Sept./Oct. 1979
Volume 29
Number 5

In this issue

The Motorcar and Texas Urban Form
Places for Pumping Gas
The Vanishing Gas Station
The Natural Urban Structure

Texas Architect

AN ECONOMICAL PLAN FOR INSIDE SUPPORT.

The clubhouse of the Woodcreek Apartments in Austin, Texas, was designed to incorporate pre-engineered Timber Tech trusses. So was the rest of the apartment complex. The reason? Simple economics.

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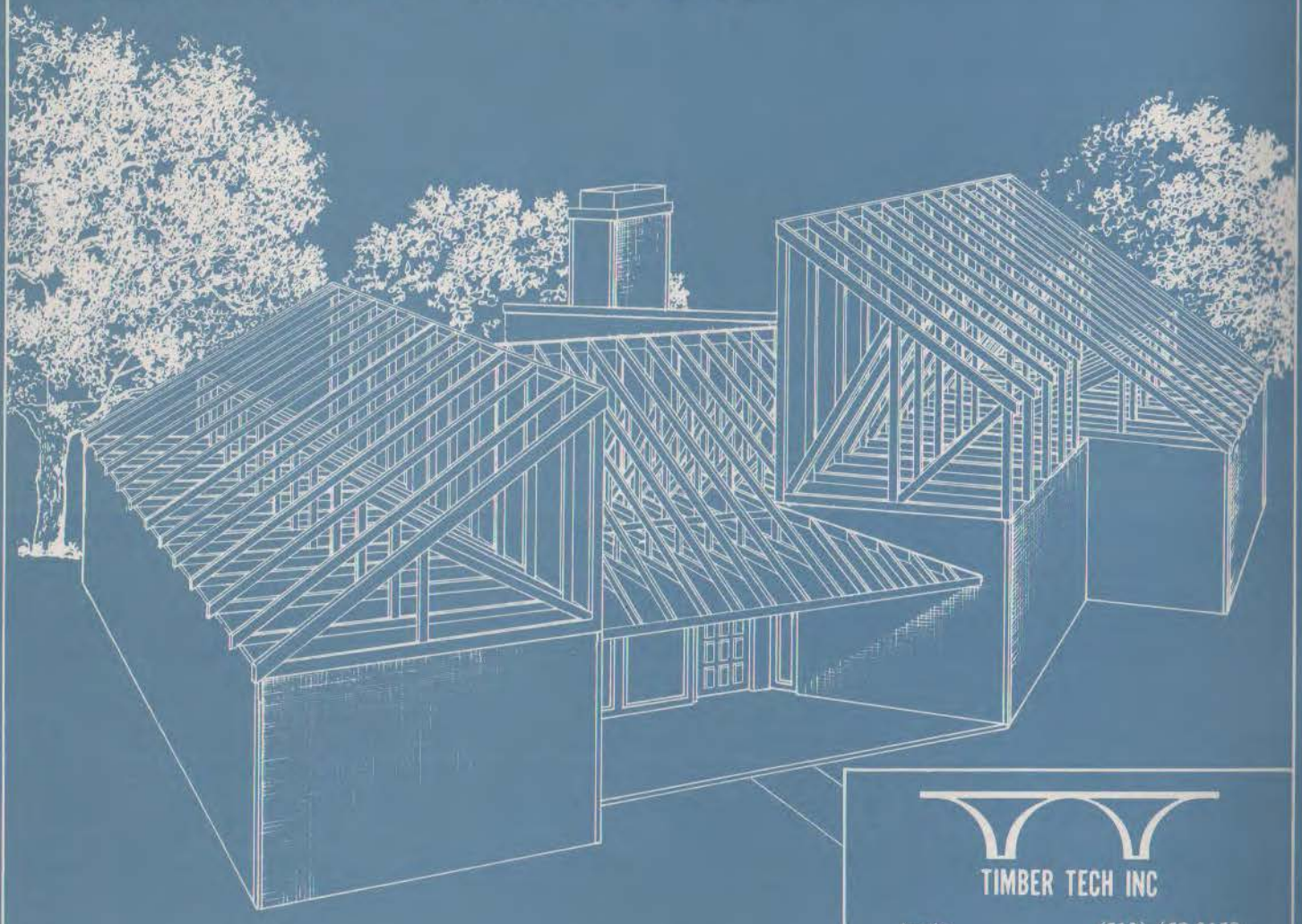

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The Woodcreek Apartments Clubhouse , Austin, Texas Architect: Callaway, McWilliams, Inc. Builder and developer: Sid Jagger Associates, Inc.

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PROFESSIONAL SCALE MODELS

BEFORE **AFTER**

A year can make a big difference. The picture on the left was available for press releases and brochure production one year earlier than the actual building construction on the right. For that time period, this developer had not only uncanny photographs of this project, but also a beautifully detailed scale model display with which to attract potential tenants.

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Pictured above is the West Loop Arboretum Building designed by Pierce Goodwin Alexander, Architects, and developed by Jim Shindler.

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PPG: a Concern for the Future

Circle 3 on Reader Inquiry Card

PPG INDUSTRIES

Sixty State Street, Boston. Architect: Skidmore, Owings & Merrill, Chicago. Owner-Developer: Cabot, Cabot & Forbes Company, Boston.

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Coming Up: *To coincide with TSA's 40th Annual Meeting, to be held Oct. 31-Nov. 3 at the Shamrock Hilton Hotel in Houston, the Nov./Dec. issue of* Texas Architect *will examine Houston's architectural profile, from its significant yet often-overlooked buildings of the '40s to the awesome geometry of its modern skyline to the sublime eclecticism of noted residential architect John Staub.*

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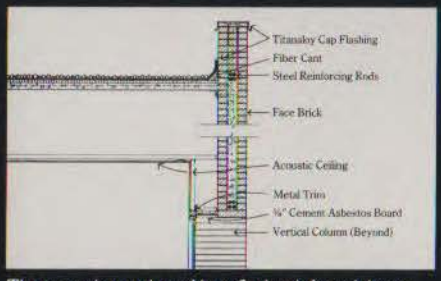

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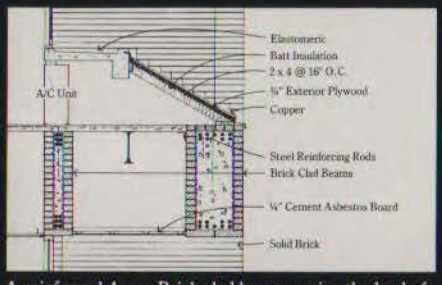

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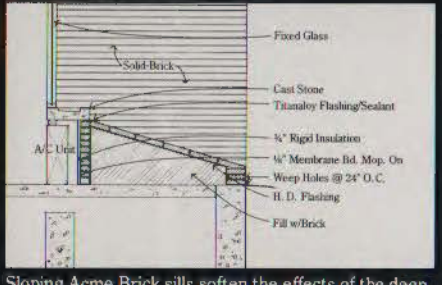

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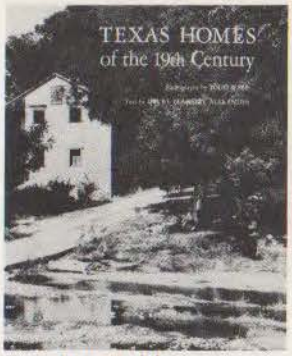

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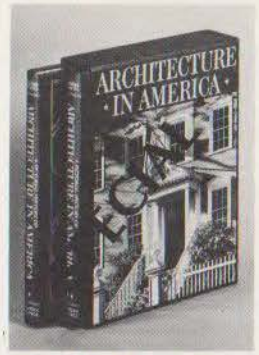

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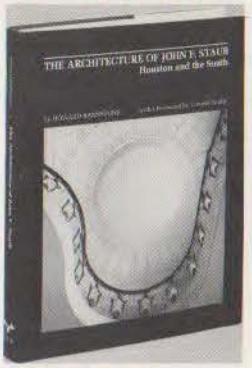

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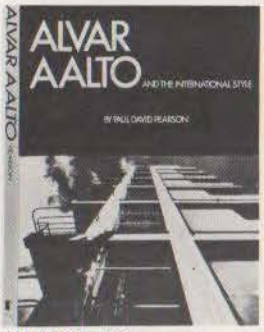

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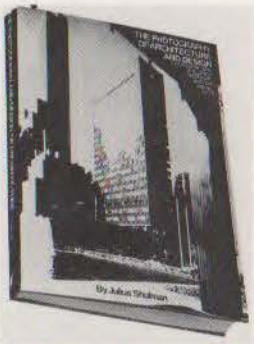

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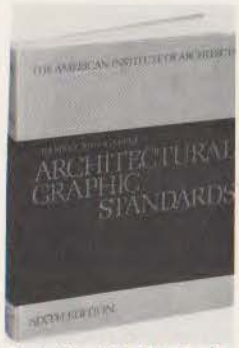

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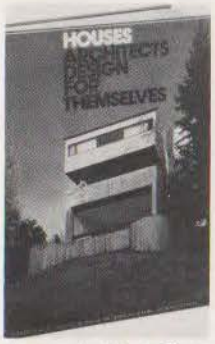

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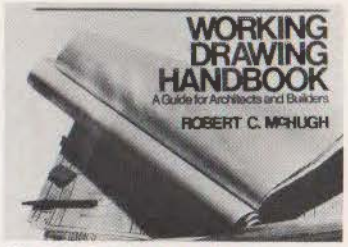

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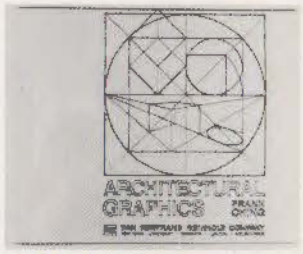

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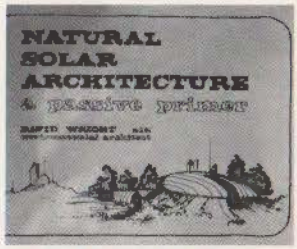

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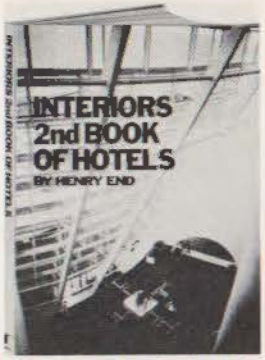

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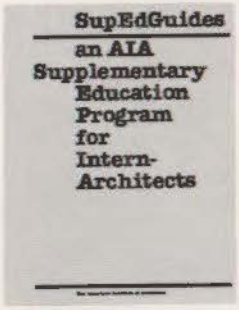

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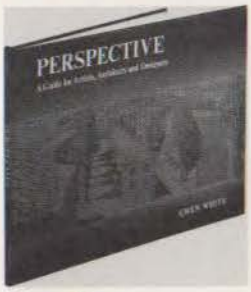

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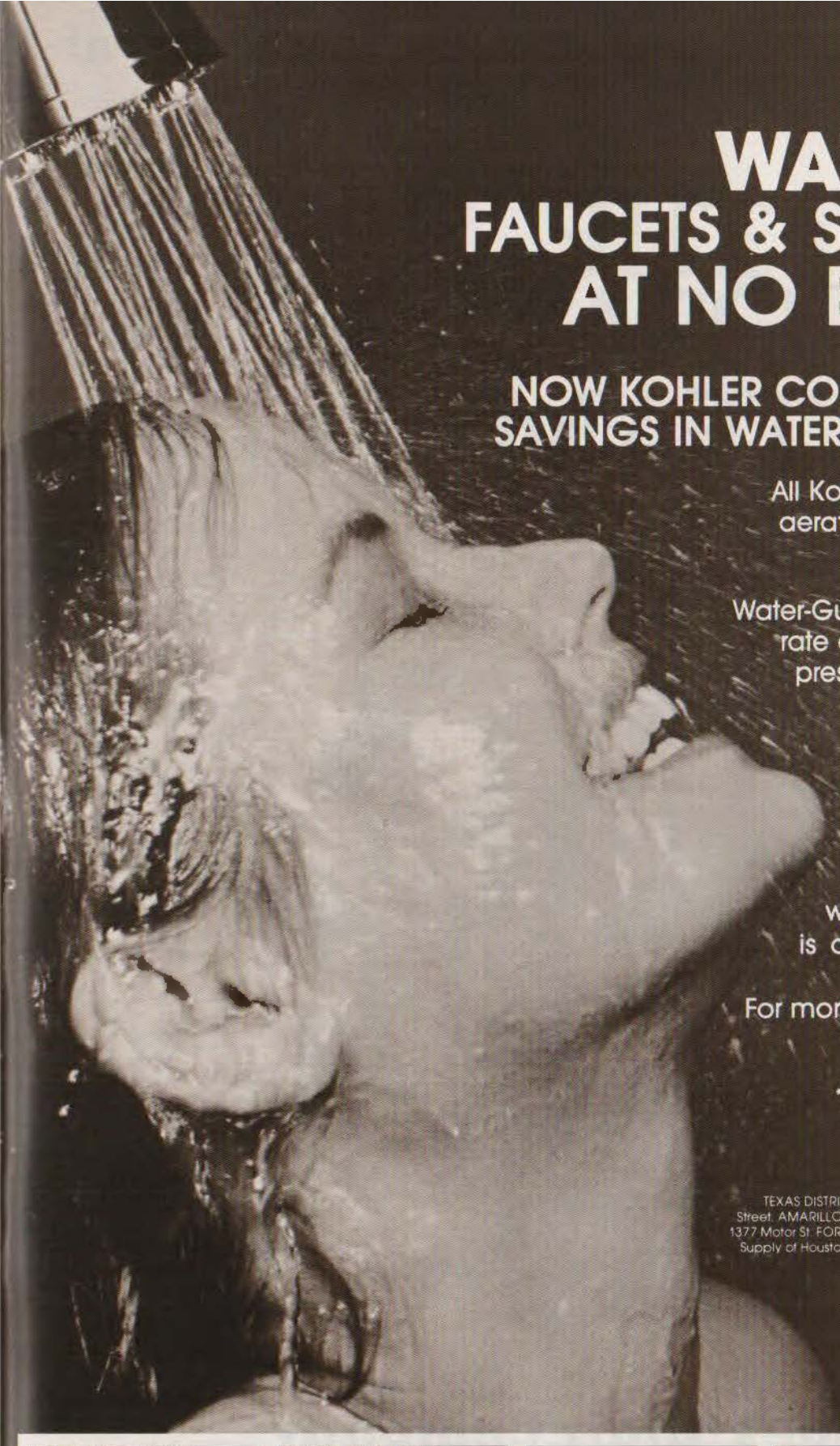

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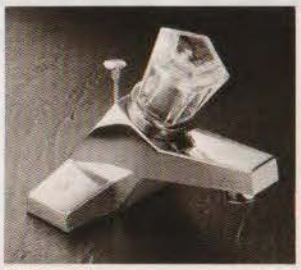

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Austin Revitalization Plan Beset by Opposition

Austin's $120 million downtown revitalization plan unveiled last April has been beset by growing opposition ever since from a wide range of Austinites, from East Austin "Brown Berets" to Austin architects.

Calling for designation of an urban renewal district and the removal of some 95 existing structures in the district to accommodate the proposed development —which includes a 300-room hotel, convention center, entertainment mall, office buildings, garden apartments and condominiums—the plan soon met opposition from area property owners and nearby residents. In time, other voices joined the chorus, including those of architects, downtown artists, the Sierra Club and the Historic Landmark Commission, charging that the revitalization plan, prepared by the American City Corp. of Columbia, Md., was "alien to the Austin lifestyle."

Former UT-Austin architecture dean Alan Taniguchi, in a letter to the City, said the plan is "naive, principally because it fails to take into consideration many factors essential to a sensitive response to the Austin context. It reads and comes across as no more than a pro forma for an elaborate suburban shopping center."

The TSA Austin chapter also presented a position letter to the City, commending the city council's pursuit of downtown revitalization but expressing concern over the apparent direction of that pursuit.

"Will urban renewal be a sensitive vehicle for creating urban change, or a bulldozer?" the letter asked. "We want clarification of this agency's goals, policies and intent in regards to its treatment of existing buildings and landowners in the area . . . We want a vehicle for significant citizen involvement in the planning process."

To that end, the Austin chapter organized a nine-member task force to work with the city, the American City Corp., and various city boards and commissions in "re-charetting" the plan and to engender more local input into the design process.

In addition, the newly formed Coalition for a Vital Revitalization is trying to involve residents of the development area in producing a "peoples' counterplan," which would be incorporated into any revamped revitalization strategy.

At presstime, the American City Corp. proposal is being reviewed by all concerned in preparation for a major hearing with the City Planning Commission.

Office Building Conversion Underway In Dallas' West End District

Landmark Center.

Revitalization of Dallas' West End Historic District, a 30-block area of turn-of-the-century warehouses and light manufacturing buildings, received a shot in the arm in June when a Dallas engineering firm announced plans to convert the seven-story General Center Building into the district's largest multi-tenant office building.

The 66-year-old building was bought last May by Herman Blum, president of the Dallas firm Herman Blum Consulting Engineers, Inc., to be restored as well as refurbished for use as modern office space and to boost the City's revitalization efforts in the district. Upon scheduled completion in early 1980, "Landmark Center," as the renovated building will be called, will house Blum's engineering firm on the second floor and provide some 175,000 square feet of additional lease space.

Project architects of the Dallas firm Dahl/Braden/Chapman will retain as many of the vintage architectural features of the building as possible while creating a contemporary open-office interior. The entrance off Hord Street will feature a canopy, new landscaping and lamp post lighting, while inside an atrium with fountains and planting will extend from the lobby to a skylight on the sixth level. Also, original concrete columns, marble-faced walls and iron railings will be retained as well as many of the building's original hardwood floors.

The West End warehouse area was designated a historic district in 1975. Since then, the City has committed some $1 million to landscaping and beautifying the district in an effort to turn it into a turn-of-the-century "garden area," complete with new planting, lighting, park benches, open green spaces and a pedestrian mall.

Austin's Franklin Savings Applies for Move To Historic Tips Building

The Franklin Savings Association in Austin has announced plans to move its home office located on Airport Boulevard on the suburban fringe of the city to the historic Tips Building downtown.

According to Franklin president Charles Betts, the move is contingent upon the approval of the Texas Savings and Loan Commissioner, who is not expected to act on the association's application to move for several weeks.

Last September, Franklin announced the purchase of the 102-year-old building from the Heritage Society of Austin which had been looking for someone to buy and restore the structure since early 1977. In November, the firm received approval to open a branch office there and by March had begun preliminary restoration of the building's facade.

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Project architects are Bell, Klein & Hoffman of Austin.

Betts says Franklin will fully restore the downtown landmark whether the firm moves its home office there or not. The facade has already been stripped, and the street-level floor has been gutted in preparation for interior work.

Tips Building.

When completed in 1877, the Tips Building was the most imposing structure on Congress Avenue in downtown Austin, spreading over two city lots and standing nearly twice as high as other downtown buildings. The 22,000-square-foot structure was built by pioneer Austin industrialist Walter Tips and designed by noted Austin architect Jasper N. Preston. (See *Texas Architect,* May/June 1978.)

'House in America' Lectures To be Held in Houston this Fall

The Rice Design Alliance, in cooperation with the Houston Museum of Fine Arts and the Cultural Arts Council of Houston, will present a seven-part lecture series on "The House in America" this fall at the Museum of Fine Art's Brown Auditorium in Houston.

A selective overview of changing sensibilities in American domestic architecture from colonial times to the present, the series will consider such phenomena as the Beaux-Arts *palazzi* and villas of the late-19th century American "Renaissance"; the romantic domestic vision of the arts and crafts, shingle style and related modes; and the affluent 20th-century eclecticism of America's pre-Depression elite from Southhampton to River Oaks.

