. In the last issue of TA, compare President Stahl's list of critical issues facing our State to the prospects for solutions noted in the Legislative Report.

Thanks to each of you for giving me the opportunity to participate in a small way.

Jim Pfluger
Pfluger & Polkinghorn
Austin

Editor: We were disappointed in the negative treatment of state transportation proposals and programs in the January/February 1977 issue of *Texas Architect*.

We agree that integrated planning and policy formulation for state transportation programs is desirable. We believe that the actions of the 64th Legislature represent substantial progress toward that end. The State Department of Highways and Public Transportation was given responsibility for highways, mass transportation and the Gulf Intercoastal Waterway. For the first time in history the state made a financial commitment to support mass transportation. The \$15 million per year commitment of state funds will make some \$1.6 billion available for mass transit capital improvements over the next 20 years when matched with local and federal funds. It is reasonable to expect that state funds will be increased as urban areas develop programs.

The session also authorized the creation of mass transportation authorities in Houston and San Antonio.

The article fails to point out that the Texas highway system has provided both urban and rural citizens the greatest level of mobility of any people in the world—that that system supports an economy and lifestyle which is the envy of the world—and that the system was made possible with dedicated highway user taxes. Failure to recognize the continuing role of highway transportation in Texas is a failure to recognize the geographic, demographic, and social facts of life.

It was difficult to recognize Governor Dolph Briscoe's recommendations for alleviating the current Texas highway funding crisis from reading the article. The first element should have been 75% of the automobile sales tax—not "taxes derived from the sales of oil, lubricants, and auto parts."

The article states that the Governor has recommended \$300 million in additional revenues plus \$875 million from the state "surplus." The fact is the Governor's recommendations would total \$825 million in additional funds for roads in the next biennium.

These funds would be used for highway construction, maintenance, and upgrading the obsolete roads and bridges. This level of funding would not, as Senator Doggett states, build highways at the same rate we did in the 50's and 60's. It would, however, be enough to avert a disaster by preventing the deterioration of our most basic and essential transportation resource.

Eugene W. Robbins
President
Texas Good Roads/Transportation Association

Editor: George the Hippo and I have something in common—we've both had our pictures in *Texas Architect*. However, George probably does not appreciate it nearly as much as I.

I am truly flattered and excited over the article, "Zoo Story," appearing in the January/February issue of your magazine. There is a tremendous amount of architectural energy here in Waco, and I am proud to be a part of it.

Sincerely, I thank you for the thrill of my career. As for being a "hero," well, everyone who helped on the zoo project is a hero of sorts.

Billy Jack Greaves
Architectural Intern
Waco

Editor: I would like to take this opportunity to tell you that I enjoyed your article about our zoo. It gave Billy Jack Greaves the recognition he deserves for all of the help he has given the zoo.

Tim Jones
Director
Central Texas Zoo

Editor: I am an architect-in-training eligible to take the architectural registration examination this year. I have been in Texas about a year and have become aware of the cowboy heritage Texans are so proud of. But I think the cartoon drawing by Ben Sargent on the cover of the Jan./Feb. 1977 issue of *Texas Architect* is in poor taste.

Certainly you are aware of the professional credibility problem architects face anyway—the all too frequent client who thinks he has solved all his space and building problems in his own mind and hires the architect merely to "draw it up." It is a persevering and patient architect indeed who gets through to a client that the architect's most important service is design. The architect brings education and experience specific to the design of spaces.

For years architects have struggled for professional respectability. It seems you have set back progress by a single cover. The inept-looking simpleton shown, always ready to "draw it up," looking unable to think, does a great disservice to the profession.