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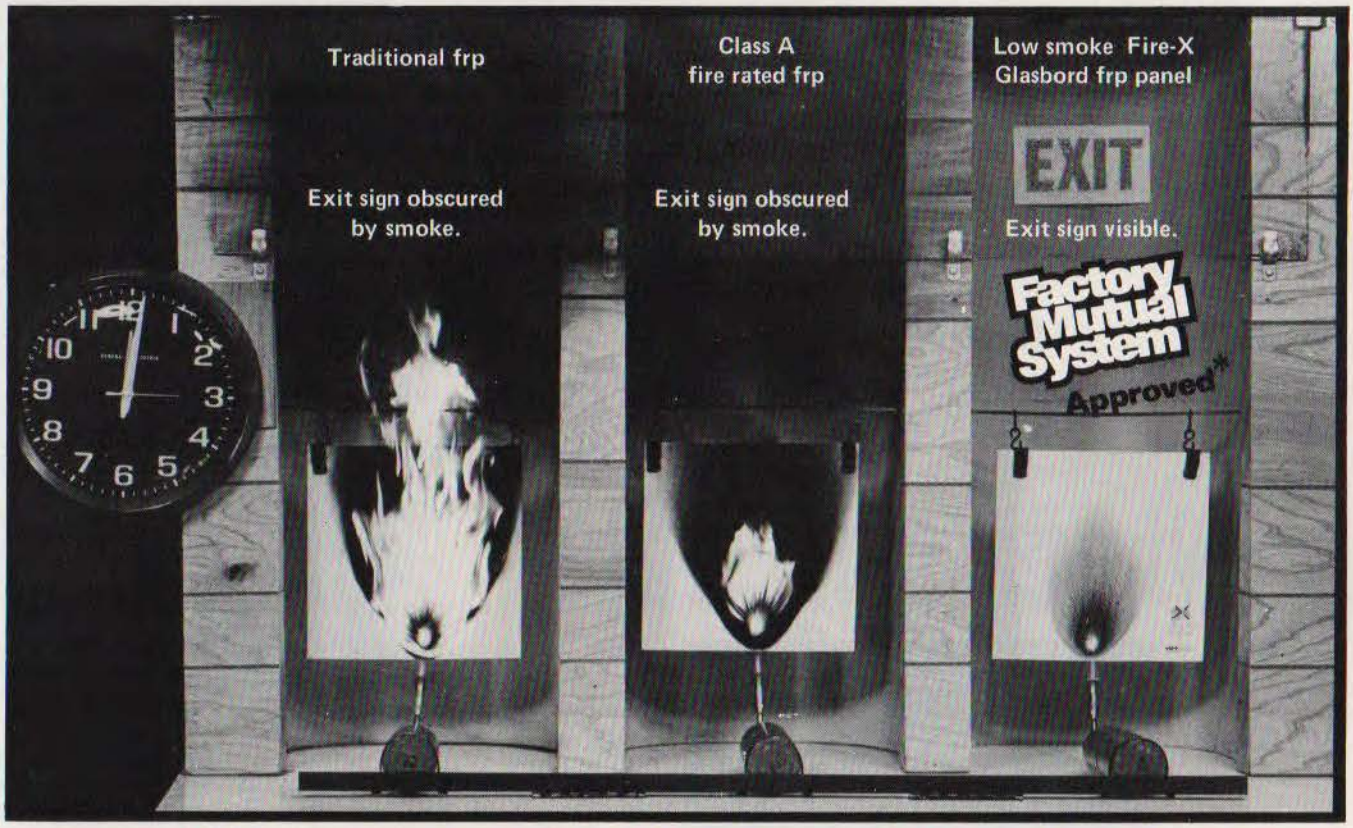

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from Palladianism of the colonies and new republic to the pastoral romanticism of Downing, will be reconsidered in the light of new scholarship, as will the origins of American modernism, importation and domestication of the international style from Frank Lloyd Wright to Philip Johnson and recent tendencies in domestic architecture.

Lecturers will be W. H. Pierson, of Williams College (Sept. 12), Robert Judson Clark of Princeton (Sept. 19), Richard Guy Wilson of the University of Virginia (Sept. 26), Robert A. M. Stern of Columbia University (Oct. 3), Howard Barnstone of the University of Houston (Oct. 10), William Jordy of Brown University (Oct. 24) and Robert Venturi of the Philadelphia firm Venturi and Rauch (Oct. 31.)

All lectures will begin at 8 p.m., individual tickets for which may be purchased in advance or at the door for $2 for RDA or MFA members, $3 for non-members. General admission price for the series is $12 for members, $18 for non-members. Interested persons may contact the Rice Design Alliance, P.O. Box 1892, Houston 77001. Telephone: (713) 527-4876.

State Agencies Now Required To Consider Historic Buildings For New Office Space

Effective Sept. 1, Texas becomes the first state in the nation to require state agencies to give first consideration to historic structures for new office space.

The legislation, passed during the recent 66th Session of the Texas Legislature, calls for the State to first consider, in either acquisition or leasing space for state agencies, structures that have been designated historic landmarks by state or local governments or that have been listed in the National Register of Historic Places. Such space will be used when the "structure meets requirements and specifications and the cost is not substantially higher than other available structures."

'Dallas Celebration' Planned for Nov. 11-17

TSA's Dallas chapter, in conjunction with the Dallas Central Business District Association and the Greater Dallas Planning Council, is planning a city-wide public festival entitled "Dallas Celebration," to be held Nov. 11-17.

Sponsors envision the celebration to be a "reinvention of the ancient public festival," a week-long series of events intended to build a sense of community and to draw attention to Dallas' architectural landmarks and city spaces.

These activities will include school and community group projects, dances, music, displays of the visual arts, and an "extravaganza" grand finale, when festival-goers will gather at a central location in Dallas to experience a "megaperformance" combining traditional and unusual art forms.

Orchestrating "Dallas Celebration" will be internationally known "celebration artist" Marilyn Wood, honored by AIA for her work with architects and architecture worldwide in transforming buildings and city spaces into expansive art forms.

Credits Omitted

Texas Architect regrets the omission of the names of architects involved in restoration of the Stewart Title Building in Galveston and the Sidbury House in Corpus Christi in the July/August '79 "In the News." The projects were cited as winners of awards for achievement in preservation from the National Trust for Historic Preservation. The report should have included mention of Galves-

Stewart Title Building.

Sidbury House.

ton architect David Barker for his work on the Stewart Title Building and Corpus Christi architect Jim Rome for his work on the Sidbury House.

TSA's Lubbock Chapter Takes Part In City Arts Festival

Among the wide variety of participants in the recent Lubbock Arts Festival was TSA's Lubbock Chapter, which set up its own booth in the Lubbock Civic Center, where the festival was held, to represent architecture in the city's first celebration of the fine, applied and performing arts.

Lubbock chapter booth.

The chapter displayed models of members' architectural projects, distributed AIA pamphlets and brochures and presented a continuous slide show for the benefit of the more than 65,000 people who turned out for the three-day city festival.

The event, which sponsors say was a smashing success, included a wide range of exhibits, demonstrations and performances, from symphony concerts to barbershop quartets, ballet to square dancing.

News of Schools

'Boot Camp' for Architects: A Question Raised

While successfully serving its primary purpose—familiarizing motivated high school students with the basics—an intensive six-week "Summer Academy in Architecture" at The University of Texas at Austin this summer raised again an often-asked question among architecture faculty: Are we really using the most

Continued on page 61.

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About this Issue

From its inception, the theme of this issue has been labeled "Highway Architecture." And this label remains apt, despite the fact that none of our article titles specifically include it (utilizing instead various allied terms such as "motor car" and "urban form" and "gas station.") As an expression laden with multiple meaning, "Highway Architecture" connotes better than any other single term the full range of related considerations we address in this issue.

On one level, we are compelled to consider architecture which is designed especially to be noticed and appreciated from the highway, a kind of "freeway architecture" whose form, scale and orientation are means of grabbing the attention of speeding motorists being pummeled by one fleeting urban image after another. The large-scale gleaming towers lining Houston's West Loop constitute a fitting case-in-point.

Similarly, there is a broader range of architecture which emerged along the highway for direct interaction with and in deference to the automobile—gas stations, motels, roadside shelters. In fact, the whole of suburbia—with its tract housing, its malls and strips, its drive-in windows—is a creation of the automobile and could not exist without it. And when we consider "highway" in its broadest sense as any "public way," our parameters are extended even further. We cease asking What is highway architecture? and begin asking What is *not?* It becomes clear that virtually *all* architecture responds in some way to the reality that mankind is mobile. *How* it has responded has produced the dilemma of the Horseless Age.

Still another related consideration is the very literal interpretation of "Highway Architecture"—the highway, with its appurtenances, as architecture *per se*. We readily recognize the architectural character of a cavernous tunnel, or a swirling freeway interchange, or a Ruck-A-Chucky Bridge. We are perhaps less likely to perceive the very stuff of the roadway—great winding slabs of concrete and gravel and asphalt—as components of a grand design scheme which, like all architecture, becomes a spatial event. We should also be reminded that, within human settlements, our streets can serve in an architectural role as playroom, as marketplace, as meetingplace. Indeed, it has been said that tree-lined streets (not towering skyscrapers or sprawling malls) are the glory of American cities.

To over-romanticize about the highway as architecture is to ignore its potentially devastating effect as an intrusion—as a source of noise, pollution, divisiveness and waste—in the context of both countryside and city. But what emerges as *central* to the topic of highway architecture is the observation that, whatever specific definitions we might assign them, highways and architecture need not automatically be placed at odds with one another. A more realistic view acknowledges one great gestalt of beings, buildings, passages and landscape. The more harmonious our interactions, the better we will fare on the road that lies ahead.—*Larry Paul Fuller*

The Motorcar and Texas Urban Form

From the Friction of the Grid to the 'Architecture' of the Highway Itself

By Michael McCullar

It is fast becoming a popular notion that the singular root evil behind the energy crunch, personal debt, suburban sprawl and midriff bulge is the automobile, a kind of "single-family" form of transportation that has at once blessed us with an easy individual mobility and cursed us with an addiction to that mobility. Now, as the car consumes an inordinate proportion of gasoline, money and land, it's beginning to seem more trouble than it's worth.

The popular belief remains, however, whether the car drove us into this fix or not, that we can scarcely do without it. The automobile has had a firm hand in molding the 20-century built world, which is hardly surprising even in hindsight. The first horseless carriage to roll off an assembly line represented "progress on wheels," a machine to take the sweat and manure out of travelling. And as roads were improved and the technology of the motorcar fine-tuned, the city took on new scale and form to accommodate the growing range of its inhabitants. While criticism of "changing a culture to fit automobiles instead of people" is a legitimate complaint, it should not be overlooked that the car was intended to *free* people, not constrain them—to make our culture *better*. None other than Frank Lloyd Wright, certain of the motorcar's unlimited potential to improve the quality of life and broaden its horizons, based his 1930s utopian vision "Broadacre City" on the advancing technology of the motorcar and other forms of rapid transportation.

While the car has done much to shape the scale and breadth of the 20th-century built environment, for better or worse, it could be pointed out that transportation and circulation have always been prime determinants of urban form. Long before the automobile, rivers, footpaths, roads and railways left lasting influence upon the land through which they passed, giving birth to rest stops, villages, towns, cities, and architecture. And the rectilinear, or "gridiron," plotting of streets and squares in cities of ancient Greece, China and the Roman Empire is basically the same two-dimensional framework for human settlement that is with us today in Dallas, Houston and Austin.

But with the automobile came unprecedented speed and distance, and its impact as another form of transportation on the landscape and cityscape proved deeper and far more pervasive than its slower forerunners. Ultimate effects of the car upon both urban and natural form are encyclopedic, but a few of the most obvious might be: congestion of the age-old urban gridiron; the proliferation and clutter of roadside signage; the visual blight of the junkyard; amorphous growth of the city and the resulting deterioration of the urban core; not to mention air pollution and the very real physical danger of driving a large machine at high speed among, along with—and too often *against*—thousands of other large machines.

It would be unfair in any discussion to ignore the *benefits* of the Auto Age—the common mobility it has provided, the freedom of the open road, even the engineering and aesthetics of the roadway itself, the sweeping interstates and interchanges and bridges that make it not only easy and safe but often a visual delight to go somewhere by car. While the gasoline shortage may limit the public benefits of the vast network of American highways, the system was designed in part to facilitate the transport of goods by truck over the long haul, which presumably will continue after the highways are empty of private motorists.

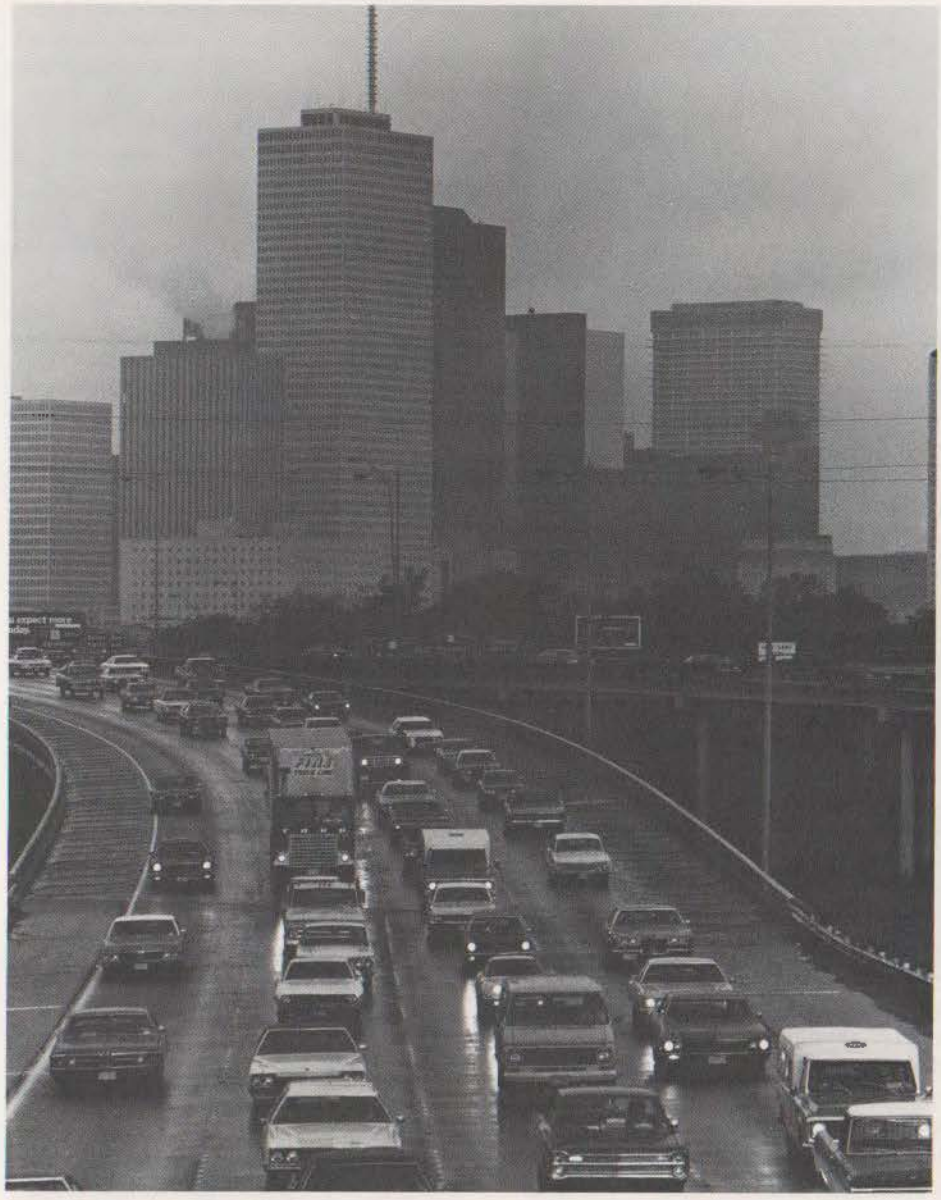
In Texas, a look at the mutual influences of the automobile and architecture provides a predictably expansive image. Texas' major topographical features, in addition to downtown Dallas and the Davis Mountains, include some 3,215 miles of interstate highways, out of a total of 42,000 nationwide. In addition, 7,700 miles of urban highways loop around and bisect Texas cities, presenting the motorist with a major dimension of the state's urban form while being an inherent part of the urban form themselves. And within the city—notably, within Dallas, Houston and San Antonio, three of the largest and fastest-growing metropolitan areas in the country—countless boulevards, avenues, streets, blocks, alleys and squares comprise much of what city scholar Kevin Lynch calls the "skeleton of the city image."

Herewith, then, in exploration of the nexus between car and architecture in Texas, is a look through the windshield at the "imageability" of that architecture, from the basic framework of the urban form to the highway as "architecture" itself.

Dallas Gridirons

When Dallas founding father John Nealy Bryan gave first form to his prairie settlement in 1846, he plotted the town in classic gridiron pattern, dividing his 580-acre land grant into 200-square-foot blocks, with main streets running more or less east and west, cross streets north and south. Another parcel of land to the northeast, belonging to John Grigsby, was surveyed in like manner, only Grigsby's plotting was 30 degrees out of sync with Bryan's. The result, where the two patterns happened to meet, is an east-west seam (now Pacific Avenue in downtown Dallas) which features an assortment of oddly shaped city blocks. And in recent years, according to Dallas urban planner Walter Dahlberg, these left-over pieces of prime urban real estate have offered the architect and urban planner a host of interesting design opportunities,

Rick Williams



LEFT: All-too-typical urban miasma of freeway traffic in Houston.

within the chaotic restrictions, of course, of an urban grid that was layed out for anything but the automobile.

To begin with, Dahlberg says, the urban grid in Dallas, as elsewhere, is a regulator of building form and technology. Traditionally, due to the common geometry of street and square, the architecture that has emerged from the standard city block has been a standard city block in plan, more or less. And building technology hasn't ventured very far out of that standard mold. But when that mold is broken, Dahlberg says, as it is along the grid seam in downtown Dallas, "it opens up the architectural cavern, providing a variety of vistas to consider when orienting and designing a building and a variety of open spaces for parks and landscaped setbacks."

Dahlberg cites I.M. Pei's One Dallas Centre, the first of three Dallas Centres to be completed on two Grigsby blocks just north of the seam, as an example of a new generation of downtown architecture in Dallas that is beginning to respond to the triangular forms and diagonal vistas provided by the seam.

"The visibility from the building," Dahlberg says, "turned on an angle with the grid as it is, is much greater than if it were perpendicular with the grid as are most of the other buildings around it. The angle provides a longer and wider vista, allowing you to see the change of light and the movement of clouds across the city."

The visual key for orientation of the new architecture downtown is Philip Johnson's ThanksGiving Square, a one-acre park on a triangular block bounded

Aero Color

Squire Haskins

ABOVE, TOP: Bird's-eye view of clashing grids in downtown Dallas. BOTTOM: ThanksGiving Square and downtown vista, looking west.

by Ervay, Pacific and Bryan, completed in 1977. And preserving that oddly-shaped piece of real estate as open green space, Dahlberg says, has given the motorist and pedestrian an observation and reference point for viewing and appreciating downtown architecture from within, "the people who are so used to walking and driving around within the cavern of the downtown grid that they haven't been able to see the forest for the trees."

Away from the Pacific Avenue seam, where the friction of two grids clashing has provided a certain spark of design opportunity, the limitations of the urban grid are more apparent. Branching ever outward, Bryan's and Grigsby's early-19th century gridirons eventually grew into an entangled web of pedestrian-vehicular conflict as the automobile replaced the streetcar and city blocks began to shrink.

"The resulting conflict between pedestrian and car at every turn makes it hard for the city to be a truly pleasant place in which to live," Dahlberg says. "The snarling of urban circulation by the automobile, in fact, is the root problem in the corrosion of any urban core."

There are remedies, however, some of which have already been implemented in downtown Dallas. "We had to accept the fact that we're stuck with the grid," Dahlberg says, "then work around it." One remedial step has been the "mega-block," simply closing certain streets to form larger grid squares, then turning the enlarged block into a mixed-use development—hotel, offices, retail and recreational facilities. The Akard Street project, for example, by the Dallas urban planning firm Myrick-Newman-Dahlberg (of which Dahlberg is a principal), transformed a four-block area downtown into a quasi-pedestrian mall and tied the core of the Central Business District (CBD) to the Convention Center and the new City Hall.

Dahlberg points out that the mega-block is much more feasible on the perimeters of the urban core, however, where land is less expensive and its ownership less fractured. The Hyatt Regency-Reunion project, for example, which was able to tie up a sizable chunk of less densely gridded real estate on the southwest edge of the CBD, includes a 14-acre inner city park linking the hotel with a special events center now under construction.

Signs of the Times

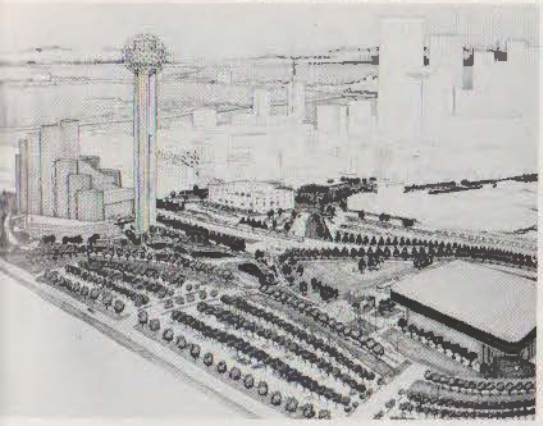
"Naked children have never played in our fountains, and I.M. Pei will never be happy on Route 66."

Learning from Las Vegas

Nor, it is a safe bet, would he be happy westbound on Westheimer Boulevard in Houston, the "Billboard capital of the World" and one of the earliest breeding grounds for the infamous commercial Strip. Due largely to no zoning and a traditional city passion for unfettered *laissez-faire*, Houston's new magnificent skyline is often approached through, or framed or obstructed by a clutter of commercial signage, in all shapes, sizes and messages. Regardless of the legitimacy of the message or the visual "taste" of the medium, commercial signs in Houston represent a predominant visual effect of the car on urban form, one which relegates architecture to the back seat, as Robert Venturi *et al* observe in *Learning from Las Vegas*, where "the big sign and little building is the rule."

It wasn't always like that in Houston, but almost. The city's rapid growth over the last several decades has come hand-in-hand with the evolution of the car as

Courtesy, Myrick-Newman-Dahlberg



LEFT: Hyatt Regency-Reunion project on the perimeter of Dallas' urban core. BELOW: Westheimer Boulevard in Houston.

Paul Hester

a basic human necessity. As Yolita Schmidt points out in *The Moderne Style in Architecture: A Houston Guide* (part of the Houston Public Library's nrban profile "City!: Onr Urban Past, Present and Future"), flat, open, undeveloped space and a growing popnlation with cars made Houston prime ground for development of the Strip. As early as 1915, Schmidt says, widespread use of the private automobile in Houston began to affect streetcar profits. In 1919, Houston's first drive-in restaurant opened, and by the 1920s, one-way streets and signal lights began to appear on the Houston streetscape for the convenience of the motorist. In 1937, one of the first "shopping centers" in the country went up on West Grey, the River Oaks Shopping Center designed by Oliver Winston, Staton Nunn and Milton McGinty. The design of the complex revolved around the new-fangled idea that major access would be provided by the automobile and facilitated by ample parking. By 1940, Schmidt says, South Main and Old Spanish Trail were well on their way to becoming Houston's first—but by no means last—full-fledged commercial strips, complete with drive-ins, motor courts, car dealerships and gas stations.

The more typical urban grid in Houston did much to shape its cityscape. In his study of commercial signage in Houston, *Icons and Eye-Cons: Signs in the Houston Landscape* (also part of the public library's urban profile series), Peter Papademetriou begins by tracing the common expansion of the urban grid in America: "The street and its extensions . . . eventually evolved into a radially concentric city plan, a kind of wagon wheel derived from the historic central core (downtown) and evenly spaced radiating arterial roadways. The freeways interconnected these radiating arms at an appropriate distance where speed facilitated interchange within the total system, completing the connections between the spokes."

And this form, Papademetriou says, is almost perfectly "embodied in the organization of Houston's urban pattern. . . . As one travels westbound along Westheimer from Main Street to Addicks, there is presented a near history of contemporary building-street relationships. From buildings defining the streetscape (Bagby to Montrose), to buildings set slightly back for parking in front (Montrose to Kirby), to buildings with some parking in front, most in back (Kirby to Loop 610), to buildings set in space (Galleria-Post Oak), to the advanced strip, where signs define the road and the small buildings are set way back (Chimney Rock to Gessner). The relationships are nearly a history of the loosening up of urban space in the last half-century, with nearly half of the actual length of the roadway having developed since 1965."

Ironically, that was the year the first national legislation was passed to clean up visual pollution on American roadways. The Federal Highway Beautification Act (or "Lady Bird Act") of 1965, staunchly promoted by then-First Lady Lady Bird Johnson, required states that received federal funds for highway construction to prohibit erection of billboards within 660 feet of interstate highways, except on industrial or commercial land, and to screen junkyards from view along the interstates. Otherwise, the U.S. Department of Transportation could withhold 10 percent of the Highway Trust Fund allocated to the state.

Two years later, in 1967, a group of Houston architects, landscape architects, garden clubbers, lawyers and business people formed "Billboards Limited!," largely to uphold the spirit of that national legislation on the state and local levels.

In 1972, the group was successful in having a state highway beautification act signed into law, although it wasn't easy. The bill's passage was a harrowing one, due largely to intensive lobbying by the Association of Outdoor Advertisers and states-rights sentiment among legislators. Some lawmakers also doubted whether the federal government would go through with its threat to withhold allocated highway funds. As it turned out, the bill floundered in the Texas House until the

RIGHT, TOP: "Larger Canvas Two" billboard in Houston, painting by Houston artist Philip Renteria. BOTTOM: Oil-derrick rest stop on I-20 near Tyler, circa 1967.

session adjourned. Shortly thereafter, the U.S. Department of Transportation notified the Texas Highway Department that approximately $26 million in highway funds allocated to Texas would not be forthcoming. Gov. Preston Smith called a special session, and the bill was passed and signed in short order.

More recently, Billboards Limited! has come up in arms over a 1978 amendment to the national legislation, engineered by the billboard lobby, which requires states to pay for any roadside signs they remove. This appeased the billboard lobby and lead to a current move to abolish the federal act and allow state and local governments to control outdoor advertising on their own, a move spearheaded, ironically, by Sen. Robert Stafford of Vermont, a state that has been most successful in controlling outdoor advertising.

On the city level, Billboards Limited! has been a vociferous voice in urging the city to adopt local billboard legislation. So far, however, while the group's efforts have been widely lauded, sign-control ordinances passed to date have had limited effectiveness, and the group admits that since its founding, "efforts to deal with the problem of sign control have been tedious, frustrating and only partially successful."

One novel twist of billboard communication in Houston, which Billboards Limited! generally views as "questionable," is Houston National Bank's "Larger Canvas Two," a program in which outdoor billboards traditionally used for advertising are transformed into giant canvases for original Texas art on Houston freeways. The works of seven Texas artists are now on display on various freeway approaches to the city and will rotate location monthly, according to sponsors, to enable freeway travellers to view all of the works.

Texas Dept. of Highways and Public Transportation

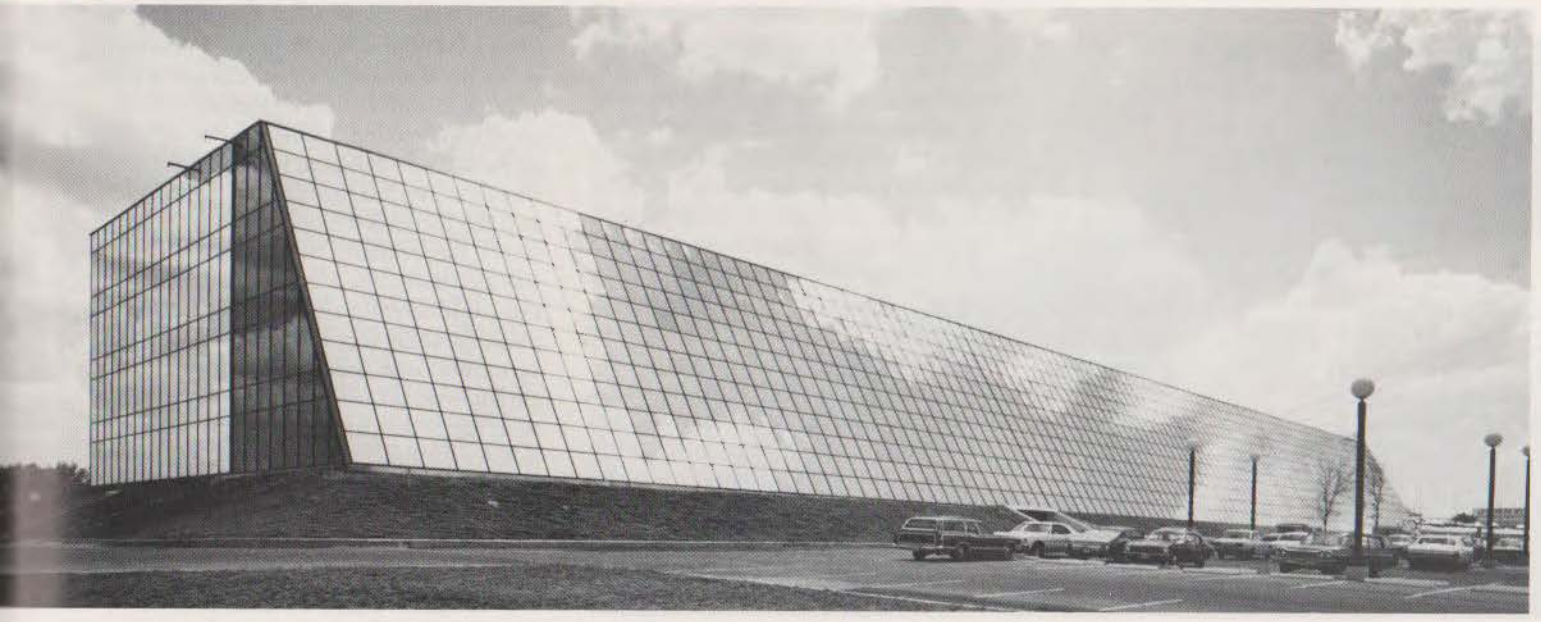
Architecture of the Roadway

Texas, true to the popular myth, is as big on highways as anything else. The postwar boom put an already well-organized highway department (founded in 1917) into overdrive as more people took to the highway either in migration to the city from the farm or to spend more of their leisure time—which they were beginning to have more of—vacationing in a car.

Between 1945 and 1950, according to the department, Texas motor vehicle registrations increased from 1.7 million to 3.1 million. To meet the growing demand, which didn't end in 1950, the highway department spent nearly 10 times as much for highway construction between 1942 and 1967 as it did during the first 25 years of its existence.

LEFT: U.S. Home Building on West Loop South in Houston, designed by the Houston firm Caudill Rowlett Scott. BELOW: Century Center on Loop 410 in San Antonio, designed by the Houston firm 3D/International.

Richard Payne



Texas Dept. of Highways and Public Transportation

Texas Dept. of Highways and Public Transportation

LEFT, TOP: Big Sandy Creek Bridge, Stephens County near Breckenridge, circa 1963. BOTTOM: Award-winning pedestrian overpass over U.S. 87 in San Angelo.

The grand scale of highway system development in Texas is due largely to favorable legislation, as well as geographic necessity and economic climate. The state Colson-Briscoe Act of 1949 earmarked an annual appropriation of $15 million for construction of Farm-to-Market (FM) Roads, now a system of some 50,000 miles of roadway considered one of the best rural highway grids in the country. In 1951, the legislature set aside one-half of the state's motor fuel tax for the construction of trunk highways. Then, in 1956, came the passage of the Federal Aid Highway Act, which designated 41,000 miles of limited-access interstates nationwide to link every American city of 50,000 or more population. Texas' 3,027-mile share of that network was larger than any other state.

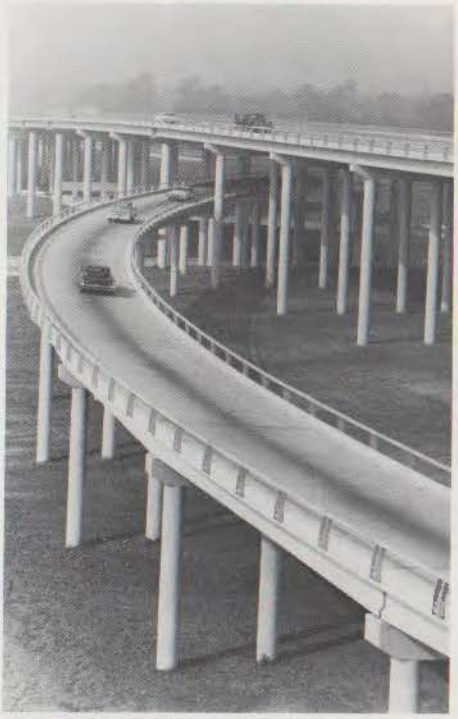
With so much to work with, in terms of both dedicated funding and mileage of its roadbuilding mission, the highway department was intent to do it right. Even before the postwar boom, in the '30s, when state highway engineer Gibb Gilchrist sent a reprint of Joyce Kilmer's poem "Trees" to the field, along with word to save as many of them as possible in the roadbuilding process, the aesthetics of the roadway was an important concern. Landscaping, scenic overlooks, rest stops, all were designed to help the roadway look as good through the windshield as it felt through the seat cushion.

The fact remains, however, that highway design—aside from roadside amenities—is inherently an engineering discipline, speaking more of an industrial vernacular than that of an applied art. Safety, cost, efficiency and mobility come first; aesthetic form, more often than not, follows the function as a happy by-product.

Nevertheless, says senior highway engineer Harold Cooner, there is a prevailing aesthetic sensibility within the highway design section, a consideration of

Texas Dept. of Highways and Public Transportation

LEFT: I-45/Loop 635 interchange in Dallas. BELOW: I-610/Southwest Freeway interchange in Houston, circa 1964.



Texas Dept. of Highways and Public Transportation

"something more than just safety and mobility." The department has come to recognize the increasingly sophisticated tastes of the motoring public, which has prompted designers to consider color, texture and blending structure with terrain, as well as environmental impact. The design process, in the process, has become increasingly complicated, Cooner says, but is not without its satisfactions.

U.S. 281, the McAllister Freeway in San Antonio which skirts Brackenridge Park, is a prime example, Cooner says, of a roadbuilding project that responded with painstaking sympathy to its natural context and to the people who use it. Exposed aggregate on the bridge over Los Olmos Basin, which serves also as a park shelter; placement of locally quarried limestone boulders as part of the landscaping; noise abatement—all were factors in the design process. Although Cooner concedes that the design response was aimed primarily at appeasing local opposition to the freeway coming in in the first place, highway designers and landscape architects involved in the project were gung-ho about the opportunity to be creative, and extremely proud of the final product.

A more obvious link between architecture and the roadway, of course, is the building beside the highway, whether it's a highway department rest stop or an office building shimmering beside an urban freeway. From metaphorical oil-derrick rest stops near Tyler to limestone comfort stations in the Hill Country, highway department architecture beside the roadway is designed to be simple, clean, convenient, low-maintenance, with a regional touch. (The highway department says it doesn't foresee a drastic reduction in demand for these facilities as private auto use declines, pointing out that as service stations close along the highways, demand will rise for convenient restrooms, for use by bus riders and truckers, if no one else.) And on the urban freeway, the sophisticated office building detached from the downtown core—Oak Cliff Bank in Dallas, for example, or the U.S. Home Building in Houston, or Century Center in San Antonio—directly relates to the roadway by design, one way or another.

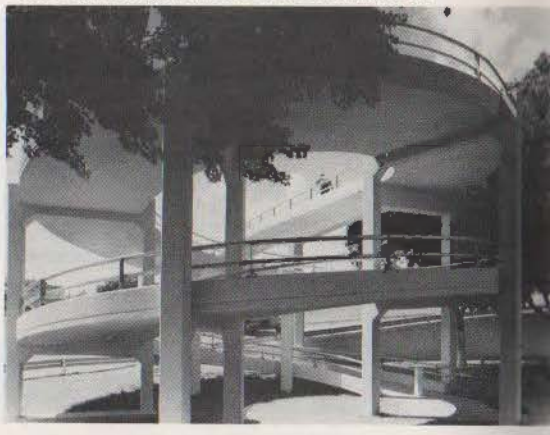
Although Century Center project architect Charles Burgess, of 3D/International, says the project is not "pure freeway architecture" in his mind (its low-slung, linear form, he says, is as much an attempt to maximize office space near the flight pattern of the San Antonio airport as it is to present a 70-m.p.h. facade to the motorist) it does "grab the motorist's attention long enough to make an impression." On the other hand, Burgess says, freeway architecture doesn't necessarily have to be horizontal at all. The landmark value of the freeway highrise, looming in the distance, can forwarn the freeway motorist of an upcoming exit, which he or she would appreciate on a limited-access freeway. "The main thing," Burgess says, "is to catch someone's eye, to be distinctive."

Successful on both counts is the new 18-story U.S. Home Building on Houston's West Loop South, designed by Caudill Rowlett Scott, which presents a reflective parabolic curve to motorists passing by on the Loop on the southwest side of the building, a curve that forms one of the building's two "sides" and one that expresses the "deliberate distinction between the two facades," according to CRS architect Norman Hoover. (The northeast face, clad in dark bronze glass, is a series of obtuse angles designed to create six corner offices overlooking Memorial Park).

A less obvious relationship between architecture and the roadway, but closer and perhaps even more mutually influential, is the "architectural" quality of

RIGHT: Pedestrian bridge in Corpus Christi, circa 1960. BELOW, LEFT: Detail, "inside" the I-45/Loop 635 interchange in Dallas.

Texas Dept. of Highways and Public Transportation



Texas Dept. of Highways and Public Transportation

the roadway itself: the *Béton Brut* of a prestressed concrete bridge, the array of "doric columns" supporting a sweeping overpass. The architectural excitement of the highway itself, while usually not by design and often only appreciable from a certain angle, is as inherent a facet of the built environment as a silo or rice dryer standing tall on a rural Texas highway. And the influences work both ways. As Venturi, again, points out in *Learning from Las Vegas*, "Le Corbusier loved grain elevators. . . . Mies refined the details of American steel factories for concrete buildings. . . . Modern architects work through analogy, symbol and image. . . . and they derive insights, analogies and stimulation from unexpected images." On the other hand, elaborate highway bridges and interchanges at some point cease to be structures of pure function and become predominant forms in space, influenced, if not by the surface quality of architecture, at least by some deeper essence that distinguishes architecture from mere building.