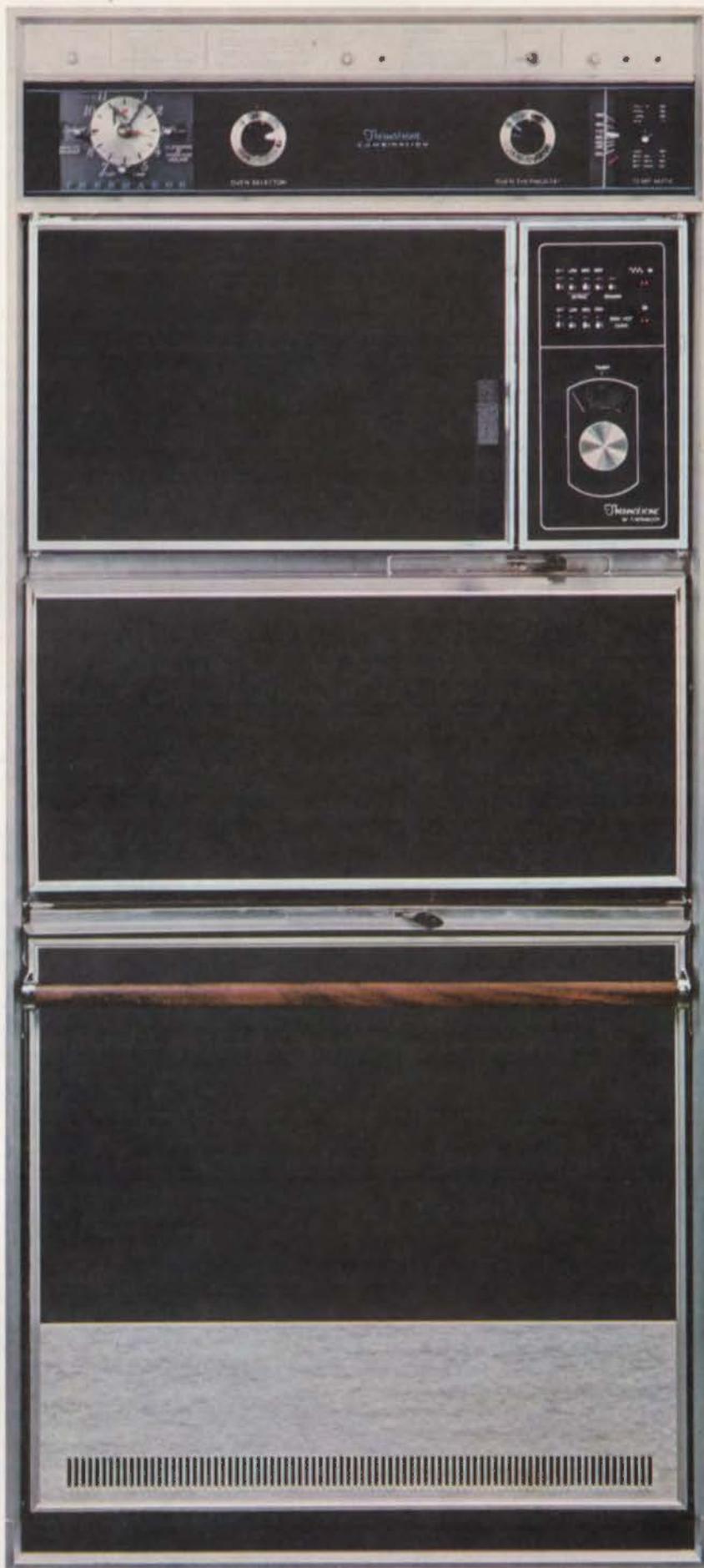
I wish no layman would see this issue, but I know many will. I sincerely hope this cartoon will not be remembered when they need architectural services.

I think you owe all Texas architects an apology.

Byron Anderson
Architect-in-training
Houston

Editor: As a non-architect reader of your fine publication, I would like to commend you on your January-February 1977 issue. When the members of associations like the Texas Society of Architects can poke fun at themselves with articles like Woodlief Brown's and caricatures like Ben Sargent's superb cover illustration, it's a rare but welcome sign of professional maturity.

Ronald P. Brooks
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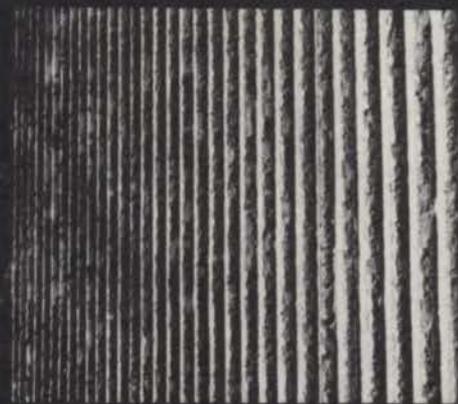
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