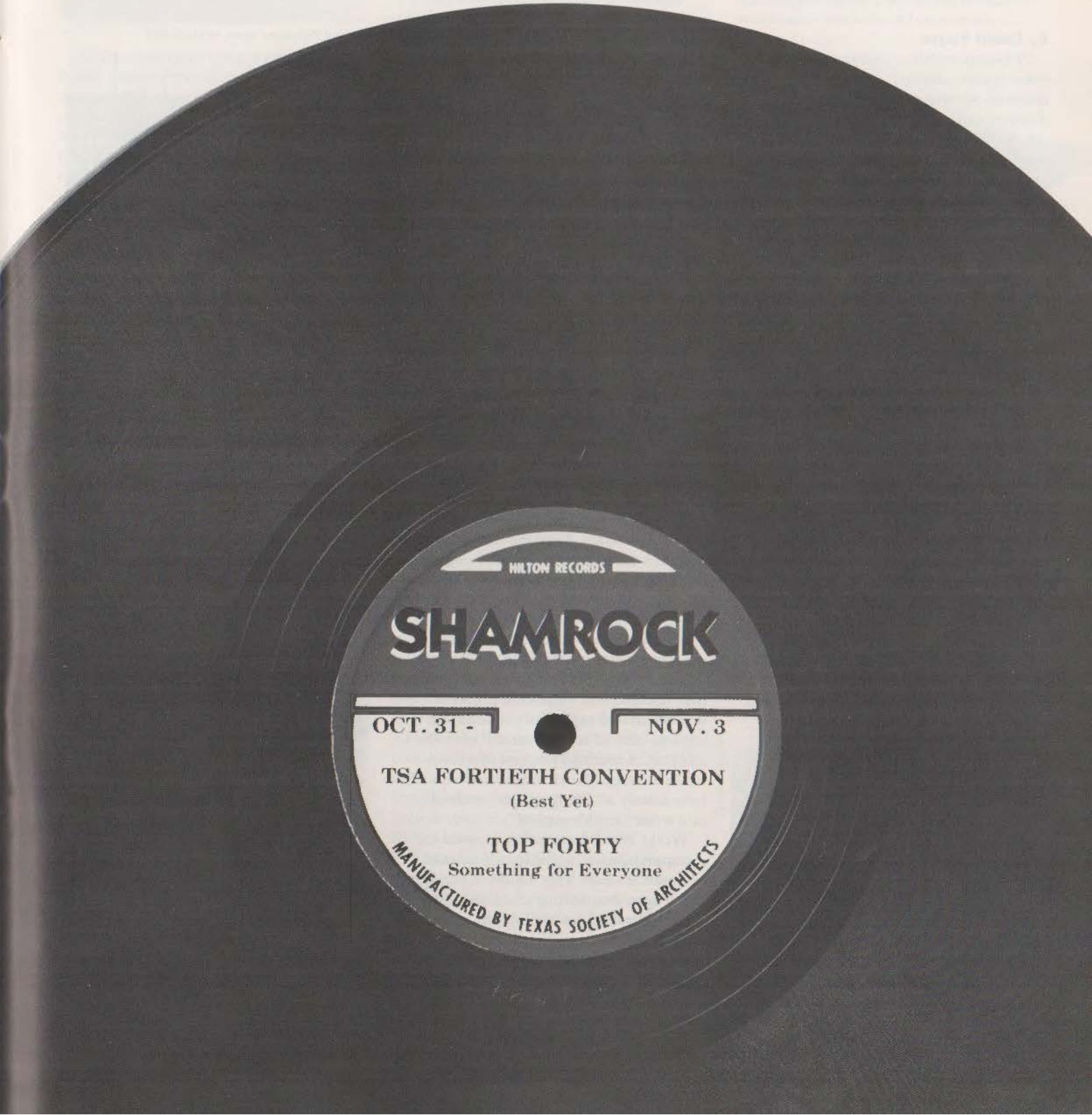
Direct influence by architecture on bridge design occurred in Austin recently when TSA chapter architects helped persuade highway department engineers to modify the original box design of the planned Loop 360 bridge over Lake Austin. (Also in Austin, repair of the Congress Avenue Bridge, now underway, includes historic restoration of the original support arches, for purely cosmetic purposes.) Other bridges in Texas distinguished by a certain quality of design include the Twin Bridges (U.S. 90) over Buffalo Bayou in Houston, "beauty in steel," according to John Robinson, author of *Highways and our Environment*, aod the award-winning pedestrian bridge over U.S. 87 in San Angelo, which the American Institute of Steel Construction cited in 1972 as "one of the seven most beautiful bridges in the country."

There's something, too, about the highway interchange that transcends function as though by design. The I-35/Loop 635 interchange near Dallas, for example, virtually encloses the motorist, who doesn't pass under the interchange even on the ground level as much as he passes *through* it, experiencing a fleeting yet awesome sense of shelter.

The relationship between architecture and the roadway from all angles—between car and building, roadway and building, sign and building, even their common qualities of the sublime—is an intimate one, more often than not seen as a marriage of convenience, however, rather than a romance. While Frank Lloyd Wright may well be spinning in his grave, potential for improvement of urban form as it relates to the automobile has not gone completely by the wayside since Broadacre City did. As architect Paul Spreiregen points out in *Urban Design: The Architecture of Towns and Cities*, a balance still exists between problem and opportunity: "The automobile creates problems of intersection . . . which require new systems of movement; the automobile can corrode a city . . . or stimulate new building forms; the automobile requires many directional devices . . . which require simplified design; the automobile causes confusion of urban form . . . but can create a whole new order of urban form."

T O P F O R T Y

T S A FORTIETH CONVENTION



Places for Pumping Gas

A Brief History

By Daniel Vieyra

"The automobile . . . more than any other modern device . . . has been responsible for transforming large tracts of America and the dwelling places of most Americans into an environment neither urban nor rural, not properly to be called landscape. Dominated by super highways and motels and drive-ins and parking areas, much of America can now be called motorscape."—Daniel J. Boorstin

Out of the need to service the automobile developed a building type that would become a ubiquitous cultural landmark —the gasoline station. The modern gas station did not burst full-blown upon the American scene, but evolved gradually from a crude row of elevated tanks to a slick representation of corporate image.

Early motorists treated their cars like horses, sheltering them in the stable and feeding them petroleum obtained from drums at the local livery, bicycle repair shop, hardware, or dry goods store. Ironically, horse-drawn "tank wagons" delivered gasoline to these retail establishments from local distribution centers known as "bulk plants." It was also possible to maintain a supply of gasoline at one's own carriage house or home. As needed, fuel was drawn out of the drum, carried to the waiting vehicle, and poured into the gas tank through a chamois-lined funnel. Eventually, price-conscious motorists began bypassing traditional gasoline and kerosene dealers in favor of a trip directly to the bulk station.

Sun Oil Co.

Refilling horse-drawn tank wagons in Detroit during the 1890s.

In 1905, C. H. Laessig, one of the owners of the Automobile Gasoline Company of St. Louis, a petroleum distributor operating a large bulk plant, developed an innovative distribution technique—setting an old hot water tank on end, installing a glass gauge to show the level of gasoline, and attaching a garden hose with a faucet to reach the vehicles. Within the next five years the use of pumps made it possible for larger storage tanks to be buried underground. The advent of this simple, direct marketing method created a prototype for the first drive-in store devoted exclusively to the automobile.

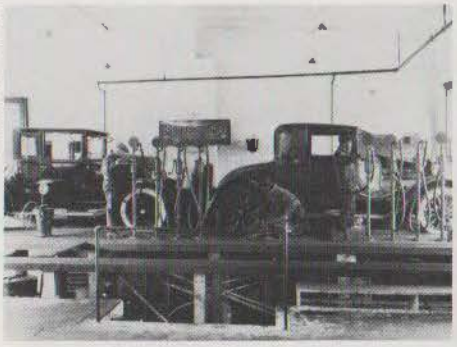
In the early days of the drive-in gas station, retail outlets were usually privately owned, and "split-pump" stations selling gasoline from several different oil companies were a common sight. As automotive fuel became the lifeblood of the oil industry, the corporations themselves began to take an active interest in distribution techniques. With the rise of the company-affiliated station, the design of the building took on a new importance, for it had become the corporate package which had to convey to the motorist the advantages of the oil company's unseen product.

To gain greater commercial advantage over one another, petroleum producers diversified and expanded products and services offered at their gas stations. The addition of enclosed pits and lifts facilitated automobile maintenance. What had been merely a "filling station" evolved into a full "service station."

World War I dramatized the need for a comprehensive, well-planned network of national roads. This rapidly expanding highway system linking cities and towns created the need for facilities to accommodate long-distance travelers, as well as their cars. Rest rooms in gas stations, for instance, became a requisite rather than just an optional extra convenience. Refreshments were sold at the stations; full meals could be had at nearby diners; and lodging was available at "tourist camps," the forerunners of today's motels. Strictly speaking, all these businesses were not dependent upon each other. The gas station, essential to the operation of the automobile, acted as the nucleus for the variety of services that sprang up in response to the rapidly emerging drive-in culture.

National Petroleum News, *McGraw Hill*

Continental Oil Co.



TOP: In 1905, C. H. Laessig (left) developed a technique for gravity-feeding gas to cars at his St. Louis bulk station by attaching a gauge and hose to an old hot water tank (right) filled with gasoline. ABOVE: Addition of pits and lifts helped the "service station" evolve from the "filling station."

Continental Oil Co.

At the same time, the car owners' newfound mobility provided an impetus to the major oil companies for nationwide marketing programs geared to instilling brand loyalty. In response to motorists' lingering fear of the unknown on long trips, petroleum companies standardized aspects of their affiliate stations. National credit cards, for example, augmented neighborhood credit; with one credit card the traveler could enjoy the convenience he had grown accustomed to at his neighborhood station, at stations all around the country. Familiarity and security were further enhanced by standardized company attire, designed to make the customer feel that he was dealing not with strangers but with uniformed representatives of a large, trusted company. (As Texaco reminds us, "You can trust your car to the man who wears the star.")

As motorists traveled faster, companies consolidated their symbols, logos, and architectural motifs so that every affiliate station would be quickly recognizable in an unfamiliar landscape. The gas station building itself had become a major packaging device.

Since the evolution of the one-stop super service station in the late 1920s, there have been no new distribution methods. Today's self-service station calls to mind the bulk plant or hardware store which added more fuel to its line; the modern convenience store with gasoline pumps directly parallels the dry goods store which sold gasoline.

An amazing stylistic diversity has resulted from the importance attached to finding an appropriate image for the gas station. By appealing to the motorist's sense of fantasy and adventure, his nostalgia, his desires for trustworthiness or for modern efficiency, the American gasoline station has evolved a unique, rich architectural history.

Fantastic

Although the concept of the drive-in station was firmly established, there was no fixed idea of what the novel building type should look like, no preconceived image to either guide or restrict the designer. In addition to not having an iconography appropriate for the station, the architect was forced to address a new issue, as David Gebhard has identified it, of: ". . . packaging, based not on the slow, traditional impact of the building on the pedestrian, but rather to impinge on the viewer as he speeded past and hopefully persuade him to enter the establishment in his private capsule."

Vehicles of transportation other than the car served as models for filling stations. A gas station designed to look like a ship, for instance, linked ideas of the old and the new in transportation. The form of the lighthouse, also related to the ancient romance of sea travel, was easily adapted to gas stations beckoning to travelers on the road. The airplane, a modern form of transportation, created a surprisingly effective prototype for station design, both in terms of marketing symbolism and practical utility; the "fuselage" served as an office, while the "wing" formed a convenient projecting canopy under which cars could be refueled. Transportation imagery adapted to a futuristic form, as reflected in a series of stations modeled after imaginary space stations, carried the notions of romance and adventure into the future.

Fantastic stations with perhaps a more rational basis for their unusual forms can be best categorized as "programmatic buildings." These stations conveyed their message by transforming their building into a symbol for the products they offered. The structures ranged from variations on petroleum containers—buildings in the form of tank cars, gas pumps, gas cans—to full-size three-dimensional representations of petroleum companies' trademarks—the shell-shaped shell station and the Sinclair "Dino" station, a concrete embodiment of Dino the Dinosaur, the company's mascot-logo. Such programmatic stations were successful both in catching the eye of the motorist and in conveying their purpose.

Fantastic or novelty gas station designs were given an exotic twist by the adaption of buildings from other cultures. Windmills, castles, Islamic mosques, Indian teepees and basilicas all served as a means of expressing the romance and adventure associated with automobile travel. One retailer, Oasis Incorporated,

LEFT: Uniformed attendants created an air of familiarity; courtesy services doubled as marketing techniques, promoting the sale of maintenance products and accessories.

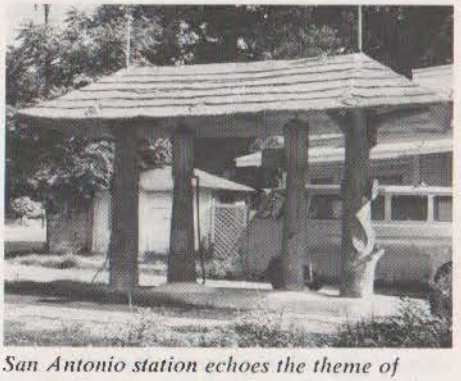
Gulf Oil Corp.

"Airplane" stations captured the romance of human flight.

Stephen Edward Moskowitz

Houston "gas can" station graphically reinforces the message, "last gas before freeway."

Daniel Vieyra



San Antonio station echoes the theme of nearby Brackenridge Park.

used the slogan, "Where a Thirsty Engine Gets a Drink" for a series of stations modeled after Egyptian pyramids. Wadham's Oil Company of Milwaukee carried the foreign-romantic imagery to its extreme in a string of stations that featured pagodas.

Numerous stations celebrated the attractions awaiting the new breed of tourist as he traveled America's highways. Taking as their subject natural formations or regional curiosities, these stations attracted customers while making only slight reference to the products they sold. A San Antonio station from the late 1920s features tree-trunk canopies over its pumps. Although the entire structure is actually built of concrete, every detail has been presented to give the appearance of natural tree limbs. This station echoes the theme from the city's nearby Brackenridge Park, a tourist attraction featuring similar concrete formations.

Grand

Closely related to the Fantastic stations in their bid to attract attention through distinctive physical forms were the Grand stations. However, unlike the Fantastic stations, these more elegant structures were designed primarily with the intent of creating an aura of prestige, rather than simply exploiting the traveler's curiosity or romantic notions. This more sedate mode of station design sought to legitimize the filling station in general, and specifically to lend an air of respectability to the particular purveyors. Although similar to the Fantastic stations in their use of unusual forms, these Grand stations are totally opposite in that the architectural elements employed in their design were already well established.

One very popular mode of Grand gasoline station was the "historicizing" building, that is, a design which attempted to legitimize the gas station by choosing, as a prototype, a building already respected by the public. The dignity associated with buildings from America's past was borrowed for promoting the sale of gasoline.

Grand eclectic architectural elements were adapted to a number of gas stations designed in this mode. A large, impressive pedimented portico might lend an aura of grandeur and respectability to the building while at the same time serving the more utilitarian purpose of providing a canopy over the driveway. The cupola became an important element, also serving a dual purpose. It evoked respectability through architectural asso-

Daniel Vieyra

Peter Papademetriou

Texaco, Inc.

National Petroleum News, McGraw-Hill

Texaco, Inc.

CLOCKWISE FROM TOP: Forceful Spanish composition in San Antonio; "Palazzo Texaco" in Houston; Astrodome station, borrowing form and prestige from its neighbor; gas pumps, in the form of Ionic columns so as to be compatible with "classical" station buildings; otherwise simple Oklahoma City station dominated by elegant bell tower reminiscent of ecclesiastical architecture.

ciation and at the same time functioned as an effective attention-getting device.

Like most Period Revival architecture in America, the Grand-historicizing gas stations displayed loosely adapted regional trends. In the Northeast, design followed stolid, British-influenced colonial styles, while stations in the South and Southwest began to display the character of the exuberant Spanish Colonial style as it manifested itself in the early mission architecture. The bell tower, a Spanish Colonial counterpart to the cupola, was incorporated in a number of stations in the South and Southwest.

In a shift from broad, dignified design imagery to a more specific one, some Grand gas station designs focused on particular famous buildings, replicating them at a reduced scale. By choosing a respected structure as the prototype, the station of this mode borrows the prestige associated with its model. One excellent example is the now-defunct Texaco station adjacent to Houston's Astrodome, a dramatically simplified and scaled-down restatement of its parent, referred to as the "Eighth Wonder of the World."

Domestic

Concurrent with Grand gasoline stations were those opposite in scale and effect—Domestic gas stations. This mode of design served to legitimize the gas station by mimicking the house as the symbol of one of America's most sacred institutions—the family. The architectural vocabulary used in these stations usually reflected the styles found in contemporary suburbs. Just as some of the Grand designs were implying an association between themselves and our country's heritage or its respected institutions, the Domestic stations sought acceptance by suggesting the warmth and hospitality of home.

Over the years, communities had begun to object to the architectural incongruity of neighborhood gas stations, and the Domestic stations became important in combatting growing community objections and restrictions against gas stations. By seeking to blend the stations into their neighborhoods, the petroleum companies hoped to minimize local opposition.

A favorite early residential style adapted to gasoline station design was the country cottage. This design mode had its roots in the British Picturesque Movement of the 1820s, a trend whose motive lay in providing an alternative to the architectural "bad taste" generally felt to be pervading the English countryside. One English publication of the 1820s

Larry Paul Fuller

Stephen Edward Moskowitz

Craig Kennedy

TOP: Quaint, yet standardized, cottage station in Houston owes a debt to the picturesque movement in architecture. MIDDLE: Phillips Petroleum standard model, with its soaring canopies and exposed trusswork, is reminiscent of the work of Frank Lloyd Wright. ABOVE: Dallas "Good Luck" station exhibits curved, streamlining principles applied throughout.

which advocated picturesque principles stated: "In the most beautiful parts of this country, the scenery is disfigured by impotent attempts of the workman, unaided by the pencil of the artist." It is interesting that over a century later American attempts to bring "good taste" to the gas station adopted this same rnstic mode as its ideal. Picturesque, irregular forms were used to make the station blend into the neighborhood, and yet still catch the eye of the passing motorist. The dramatic, high-pitched, rustically shingled roofs, with their uneven ridgepoles and massive protruding chimneys contributed to the station's visibility without making it an objectionable intrusion in the community.

The domesticating trend is continued today in gas stations modeled after popular contemporary tract homes such as the split-level or ranchhouse.

Functional

In spite of the numerous design trends service station architecture had passed through, one central problem remained: gas station design had not succeeded as yet in finding an appropriate iconography entirely its own. The Functional mode of design addressed itself to this problem. Unlike any of the previously mentioned design trends, the Functional mode did not allude to any other building type. The simplicity and straightforwardness of Functional design, as well as its overall practicality, surely accounts for its continuing popularity. In its simplest form, the Functional station was no more than a booth that served to shelter the gas station attendant from the elements. As more services were offered, however, the simple booth evolved into a large rectangular box.

The most obvious requisite of the filling station was that it had to be located where it would have maximum exposure to traffic. Especially in the early years of automobile travel, main routes were unestablished, and traffic patterns were constantly changing. It followed, then, that petroleum marketers could not afford to make a permanent commitment to a service station site which in a few years might become obsolete because of altered traffic patterns. At the same time, however, retailers felt it necessary to establish themselves on current routes of travel as quickly as possible. A solution to this dilemma was found in the use of a portable, pre-fabricated metal and glass shelter, a structure flexible enough to meet the demands of both the large petroleum marketer and the individual retailer.

Stephen Edward Moskowitz

Stephen Edward Moskowitz

FAR LEFT: To millions of Americans, this Walter Dorwin Teague service station design has become synonymous with Texaco. LEFT: Gulf's "board and batten" station of the 1970s conveys, in a dramatically different way, the same associations as its ancestor—the early picturesque cottage.

The schism between this forthright industrial building type and the popular domestic mode is emphasized by the grounds around these pre-fabricated box-like stations which were carefully landscaped, often featuring lavish flower beds and elegant formal shrubbery. Commenting on the increasing popularity of Functional stations, the *Architectural Forum* in 1937 stated: "In recent years, thanks to a more intelligent approach, a new type of station has made its appearance. It is clean, unassuming, and has the inestimable virtue of looking like a filling station." At last, it seems, the gas station had found expression in a logical architectural statement—a machine age architecture for a machine age building type.

Because this type of gas station design incorporated many of the concepts of the modern movement of architecture, there are a number of Functional gas station designs by prominent architects and industrial designers. The gas station played a crucial role in Frank Lloyd Wright's utopian ideas about the restructuring of American society: "The roadside service station," he said, "may be, in embryo, the future city service distribution center." Wright's highly personal designs for service stations expressed a primarily functional imagery. A special feature intended for his buildings, but never realized, was unique gasoline dispensers which would provide gasoline from overhead hoses suspended from the ends of dramatic cantilevered canopies, thereby leaving driveways unobstructed. Could it be that Wright saw petroleum, which he lyrically described as "the wealth of states, the health of nations," as the machine age counterpart to the cow's milk that he devoted so much attention to in his autobiography? Flowing from hanging hoses, the petroleum was to come to the motorist as the cow's milk had come to the farm hay.

Walter Dorwin Teague's Texaco service station designs dating from the mid thirties are still very much a part of our surroundings. Teague developed a series of standard designs so versatile that, according to the September 1937 *Architectural Record*, one "could be built in any part of the United States, in any location, of any material, on any shaped plot, with any number of service bays or none—and still maintain its identity as a typical Texaco station." Teague's standard designs had the overall look of a conservative, slightly streamlined box—the perfect coupling of versatility and timelessness.

Texaco's next nationwide design program, implemented almost thirty years later, still reflects a merging of the Functional and Domestic modes. Many contemporary stations combine functional elements like modern curtain walls, with more traditional domestic components, such as fieldstone masonry and applied mansard roofs.

The uniting of these two distinctly different modes is perhaps best illustrated by Gulf's recent "board and batten" station designs. This type of station is basically a box, sided with large aluminum earth-toned board and batten panels. Mansard roofs of embossed plastic tile printed with wood patterns adorn the building and canopies. Board and batten design is often considered to be the trademark of the Picturesque Movement in America, but technological innovations, as well as expansion of service station size, have naturally changed the methods of achieving the desired residential effect. Currently, the gas station has become a caricature of the modern suburban single-family dwelling. The use of exaggerated, over-scaled, overtly "residential" elements on a basically industrial form has resulted in contemporary structures that cannot properly be called either Domestic or Functional.

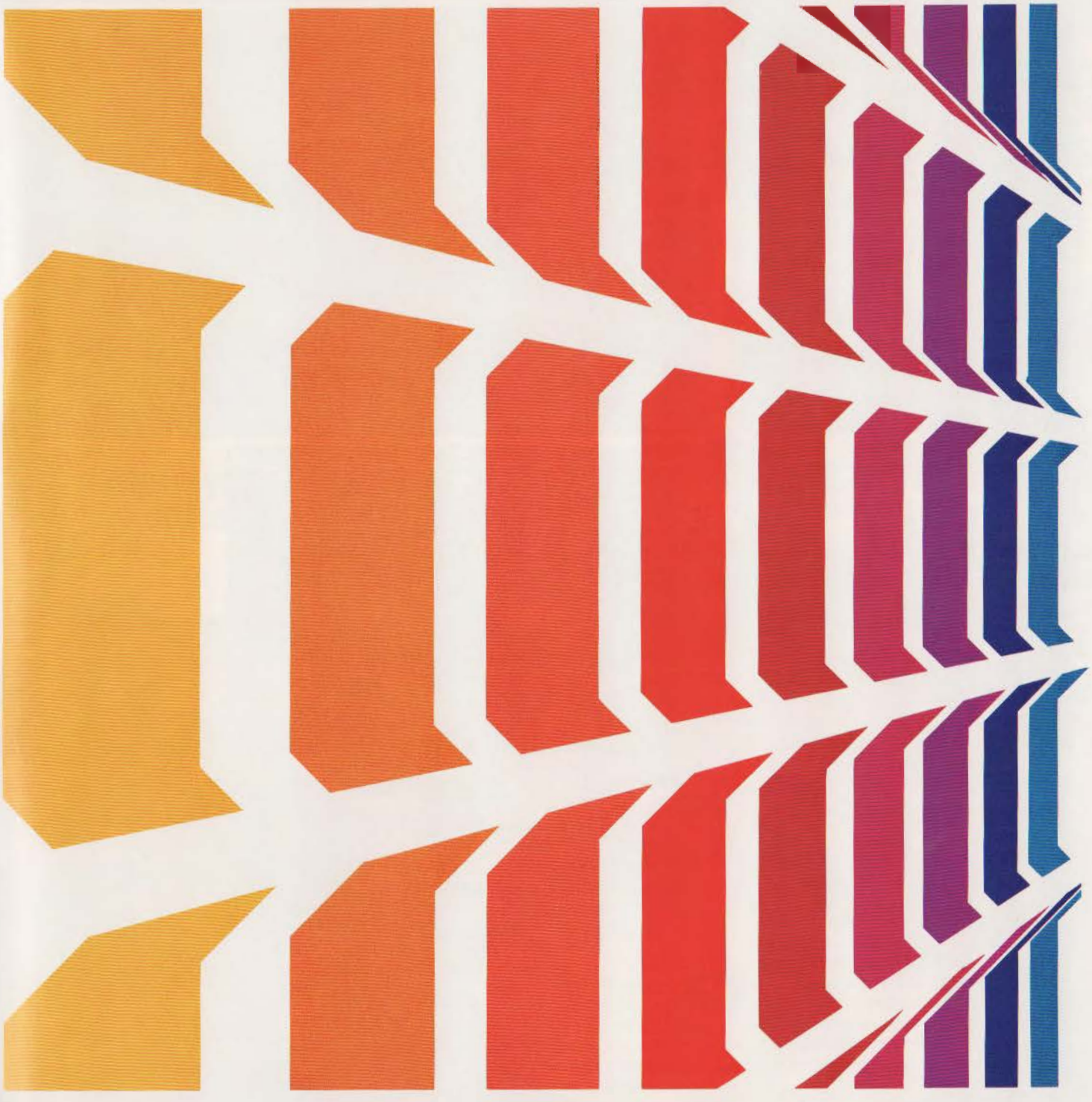
With the gradual depletion of petroleum reserves and the subsequent energy crisis, petroleum companies have recently begun to reexamine their marketing techniques. One result of the new national attitude toward gasoline sales and consumption has been the abandonment of many less lucrative stations. It is estimated on a national average that since the early 1970s as many as ten thousand stations are closed each year. This phenomenon has led to the currently popular practice of adapting empty stations to other uses. The idea of adaptive reuse, however, is not new to service stations. In fact, many of the early gas station/garages had been converted stables and carriage houses.

Some modern uses for abandoned gas stations are still directly related to services for the automobile; tire centers, for instance, now occupy a number of old stations. Other uses, such as fast-food businesses and drive-through bank branches take advantage of the drive-in nature of the gas stations. Still other conversions have adapted the open space of service bays into areas usable for restaurants or discotheques.

Although the supply of gas station structures is so abundant that it may well outlive our supply of gasoline, still the versatility of gas station design almost guarantees a continued use for this unique building type that has become so much a part of the American culture.

Daniel Vieyra, upon receiving his MFA in Historic Preservation from Columbia, taught architecture at his alma mater, Rice University, and now is preservation architect for Trenton, New Jersey. His book, Fill 'Er Up: An Architectural History of the American Gasoline Station, *will be published by Macmillan in November ($7.95 paper; $14.95 hard cover).*

Quality



La Mansion del Norte
San Antonio, Texas

Architect & Structural Engineer
Harwood K. Smith & Partners
Dallas, Texas

General Contractor
Henry C. Beck
Dallas, Texas

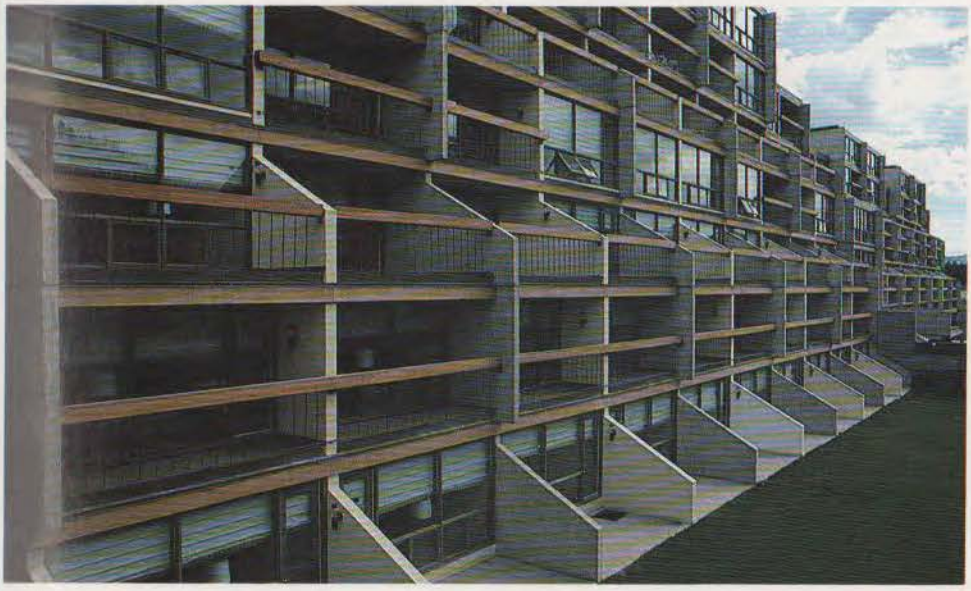
Prestressed Concrete Puts Quality Where It Counts In Hotel and Motel Construction

Keystone Resort Hotel
Dillon, Colorado

Architect
Flood, Meyer & Associates, Inc.
Los Angeles, California
General Contractor
Olson Construction Company
Denver, Colorado
Structural Engineer
Wheeler & Gray
Los Angeles, California

Albuquerque Inn
Albuquerque, New Mexico

Architect
Fuji, Parsons, Inc.
Fowler, California
General Contractor
George Rutherford Construction
Albuquerque, New Mexico
Structural Engineer
Design Professionals, Inc.
Albuquerque, New Mexico



Stanley Structures

Stanley Structures produces a complete range of architectural and structural prestressed concrete products for construction of hotels and motels. Our products offer the advantages of soundproof construction, low maintenance costs, fire resistance and fast construction.

Prestressed concrete buildings represent significant savings to investors and owners.

Insurance rates are lower. As a noncombustible material, concrete will contain fires and permanently protect the structure, thus providing safety and security for guests.

More precise pricing of building materials and a reduced contingency margin can be realized by the owner or developer who chooses prestressed concrete. Expensive and often inefficient on-site labor can be significantly reduced. Work stoppage factors, like inclement weather, are practically eliminated.

Since a greater portion of the project is handled on a fixed cost basis to the builder, the effects of spiraling inflation can be better controlled. A shorter construction period means a faster payback of the construction loan. The investors can also realize income sooner through earlier occupancy of the building. Overall, all parties benefit from savings in time and money.

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We've put it all together before — countless times. Our experience in design, production, delivery and erection of structural and architectural concrete is second to none. We have the know-how to economically construct sound structures with broad appeal — the right results.

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The Vanishing Gas Station

New Uses for Useless Buildings

With the ubiquitous corner gas station not so ubiquitous anymore, a spate of new enterprises is cropping up all around, eagerly appropriating these still-serviceable structures rendered useless only by circumstance. After all, what better potential for an "instant" business establishment than a deserted gas station, complete with prime location, paved parking, porte cochere and two rest rooms? Even as the pumps are being yanked from the slab, new businesses—C.B. dealerships, drive-through beer stands, pizza havens and taco shops—are opening up every day. Many are casually "designed," fun and funky places, appreciated for what they are. Others, such as the five projects we present beginning here, are more serious attempts to adapt worthy structures to new uses.

Ellison

Before.

Bill Kennedy

After.

Nieman, Hanks & Puryear, Austin

Photos by Bill Kennedy

Opened as a Spanish Colonial Revival gas station and tire store, as pictured on the previous page, this 50-year-old structure still housed a solid business a couple of years ago when the Austin realty firm Nieman Hanks & Puryear envisioned its potential as a company headquarters. The firm acquired the property and retained Austin restoration architect Eugene George to adapt the building to its new use while restoring its original character.

The existing structure was essentially an L-shaped two-story building intersected by a 17½-foot high canopy built to accommodate cars and large trucks. Resulting inconsistencies in scale posed a major design challenge as extensive programming revealed the need to utilize both stories, as well as the canopy area, for office and work space.

In the canopy area, the approach was to work within the irregular spaces defined by the structural bays, creating a sense of order and human scale through use of partitions based on a common module. The large windows were subdivided to make them appear consistent in size. To further enhance a sense of unity within the building, the modular proportions used within the canopy area were repeated on both levels of the two-story space, as were doors and various details.

A logical inclination to place the main entrance under the canopy arch was resisted due to the owner's preference that it be oriented toward oncoming one-way traffic on heavily traveled Lavaca Street, near downtown and the capitol. It was designed as a separate entity intended to link inside and outside in a straightforward manner and at the same time visually reduce the scale of the dramatic canopy space. Entrance area landscaping is intended to minimize the entry even further as the plant materials mature.

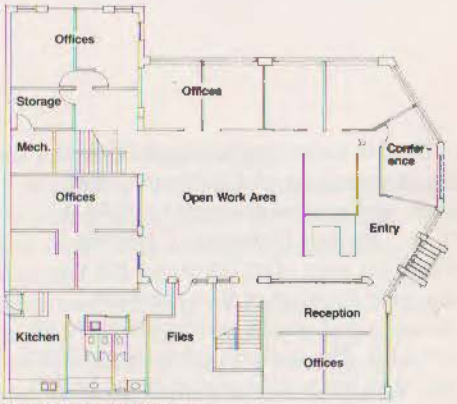
Canopy area openings were enclosed

Restored turret formerly supported flagpole.

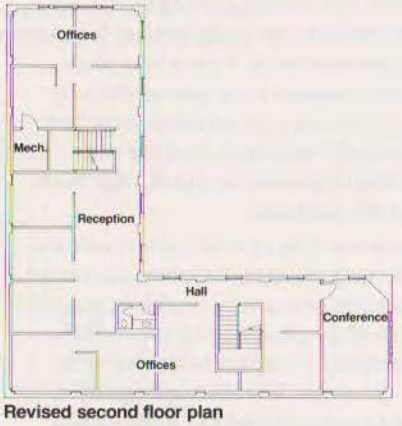
Upstairs conference room.

Entrance oriented toward one-way traffic on Lavaca Street.

Open work area under canopy.



Revised first floor plan



Revised second floor plan

with grey tinted glass set in a metal frame. Other exterior finishes of tan stucco and exposed original brick approximate the original color scheme, discovered only after several different layers and colors of paint had been removed. The original tile roof was restored to a state of good repair with matching tiles fortuitously acquired at a San Antonio junkyard.

Architecture, Landscaping, Interiors: Eugene George, AIA
Project coordinator: Kathy Livingston
Contractor: Whit Hanks
Mechanical-Electrical: Gerling-Thomas-Ward, Engineers

Schubert & Associates, Houston

Despite the extensive use of brick to create something of a residential character, and general attempts to make it "nice," Phillips Petroleum Company found out soon after opening a gas station near the edge of River Oaks in Houston that nearby residents wanted no part of it. The station's subsequent failure inured to the benefit of real estate broker Rick Schubert, who bought the property at 3951 San Felipe and converted the structure into company offices.

The half-acre lot is the perfect location for a firm dealing in River Oaks property, and happens to be passed daily by some 30,000 cars. In addition, Schubert is pleased by the ample parking and single-building identity which were both part of the package.

For about half of what new construction would have cost, Schubert converted the building into a very workable facility dominated by a large open area which was formerly occupied by grease racks and a car wash. The three garage door openings were enclosed as multi-paned bay windows which provide natural light for a large assortment of plants. Ceiling fans on high ceilings, antique furniture and wood floors complete the open area scheme. There is also an adjoining private office, and the glassed-in corner where customers once paid for their gasoline now serves as a reception area which, Schubert says, "lets people see us from the street."

Exterior modifications included enlarging the columns supporting the driveway canopy, snipping the protrusion of its overhang, substituting wood for aluminum trim and adding planters and landscaping.

Design: Rick Shubert
Contractor: Contemporary Interiors, Inc.

Before.

Richard Payne

After.

Richard Payne

Open-plan office.

American Savings & Loan, Houston

Before.

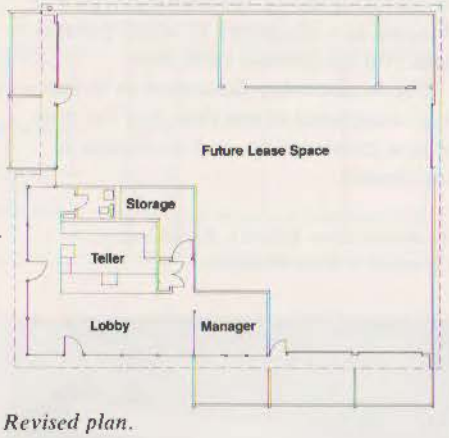
At least until the gasoline crunch began to take its toll, it was a virtual truism in Houston that the "good" corners were occupied by gas stations. It was just such a corner—at San Felipe and Post Oak Lane—that attracted American Savings & Loan when Conoco went out of business there several years ago. American acquired the property for a branch office and, due to budget constraints, pursued the adaptive reuse option.

Architects Barker and Greene removed the canopies and added plywood facia and sunscreens. Garage openings were enclosed and then concealed with cedar screening. Business area, manager's office and ancillary spaces occupy only about one fourth of the roughly 3,000-square-foot building, leaving the remainder as future lease space.

Architects: Barker & Greene
Interiors: Evans Monical

Richard Payne

After.



Revised plan.

Larry Paul Fuller

Teller counter.

Larry Paul Fuller

View toward manager's office.

Montgomery's Used Books, Lubbock

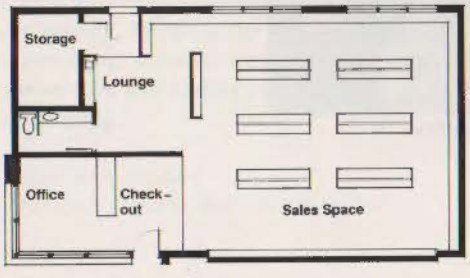
The gas station at 4156 34th Street in Lubbock had been abandoned for three years before present owner Lonie Montgomery purchased it—because of its low cost and high-volume traffic exposure—for conversion into a used bookstore.

Lubbock architect Don Kittrell, of ArchiCenter, selected new materials for their compatibility with the existing stone masonry. Both the interior and exterior color schemes consist of neutrals with accents of deep blue. For heating and cooling economy, the high ceiling of the former service area was lowered. However, the high band of garage windows so characteristic of the building type was retained as a clerestory to admit natural light into the present sales area.

The business has flourished in its setting, completed at less than half the cost of new construction, and expansion is anticipated.

Architect: Don Kittrell, ArchiCenter
Contractor: Don Bledsoe

Before.



Revised plan.

Kay Beard

After.

Kay Beard

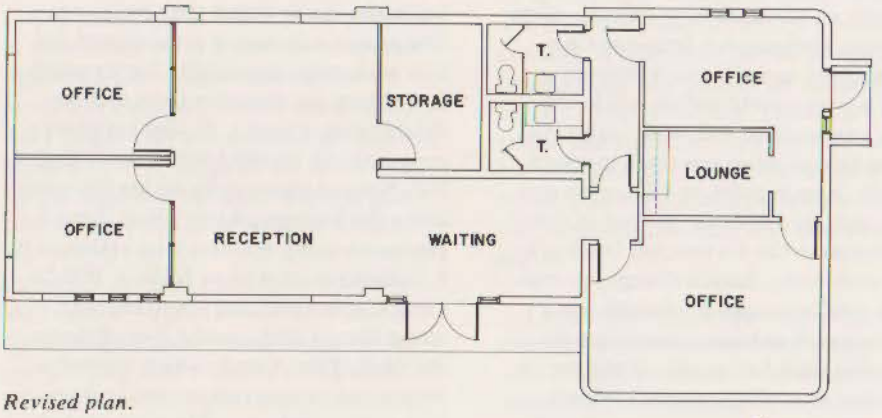
Sales space.

Pioneer Mortgage Company, El Paso

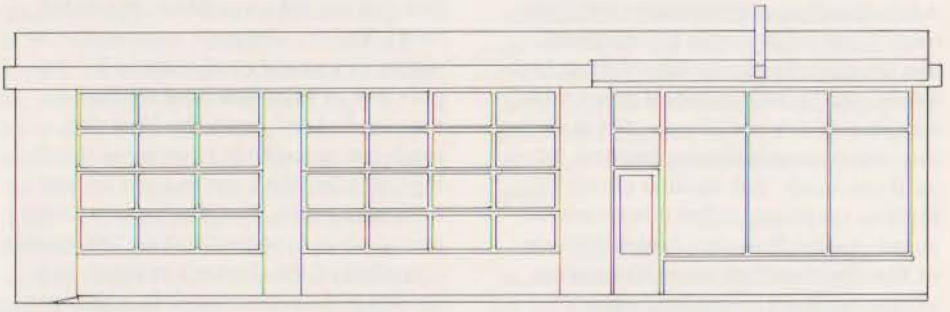
Client Bart Colwell saw the empty El Paso gas station on the corner of Montana and Kansas as a good investment. Architects Davis & Whelchel renovated the existing structure and designed an addition of about 50 percent more space. Upon completion in 1977, Colwell officed in the addition to the end of the existing structure and leased the renovated space to Pioneer Mortgage Company, which subsequently bought the whole building.

Although concealing the building's history was not a specific objective, the result looks less like its former self than most gas station renovations. A metal canopy across the front of the building unifies the existing structure, which was completely resurfaced with brown stucco to match new construction. Future plans call for another matching addition to the original structure.

Architects: Davis & Whelchel
Contractor: Bohannon & Dickerson

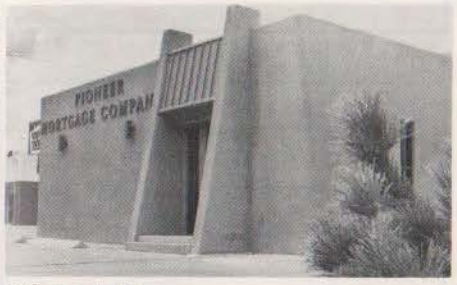


Revised plan.



Before.

Photos by Jon Davis



Side entrance.

Reception area.

After.

The Natural Urban Structure

Defining the Form of Human Settlements

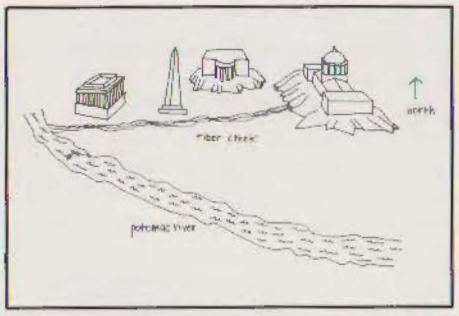
By Robin McCaffrey and Janet-Needham McCaffrey

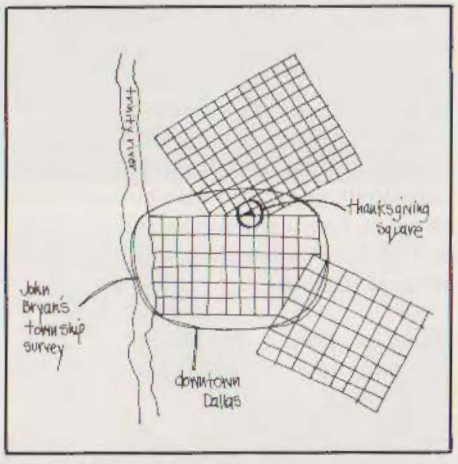
American travelers have become adept at making navigational decisions via a time-honored and reliable technique which is particularly well-suited to the nation's network of interstate highways. This technique relies less upon measurement of space in miles or kilometers and more upon the rhythmic passing of familiar landmarks like Exxon and Stuckey's. Such landmarks, despite changes in vegetation, landform and/or climate, are a recurring and perhaps reassuring testimony that what lies on ahead will not be too unlike that which was left behind. Adept travelers can recognize their proximity to an urban center by being sensitive to an increasing density of these landmarks, and by recognizing a predictable sequence of urban artifacts such as commercial strips, subdivision housing, etc.—until ultimately that familiar cluster of highrise buildings, called downtown, becomes visible. Does this comprehension of the city constitnte an understanding of how we build human settlements? . . . Hopefully not.

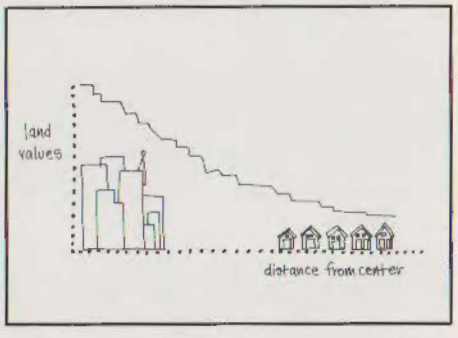
Although artifacts of our built environment are certainly components of urban form, as are artifacts of the natural environment (e.g., trees or hills), one cannot really define the essence of a place by simply itemizing the artifacts one sees. This approach to urban form would only recognize increasing similarity in human settlements without revealing the essential characteristics of distinction—an apparent shortcoming of urban form theories which view the city through some organic or mechanical metaphor. Further, one cannot define form by simply observing the sequence or juxtaposition of components as, again, the only conclusion is one of similarity. Such is an apparent shortcoming of urban form theories which view the city as an economic entity.

While artifacts may be similar from place to place, the way people perceive the landscape in which they build conditions not only how it is developed but also what remains unbuilt. For example, in 1790, under direction from George Washington, Pierre L'Enfant surveyed a proposed site for the United States Capitol. Natural topography within this area, along the Potomac River's East Branch, presented many features later reflected in L'Enfant's capitol plan. Jenkins' Hill became Capitol Hill and low-lying land along Tiber Creek, a tidal inlet, became the Mall. Tiber Creek, which created a strong east/west axis between Jenkins' Hill and the Potomac River, resonated with L'Enfant's baroque inclinations, resulting in a major axial element for his plan and an organizational element for the city. In later years, the Mall was made less susceptible to seasonal flooding and L'Enfant's vision came to fruition. As a result, Washington is not only a product of baroque thinking but equally a product of the thinker's reaction to a landscape he encountered. It is this reaction to natural landscape, while less obvious than artifact, that remains a point of differentiation amid an increasingly homogenized urban fabric, and thereby the essence of urban form.

Physical similarity from place to place is not a new phenomenon but the gradual product of a history of homogenizing influences which undermine regional differences (physical and social) in how we build human settlements. A mid-19th century love affair with Greek Revival, as one of the first national architectural styles, resulted in a deluge of public, educational, commercial and domestic buildings which emulated (to some degree) a Greek temple. Consequently such mid-19th century buildings as the Boston Custom House, Girard College (Philadelphia), New York Custom House, and the Tennessee State Capitol bear this similarity.



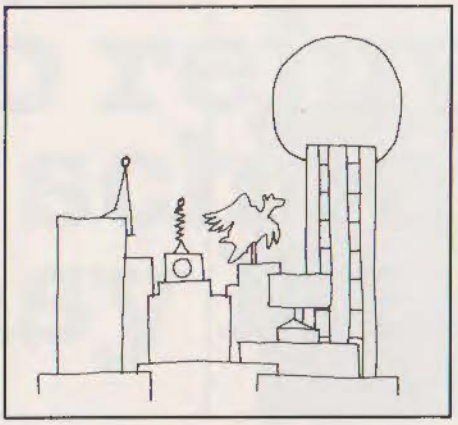




Sketches by Janet Needham-McCaffrey

Style further became a primary means by which speculators made the American frontier marketable. After all, those who came west looking for the "good life" were not, by and large, romantics out to redefine their lifestyle but hardcore realists looking for what remained beyond their grasp back home. Therefore, the frontier was not where the "West began" but where the East ended and the architectural appearance of young cities like Dallas bore a striking similarity to Chicago or New York. However, the landscape in which these artifacts were placed remains a point of differentiation. Envisioning Dallas as another Memphis spread before the Mississippi, John Neely Bryan (founder of Dallas) similarly related his township survey to the neighboring Trinity River. This concession to the Trinity created an awkward confluence with other previous surveys which today is seen in awkward street intersections and oddly shaped pieces of property within downtown Dallas. These in turn account for subsequent traffic flow and street adjustment decisions as well as location of various office/commercial buildings and public open spaces.

Since the days of Greek Revival, the ubiquitous use of one architectural style after another bas been a significant agent in shaping urban settlements. This is particularly true of such packaged response to our need for space as contemporary highrise buildings. Cast in concrete or sheathed in glass, the profile of downtown America remains reliably redundant. This similarity is commonly viewed as the result of economic pressures which demand greatest built density where land values are highest. Thus downtown being of greater value, due to its central location, and fringe areas being of lesser value, due to their distance from center, results in a highrise/lowrise distribution from downtown to suburb which is recognizable in virtually every American city.

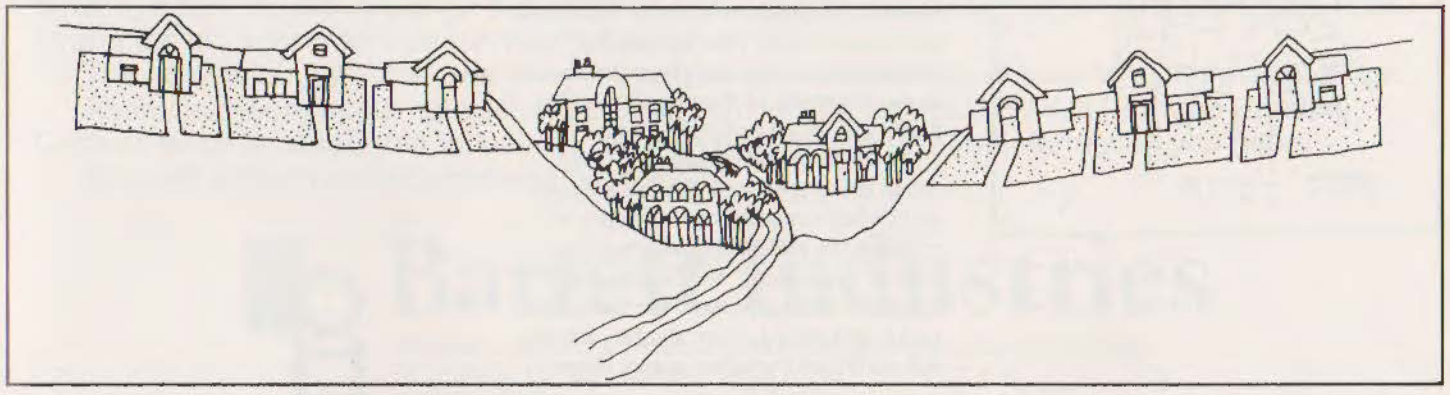


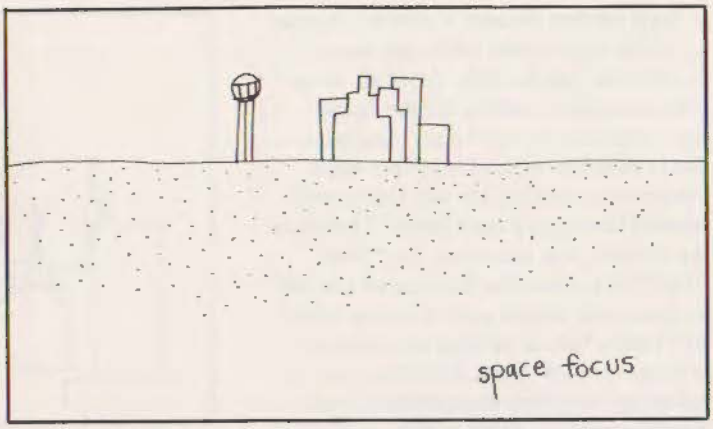
The landscape in which these patterns of economics occur generates eccentricities which economics alone do not explain. For example, downtown Dallas visually reigns over a prairie setting and can be seen from 25 miles away. As a result, tightly clustered highrise buildings compete not only for an expanding office market but also for visual prominence on the urban skyline. Therefore, buildings are topped by radio towers or immense signs which are sculptural forms by day and brilliant light displays by night. A newcomer to the Dallas skyline and one which perhaps eclipses its predecessors is a 50-plus-story, concrete shaft which supports a revolving restaurant and other recreation facilities. The shaft itself is without use except to support the restaurant and, while privately built as part of the Reunion Hyatt Regency development, is billed as a landmark for downtown Dallas. It is as if height were an accoutrement of urbanism that is necessary for any self-acclaimed metropolis to be recognized as one. Certainly height is seen not only as an economic but also a visual means of defining center. Projects like Rockefeller Center (New York), Charles Center (Baltimore), Renaissance Center (Detroit) and Penn Center (Philadelphia) are a testimony to this association between height and concept of center.

Topographic changes in the Dallas landscape are seldom rises in landmass but more often are depressions resulting from the many streams and creeks which gently flow to the Trinity River and the foot of downtown. Being hydrologic phenomena, these channels are associated with variations in soil and resulting variations in vegetation as well as wildlife. They are hidden convolutions in the urban fabric which conceal not only dramatic natural changes but also changes in building type and socio-economic character. A seemingly endless suburban grid of streets lined with small frame houses will be quietly interrupted by a creek channel. Within this channel the grid breaks down and houses are suddenly faced in brick or stucco. Houses are also larger and and more stylized with such embellishments as tile roofs. Thus, a different landscape has stimulated a different perception of space and how to settle within it.

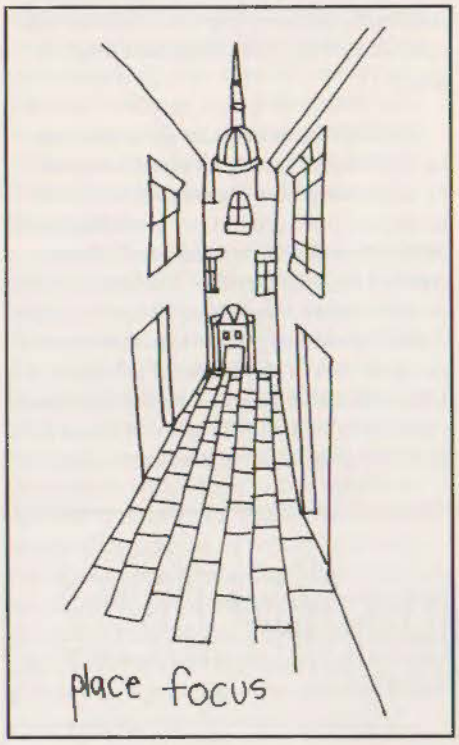
Landscape/builtscape associations can also be observed in the more typical urban fabric of Dallas. The sweeping vastness of the Southwestern prairie seems to have instilled a need, on the part of those who built/build Dallas, to compete with this natural expanse. Hence developments of immense scale and preponderous engineering have become characteristic of the one-dimension landscape.

A compulsion to make an impression on the natural setting can be illustrated by examining how Dallas presents itself in picture postcards. After perusing local postcard racks, certain regional characteristics become obvious. Cards seem to portray the encompassing of space rather than pinpointing place. One often-seen image is that of the Dallas/Ft. Worth International Airport, cited for its almost inconceivable size. The airport flings its gangly legs over 27-plus square miles of





what was previously farm land. Another postcard image is the Dallas Convention Center, with its central exhibit space measured in football fields. Such representations are passed off by many as "Texas brags," along with cartoon postcards of a cowboy riding a Texas jackrabbit or a Texan buying a Cadillac for this friend who "did pay for the lunch." However, this portrayal of size can be viewed as a reaction to the horizontality of the land rather than a mere desire to always be the biggest. The prevalence and symbolism of these large-scale building complexes reinforces the theory that a vast landscape yearns for vast built statements upon it.



The idea of a space-focusing environment versus a place-focusing one may at first seem unclear, but it is what prevails in the spread cities of the Southwest. If we follow the postcard experiment in an older, denser city like Boston, the place focus becomes clear. Glossy cards portray familiar historic sites such as Bunker Hill and Old North Church. One has little trouble calling up a mental portrait of this classic American city as a composite of these colorful sites. In a newer, sprawling city like Dallas, a distinct image is harder to grasp—not only because of newer, more homogenous architecture but also due to the scale at which it is viewed. One's whole concept of the city is that of a mosaic of vistas viewed against the ever-present backdrop of downtown. Essentially, the feeling is that of a slow-motion circumscription of architectural models surrounded by green lawns and scale-perfect trees.

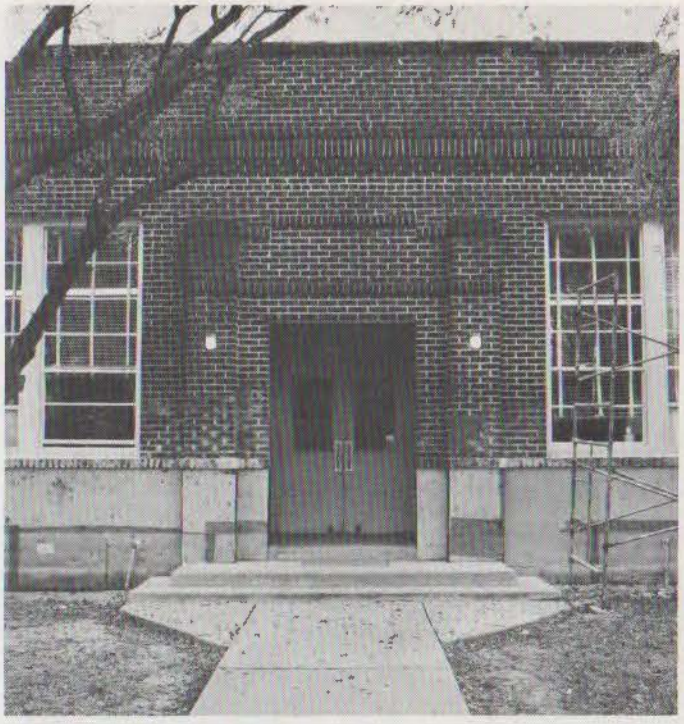
Another postcard aspect reinforcing the place/space orientation is that in the space emphasis many views presented are aerial, a scale which defies human relationship but begins to define itself as an integral part of the natural landscape. Boston's most familiar viewpoint is anything but aerial—it is instead winding, narrow brick streets lined with highly articulated row houses. This vantage point creates a seemingly endless urban fabric, a city composed of well-worn channels and pathways which afford few street-level vistas. The "spread city," by contrast, is so often seen from a distance as an outgrowth of the raw prairie that placing limits on its form is easy.

As development spreads out from urban centers, becoming more homogenous, what yardstick can we apply to measure the different qualities of our built environments? We have begun to point out some aspects of the landscape that might afford a new slant to the casual analyst of the urban scene. Form seems to be distinguished not by artifacts, which are increasingly similar, but by a continuity of each individual area with its own geologic context—a continuity which is reflected by a reciprocity between people and the landscape they encounter.

Robin McCaffrey and Janet Needham-McCaffrey live in San Antonio where Robin is a principal planner for the City and where they both practice as planning consultants under the firm name Needham/McCaffrey, Associates. Both received Master of City Planning degrees from M.I.T. and worked for the City of Dallas Planning Department where Robin was head of Dallas' Historic Preservation Program until 1976. Janet, who is a lecturer at the UT-Austin School of Architecture, has exhibited graphic work at the Cooper-Hewitt Museum in New York and the Dallas Museum of Fine Arts.

How to rejuvenate an old school, in one easy lesson.

Before:



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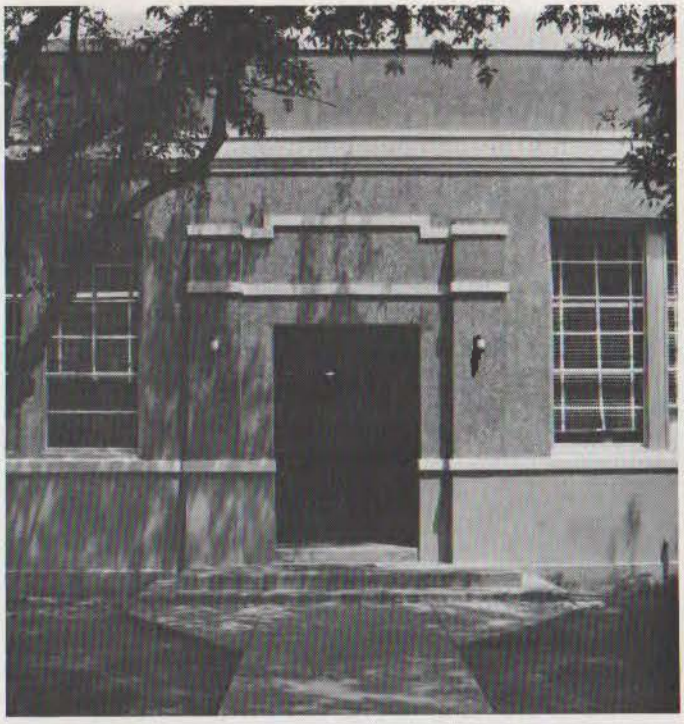

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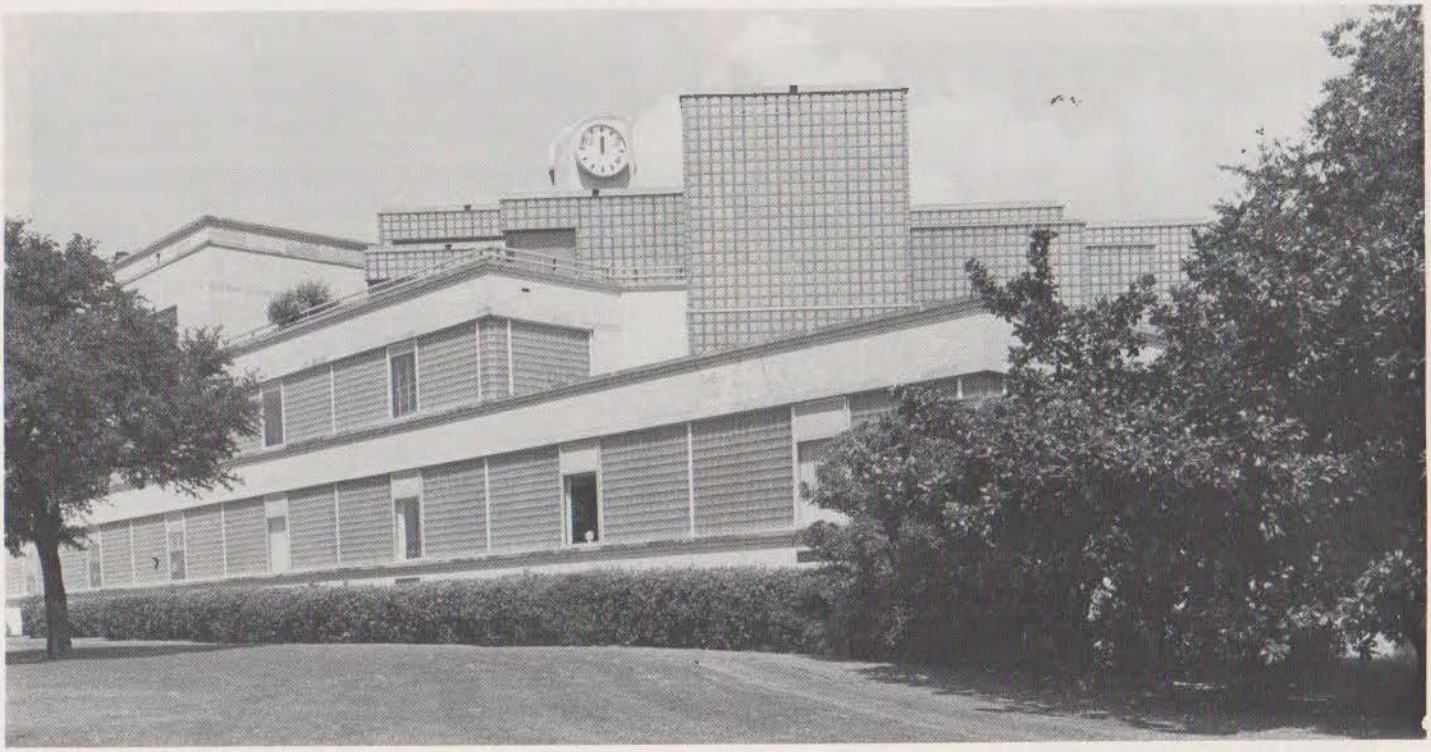
Dr Pepper Addition

Dallas Headquarters Expanded and Updated with Glass

Craig Kennedy



Design Award
Texas
Architecture
1978

The spreading popularity of its product over the years and the concurrent growth in operations called for the international soft drink company to expand its Dallas headquarters, a 1947-vintage "wedding cake" design of brick and glass block. Dr Pepper Company wanted a 15,000-square-foot addition placed on the top floor of the existing building to allow for the future renovation of the entire floor. Also, the addition should "update" the company's image as well as its headquarters facility.

Architects in the Dallas firm Environmental Space Design responded to those criteria with twin 7,500-square-foot additions on the east and west roofs of the existing building. This approach was to provide the company's chief executive officers with identical office areas adjacent to executive offices with which they needed close communciation. To allow for future renovation of the top floor, plans call for the wall in the existing building which is contiguous with each addition to be removed, creating one office environment with a continuous flow of space and traffic throughout the old and new portions of the building.

To blend new with the old on the exterior, as well as to establish a translucent "lightness" of scale, the skin of the additions is glass block, erected in 12-inch by 12-inch hollow glass masonry units, with bronze solar filter screens sandwiched within each unit. Bronze windows and clerestory units were placed to satisfy the psychological need to "see out," and exterior gardens were created on existing roofs to be visible from the

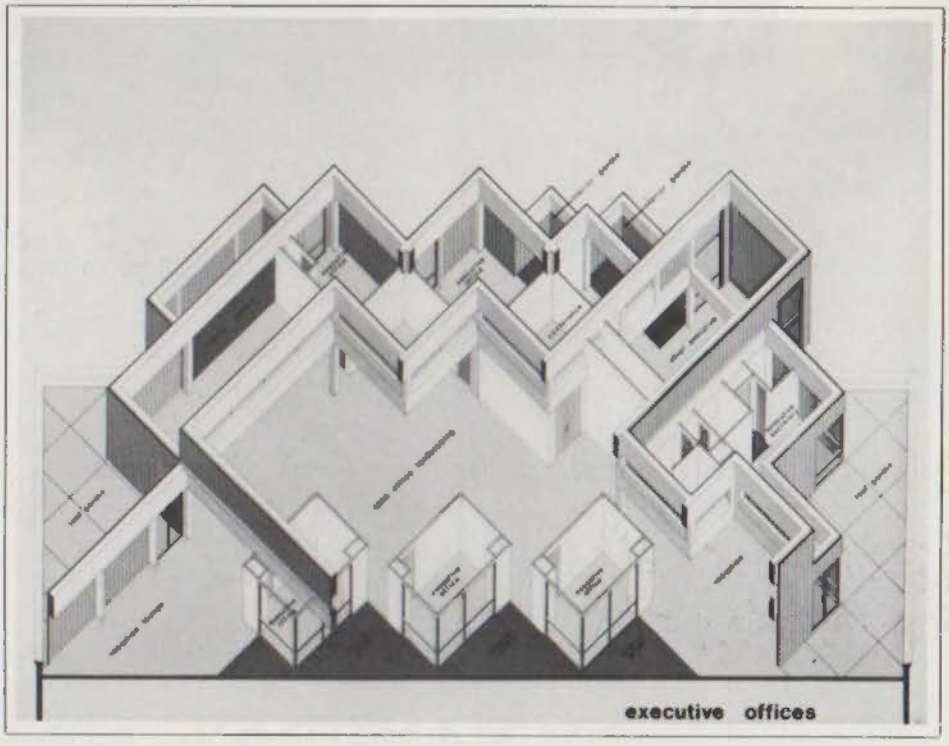
Middle-management offices.

two new executive reception areas and accessible from the new chief executive offices.

To create a spatial transition from old to new, and a pleasing marriage of exterior architectural forms, the additions are turned 45 degrees to the existing building. This variegated form is further accentuated through articulation of roof heights on the new additions, creating a variety of spatial volumes inside.

The interiors of the additions are used mainly by middle-management personnel in open-plan office areas, with views toward enclosed landscaped gardens with glass-block walls and roofs. Remaining space contains private offices which view additional skylighted gardens along what had been the original building's exterior wall. These garden areas also are intended to provide transitional spaces when the old building wall is removed for renovation.

Isometric section of one wing of the addition.



Ralph Kelman, partner-in-charge.

Executive office.

Architects: Environmental Space Design, Dallas
Structural Engineers: Datum Structures Engineering, Inc., Dallas
Contractor: Hyatt Cheek Builders, Engineers, Dallas

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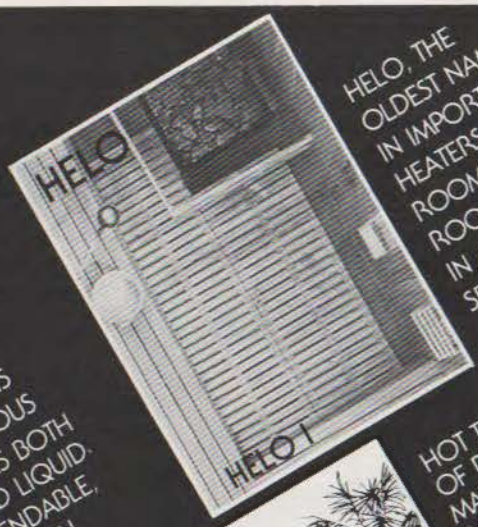

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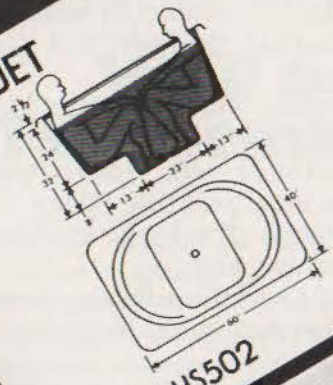

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Continued from page 19.

Summer Academy students on field trip to Luckenbach.

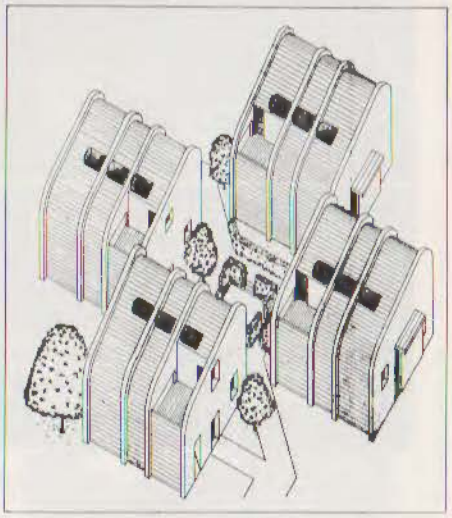
efficient methods to train and educate architects?

"We've always assumed that it takes at least five years, at rock bottom," says Larry Doll, assistant professor of architecture and academy director. But Doll says the quality of student work in UT's first summer program, in which 24 juniors and seniors in high school from across the state learned in six weeks essentially how to design a house, suggested that there could be more efficient ways of teaching architecture after all.

It wasn't exactly comparable to a semester at the *Ecole des Beaux-Arts*, but the summer academy did introduce participants to the fundaments of, among other things: design, massing, structural systems, climate limitations, drawing and architectural history. Students lived in campus dorms, attending classes in the morning and applying their morning lessons in design studios in the afternoon. (The ongoing problem was to design a residential facility for the Joe C. Thompson Conference Center at UT-Austin utilizing the "cellular design" approach: starting with an individual unit, then moving on to a cluster of dwellings, then to the design of the site as a whole.)

"Some of the best designs were as good or better than solutions you see in undergraduate design studios," Doll says. "Of course, the problem was a basic one, and most of the designs lacked the sophistication you would see in architecture school. But considering the level the students were on and the amount of knowledge they brought with them, the results overall were very good, more than our expectations."

Prerequisites for participants were their high school status and letters of recommendation submitted along with their applications. Doll, who based the



Cluster oblique by Andy Klemmer.

summer academy on a program at Cornell University where he taught in 1975, sent flyers to high school guidance counselors statewide announcing the program, then solicited full and partial scholarships for needy applicants to cover the $800 tuition. As it turned out, Doll says, the program was a success *despite* the fact that the flyers were not posted in many cases, and scholarship money was hard to come by. At least 25 students accepted for the program couldn't attend due to the lack of financial aid.

Intended also to encourage minority enrollment at UT-Austin's School of Architecture, "to put this place in their minds," Doll says, the academy ultimately was made affordable for many of the applicants by the City of Austin's Manpower Training Office, Pasadena's Comprehensive Employment and Training Act (CETA) office, and scholarships from Mr. and Mrs. George Mitchell of Houston and Jose Guerra of Austin.

The program also provided an interesting model for a new architect-client

relationship, Doll says, one in which the architect is retained as an expert to "teach" basic design theory to the client —not merely to enhance the client's appreciation of architecture but to enable the client to enjoy more input in the design process.

Conceding that that may sound a bit professionally "subversive," Doll emphasizes that he firmly believes in the way architecture is formally taught today, both the methodology and duration of the process. His interest, he says, is in merely "demystifying" the discipline, "describing what one does when one designs architecture."

"Parts of the design process will always remain intuitive, those aspects that are difficult to label or describe," he says. "But what can be shown should be. Telling the people what we do can broaden the client base, promote user participation in the design process and enhance the prestige of the discipline, not detract from it."

Doll says plans are in the works for a 1980 Summer Academy, for which he hopes to arrange more scholarship assistance for needy applicants. For more information, interested persons may contact Larry Doll, School of Architecture, The University of Texas at Austin, Austin 78712.

Charles Estes Appointed Department Head at A&M

Charles Edwin Estes has been appointed head of the Department of Architecture at Texas A&M University's College of Architecture and Environmental Design, effective Aug. 1.

Estes is formally vice president of the Houston firm Caudill Rowlett Scott.

Noguchi Sculpture Installed at SMU

A 12-foot sculpture by internationally-known artist Isamu Noguchi was installed in late August at Southern Methodist University's Meadows School of Art in Dallas.

The twisting pylon of black basalt, mounted on a stainless steel column, symbolizes SMU's Algur H. Meadows Award for Excellence in the Arts, established last fall in memory of the late

Dallas art parton and benefactor.

Placed in the central court of the Art School, visually framed by three-story granite columns, the sculpture is designed to provide a focal point for the school's entrance, as well as reflect the artist's expressed interest in "integrating art into an environment."

The sculpture is being purchased through a joint grant from the Meadows Foundation and General American Oil Company of Texas.

A limited edition cast miniature of the work will be given annually, along with a $25,000 cash prize, to the recipient of the Meadows Award.

Texas Architecture Students Receive AIA Scholarships

Five students from three Texas schools of architecture have been awarded a total of $5,700 in scholarships in the American Institute of Architects/AIA Foundation Scholarship Program for 1979-80.

David A. Alvidrez of El Paso and John D. Mittnacht of Philadelphia, both students of architecture at Rice University in Houston, were recipients of $600 and $1,000, respectively.

At the University of Texas at Arlington, architecture student Mary O. O'Donnell of Arlington received a $1,500 scholarship.

And UT-Austin students Robert P. Howell of Texarkana and John Sheridan of Meeker, Colo., were recipients of $1,000 and $1,600 in AIA scholarships.

The AIA scholarship program, generated through endowments to the AIA fund and donations to the AIA Foundation, annually assists promising students in accredited first professional degree programs in the United States or in programs recognized by the Royal Architectural Institute of Canada.

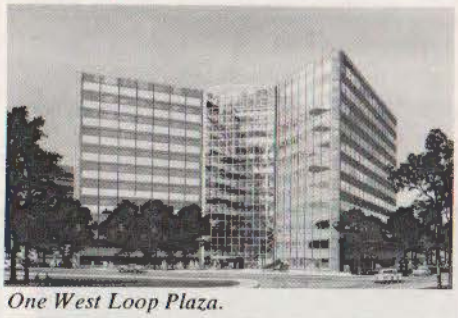
Awards, ranging this year from $500 to $2,000, are based on the AIA Scholarship Committee's evaluation of each student applicant's academic record, on financial need, and on recommendations by deans or department heads. Professional applicants' scholarships are based on proposals for study or research beyond the first professional degree.

This year's program awarded a total of $98,500 in scholarships to 76 students and one architectural educator from 49 accredited U.S. and Canadian schools.

Projects in Progress

Pei-Designed West Loop Plaza Under Construction in Houston

Now under construction on Houston's West Loop is phase I of a $100 million office complex "West Loop Plaza," designed by I. M. Pei and partners of New York.



One West Loop Plaza.

The 11-story, 287,000-square-foot "One West Loop Plaza," scheduled for completion in December 1979, is the first of three buildings in the complex which ultimately will contain a total of 1,200,000 square feet.

According to the developer, Houston-based HN Properties, Ltd., the location of the complex, east of the Loop, north of Westheimer and south of San Felipe, in the center of Houston's "Magic Circle," is directly opposite the Galleria development and will provide tenants with the "prestige and exposure" of the Galleria without the traffic congestion.

The U-shape design of One West Loop Plaza results from joining two triangular-shaped structures by a full-height atrium. The floor plan creates 10 corners per floor, with each floor lobby opening onto the atrium.

The building is clad in silver reflective glass and taupe-colored aluminum in 12-foot by 12-foot panels. The atrium is fronted by clear glass mounted in a space frame with a roof of silver reflective glass to reduce glare.

Energy conservation measures include northward positioning of the atrium, large floor areas, low building height, reflective glass and a variable air volume mechanical system.

Associate architects for the project is the Houston firm Richard Fitzgerald & Associates.

Victoria Women's Clinic Underway

Construction is now underway on the Women's Clinic, the first of several

buildings to comprise a new medical office park at the corner of Laurent and Retama Streets in Victoria.

The 12,500-square-foot obstetric and gynecology clinic was designed by Koetter, Tharp, Cowell & Bartlett, the architectural division of the Houston firm Lockwood, Andrews & Newnam (LAN), to fit in harmoniously with an adjacent residential development.

To identify its main entrance, the one-story clinic is accentuated by a two-story, glass-enclosed lobby and waiting area with a sloping roof. From the lobby, patients will be taken through a glass-enclosed corridor to a second waiting room overlooking a landscaped courtyard. Here, preliminary testing will take place and patients will be prepared for the treatment rooms nearby.

Women's Clinic.

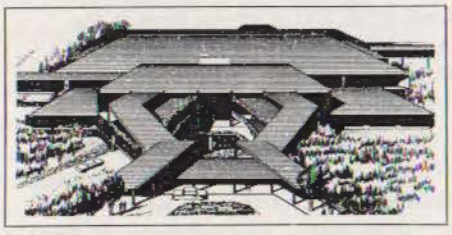
The initial phase of the project is designed to serve eight doctors and their patients. Future expansion will make the final shape of the clinic a pinwheel, with facilities radiating from a common courtyard, to accommodate 16 doctors.

Covered parking and private entrances to consultation offices will be located at the rear of the building for the convenience of the doctors and each office will open onto a green area surrounded by an enclosed courtyard.

The $1 million project is scheduled for completion in July 1980.

Harrington Cancer Center Soon to be Underway In Amarillo

As a first step in providing comprehensive cancer care for individuals in the five-state "High Plains" area, groundbreaking is scheduled for early September for the Don and Sybil Harrington Cancer Center in Amarillo, scheduled for completion in early 1981.



Harrington Cancer Center.

The $5.5 million project, designed by New York architect Paul Rudolph and associate architects Wilson-Doche of Amarillo, is intended to provide an ambulatory setting and a multidisciplinary approach to cancer care. The center will include a radiation therapy section, clinical suites for treatment of adult and pediatric patients, and facilities for cancer education, social services, administration and pharmacy. Space also is planned for the Panhandle Regional Tumor Registry and the American Cancer Society.

Located on a 3.73-acre site within the 400-acre Amarillo Medical Center Complex, the cancer center will be physically linked to the new Northwest Texas Hospital and the Academic Health Center of Texas Tech University's School of Medicine.

Tandy Center Hotel Complex Planned for Downtown Fort Worth

Plans were announced in July for a 508-room luxury hotel and convention complex in downtown Fort Worth, designed by 3D/International of Houston.

Tandy Center Hotel.

The 14-level Tandy Center Hotel will cover a three-block area bounded by Main, Second, Throckmorton, First and Weatherford Streets at the north end of Fort Worth's central business district. The complex will cross over Houston street, allowing traffic to move under an 18-foot-high opening in the building. A linear mall atop the "overpass" will join the two units on the second level, affording a broad view of the downtown area to the south and providing access to a 1,000-seat ballroom in the west unit as well as "prefunction rooms," coffee shops and other facilities on the second level.

The first three levels of the hotel will include two main entrances off second street (one in each block), lobby, night club, bars, meeting rooms, covered outdoor swimming pool and a health club.

The trapezoidal shape of the hotel is to provide a compatible counterpoint to the existing Tandy Center office and retail complex to the west. A sloping east end is intended to scale the building down to relate to Main Street activity, and the generally low and linear design of the complex as a whole is to conform with the scale of surrounding downtown buildings. Exterior walls will be of cast-in-place, reinforced, architectural-finish concrete and solar grey tinted glass.

The complex is scheduled to open in mid-1981.

Books

Architecture and You: How to Experience and Enjoy Buildings. William W. Caudill, FAIA; William M. Peña, FAIA; and Paul Kennon, FAIA. Whitney Library of Design, New York, N.Y., 176 pages, $16.50.

As the title implies, the authors—all principals of the Houston firm Caudill Rowlett Scott—have combined text with 280 black and white illustrations to show how to perceive and appreciate a well-designed building. According to the publisher, the book is designed to "take the mystery out of architecture by defining various types of buildings and showing how skillfully designed spaces and forms respond to your needs."

Topics include: why a building was designed the way it was, how buildings are evidence of how a society deals with its problems, how buildings affect behavior, and the role of technology in architecture.

Directory of Architects for Health Facilities. American Hospital Association (AHA), Chicago, Ill. 49 pages, $9.60 prepaid for AHA members, $12 prepaid for non-members.

This 1979 edition is published as an aid to administrators and governing boards of health care facilities in selecting professional assistance for building projects. Two sections of the book include information on architectural firms with experience or special interest in the health care field. An alphabetical section lists each firm's name, address of principal office, telephone number, maximum average number of personnel, volume of business, percentage of work in health facility projects and the location of branch offices.

Mexican Architecture: The Work of Abraham Zahludovsky and Teodoro González de León. Paul Heyer. Walker and Company, New York. $25.

Paul Heyer, adjunct professor of architecture at the Pratt Institute in New York, has assembled a study of the work and philosophy of two of Mexico's leading new-generation architects. Illustrated with photographs, drawings and plans of their projects.

News of Firms

Gensler and Associates, Architects, has announced the appointment of William O. Smith as director of interior design for the firm's Houston office, and the promotions of Richard A. Logan, Robert L. Kirkendall and Bud L. Luther to senior associates, and Jane E. Gustafson, Forrest A. Liles and Linda Cavazos to associates.

C. Dee Warren & Associates has announced the relocation of its offices to 1770 St. James Place, Suite 630, Houston 77056. Telephone: (713) 840-9905.

Austin architect Charles W. Croslon, Jr., has announced the formation of his firm, **Charles W. Croslin, Jr., Architect,** 1509-A W. Sixth St., Austin 78703. Telephone: (512) 474-6610.

Unica Design, Inc., Houston, has announced the expansion of its services to include the "full scope of architectural practice" and the relocation of its offices to 2600 Citadel Plaza Dr., Suite 504, Houston 77018. Telephone: (713) 869-0813.

Houston-based **3D/International** has announced the following appointments of personnel: Gilbert W. Thweatt to director of the architecture division; Marcus Tucker to director of the architectural design department; L. Herbert Rather to director of the architectural production department; George R. Thompson, Charles E. Burgess and Stanley S. Smith to principals-in-charge, project directors; and Dale E. Willingham to manager of the architectural graphics department of the graphics division.

TMHI, Houston, has announced the addition of Karunamoy Bose to its architectural design staff.

The San Antonio firm **O'Neill-Perez & Associates** has announced the relocation of its offices to 615 Soledad, Suite 304, San Antonio 78205. Telephone: (512) 227-4181.

Dallas architects Stephen O. Nall and Floyd I. "Skip" Brown, Jr., have announced a change in their firm's name to **Nall-Brown Architects/Interior Designers,** 1144 Campbell Centre One, Dallas 75206. Telephone: (214) 369-9799. They have also announced that Thomas P. Huch and G. Gregory Jones have been named associates in the firm.

The Dallas firm KRH Architectural Associates has announced the incorporation of the firm and a change in name to **KRH Architectural Associates, Inc.,** 7800 Banner Dr., Suite 122 L.B. 22, Dallas 75251. Telephone: (214) 661-3722.

The Fort Worth firm **Geren Associates** has announced the promotions of James E. Burckhard, Jeffery C. Kalista and Randall M. Loftis to associates in the firm.

Denton architect James R. Kirkpatrick and Bryan architect Marion O. Lawrence, Jr., have announced the formation of their partnership **Kirkpatrick/Lawrence and Associates,** with offices at: Suite 518, First State Bank, Denton 76201. Telephone: (817) 387-8182; and Suite 319, BB&L Building, Bryan 77801. Telephone: (713) 822-4412.

Smith and Russo, Associated Architects and Engineers, Corpus Christi, has announced the relocation of its offices to the Old Nueces County Courthouse Annex Building, 1123 N. Mesquite St., Corpus Christi 78401. Telephone: (512) 883-1984.

Lovett Sellars McSpedden Gober, Fort Worth, has announced the appointment of John E. Short as associate and the addition of Patrick F. Rogers to the firm as project architect.

Youngblood Associates, Houston, has announced the relocation of its offices to 1120-H, Bay Area Blvd., Houston 77058. Telephone: (713) 488-5333.

CM Inc., Constructors/Managers, Houston, has announced the election of Francis G. Whitcomb to president and chief operating officer and the promotions of Ted H. Dwyer, Jr., Samir A. Nabilsi and D. J. Richards to senior managers.

Kinetic Systems, Inc., Houston, has announced the promotion of four division coordinators: Steve Lochte, architectural design; Jan McCleary Dyal, interior design; Sharon Tooley, graphic design; and Larry Mertz, scale model division.

Charles R. Sikes & Associates of Houston has aunounced the addition of architects Richard W. Jennings and Frank S. Kelly as principals in the firm and a change in the firm's name to **Sikes Jennings Kelly, Architects and Project Consultants.**

Skidmore, Owings & Merrill in Houston has announced the appointment of Richard Keating as general partner and Edward Thompson, Raymond Kuca and Robert Halvorson as associate partners.

Indnstry News

Gingerbread Revival

Since it opened shop last year in Quinlan, about 40 miles east of Dallas, Vintage Woodworks has seen its product well-received in this age of detailed restoration.

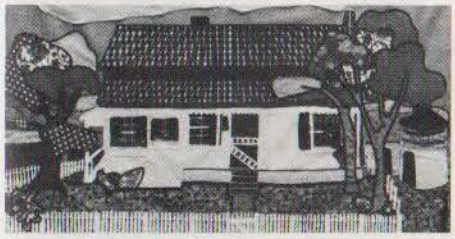
Advertising a complete line of Victorian gingerbread, "heretofore seldom obtainable in this century," owner and craftsman Gregory Tatsch bases the designs on vintage pattern books, and on his knowledge of the craft as an architectural antique collector.

The scrollwork is cut from pine and shop-sanded. Although Tatsch does much of the work himself, he contracts a lot of it out to area craftsmen in an effort, he says, to maintain a low-profile, cottage industry operation, "to go with my looking-back-at-the-past approach."

Vintage Woodworks, Drawer R-1,

Quinlan 75474. Telephone: (214) 356-3667.

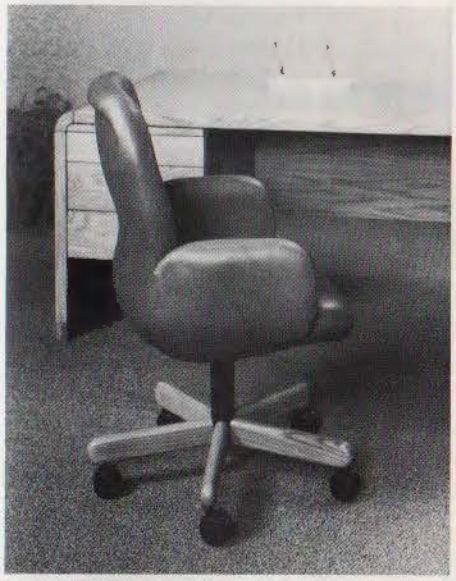
In Brief . . .



House portrait by John Shown.

John Shown of San Antonio will do a "portrait" of your house-sweet-house in the form of a three-foot by four-foot appliqué stitchery, working either from photographs or sketches he makes himself on site. Cost is $250. John Shown, 422 Blakeley, San Antonio 78209. Telephone: (512) 828-7515.

Introduced at the NEOCON show in Chicago this summer, a new line of chairs designed by **Kimbell International** on the principle of "ergonomics" (the "study of man's relationship to his physical environment," according to designers of the series) is now available from some 90 Texas distributors. FOCUS I, created by the Kimbell design staff and designer Earl Koepke, comes in 15 models, all "designed to react to and support the spinal column no matter what the working position," and to adapt "to a wide variety of body shapes and sizes." For the Texas distributor nearest you, contact: Kimbell International, Inc., 1549 Royal St., P.O. Box 460, Jasper, Ind. 47546. Telephone: (812) 482-1600.



Focus I "ergonomic" chair.

"Beautiful Woods" table.

Fort Worth furniture wholesaler **Castelbury-Held,** with showrooms both in Houston and Dallas, has introduced a new collection of table bases made from 100-year-old grapevines. "Beautiful Woods," heat processed and fastened with steel dowels for strength, are available with a finish that preserves the natural color of the vines, or they can be custom color-toned. Bases can be purchased separately or with glass tops in any specified size and shape. Castelbury-Held, 390 Decorative Center, Dallas 75207. Telephone: (214) 748-8826. Houston: 2914 Virginia St., Houston 77006. Telephone: (713) 528-6388.

American Wood Products in Fort Worth now has available a new wood in wall paneling called "Amazone," from Indiana sliced-wood and lumber manufacturer Chester B. Stem, Inc. American Wood Products, 1923 W. Vickery, Fort Worth 76102. Telephone: (817) 335-2661.

Wallpapers Inc. of Houston has announced the formation of a Dallas-based **Wallpapers Inc.** to serve the North-Central and West Texas wallcovering market. According to president Greg Thompson, the move will bring some 65 lines of contract, commercial and residential wallcoverings to the Dallas area. Vice president of the Dallas company will be George McCauley. Wallpapers Inc. of Dallas, P.O. Box 31318, Dallas 75231. Telephone: (214) 739-2490.

The Houston firm also has announced the appointment of Jerry Cobb as Wallpapers Inc. sales representative for Austin, San Antonio and the Rio Grande Valley area. Cobb can be contacted at P.O. Box 10053, Austin 78766. Telephone: (512) 836-9305.

Walter Carpets in City of Industry, Calif., has announced the appointment of Tom Walker as marketing representative in the company's Dallas district. Walker will represent Walter Carpets in Dallas, Fort Worth, and East Texas.

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Skotty Aluminum Products Co., Irving, has announced the introduction of its Series 1400 Weathertight Insulator Single Hung Window, which features a polyurethane thermal barrier to help prevent condensation on the interior frame and to minimize heat gain or loss. Skotty Aluminum Products Co., 2100 Union Bower Road, P.O. Box 798, Irving 75060. Telephone: (214) 438-4787.

Appointments

Peña Named To University System Board of Directors

William M. Peña, FAIA, senior vice president of the Houston firm Caudill Rowlett Scott (CRS), has been named to the Board of Directors of the University System of South Texas, the Governor's office has announced.

Nationally known as an architectural planner of college and university campuses and facilities, Peña is a frequent lecturer at architectural schools across the country and is the author of numerous books and articles on educational planning, programs and facilities.

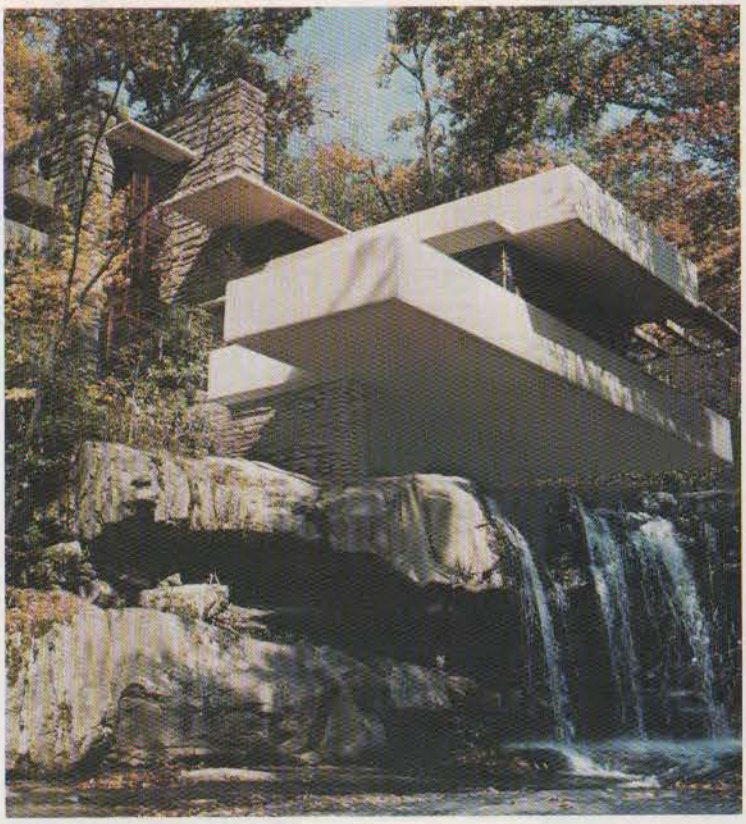
Tharp Appointed To Governor's Committee

B. Caroll Tharp, director of construction documents and services in the Houston firm Lockwood, Andrews & Newnam, Inc. (LAN), has been chosen to serve on the Architectural, Transportation and Communication Barriers Subcommittee of the Governor's Committee on Employment of the Handicapped.

The purpose of the subcommittee is to enhance public awareness of the barriers often posed to the handicapped in architecture, transportation and communication, and to help eliminate those barriers.

Tharp, a member of TSA, also is past president of the Houston Downtown Optimist Club and the Construction Industry Council of Houston and is cur-

We put the finishing touches on Frank Lloyd Wright's masterpiece.



Despite the concerned and diligent efforts of the Western Pennsylvania Conservancy, decades of intense weathering and constant exposure to water had taken a heavy toll on Frank Lloyd Wright's famous "Fallingwater". A five-year-old coat of paint was blistered and peeling, and much of the concrete was pitted and spalled.

Because of its artistic and historic value, restoration architects Curry, Martin and Highberger took the absolute strongest corrective and protective measures possible. They specified that Thoro System Products be used throughout.

After sandblasting, contractors Mariani and Richards brought the surface back to its original form with Thorite, a non-slumping, quick-setting patching material (mixed with Acryl 60 for enhanced bonding and curing).

Then the entire home was covered with Thoroseal. Thoroseal is harder and more wear-resistant than concrete, 100% waterproof, and bonds so tenaciously that it becomes an actual part of the wall. Permanently locking out moisture and dampness.

To match the original architects' color specification, a coat of Thorosheen masonry paint was applied over the Thoroseal.

An ounce of prevention and a pound of cure.

We're Thoro System Products, and when it comes to restoring or protecting an architect's designs in masonry and concrete, we've been doing it better and more often than anybody else for over 65 years.

For further information, write, detailing your specific needs.

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rently president of the Montgomery County Historical Society.

Martin Appointed To Arbitration Association

Austin architect Bill Martin has been appointed a member of the American Arbitration Association, headquartered in New York. He will be serving as a panelist for the association in cases which require opinion on construction project disputes and involve settlement by arbitration.

Martin is a principal in the Austin firm Wilson Stoeltje Martin, Inc., a past president of TSA's Austin chapter and a former TSA director.

Clements Announces TBAE Appointments

Gill.

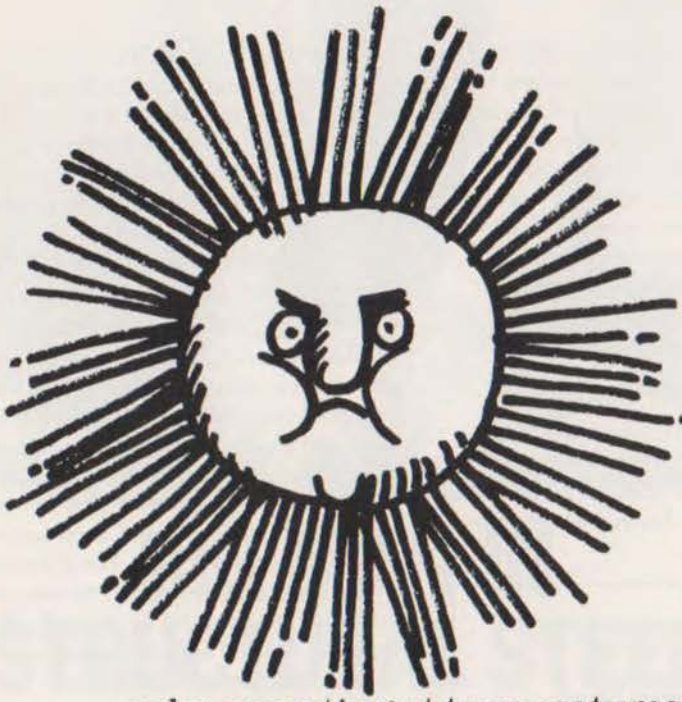
Hesson.

Gov. Bill Clements has announced the appointment of Round Rock architect Raymond A. Gill, Jr., and San Antonio architect Paul A. Hesson to six-year terms on the Texas Board of Architectural Examiners (TBAE) to replace outgoing board members Bill Cantrell of Lubbock and Howard Wong of San Antonio, whose terms have expired.

Gill is principal of the Round Rock firm R. Gill & Associates. He is a graduate of the University of Texas at Austin School of Architecture and a member of AIA and TSA. He also serves as a commissioner on Round Rock's Downtown Preservation Committee.

Hesson, a resident of New Braunfels, is a partner in the San Antonio firm Hesson and May Associates. He is a graduate of the University of Minnesota with a bachelor's degree in architecture and, also a member of AIA and TSA, is past president of the TSA San Antonio chapter.

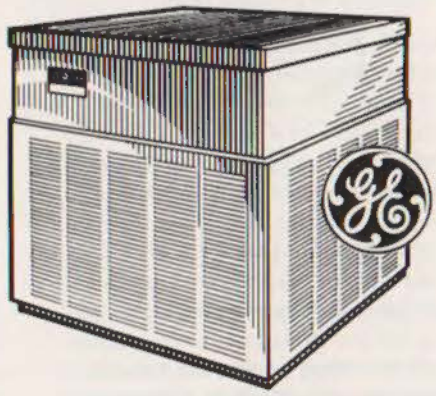
Today's forecast: freezing rain followed by 125 degree heat.



At the General Electric Product Development Laboratory in Tyler, Texas, General Electric Air Conditioning and Heating systems are constantly being tested under the most extreme weather conditions we can duplicate.

The durability and reliability tests, for example, involve operating at temperatures ranging from 45° below zero to 125° above! We also put them through 30 mph winds and fog worse than anything London can dish out.

Why? Because we ship to places as diverse as Iran and Canada. And, since we don't know which units are going where, we build all of them the best way we know how.



We don't say extreme weather condition operation is representative of all units. But, we do want you to know that the information we learn from these tests goes into every unit we make.

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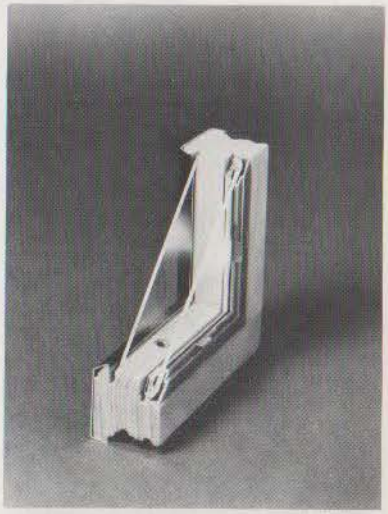
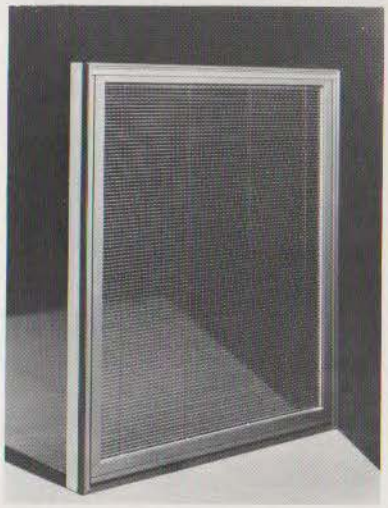
Whether building or renovating, you want windows that –

cut energy costs

Pella's Energy-Tight Double Glass Insulation System has a full 13/16" dead air space between panes — provides maximum insulation at lowest costs. Tight-fitting wood construction and wind-proof weatherstripping make it truly Energy-Tight. Insulating glass also available.

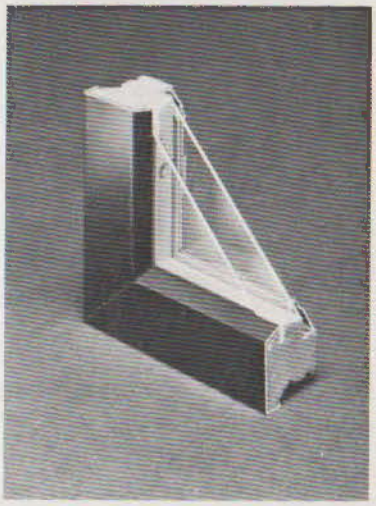


Pella's optional Slimshade® fits in the dust-free space between the panes of the Pella Double Glass Insulation System and provides privacy and light control at the touch of a dial. Helps reduce heat loss and solar heat gain, as well.



cut maintenance costs

Pella makes a full line of wood windows specially engineered for easy washing of outside glass from inside. Cleaning expense is reduced and any extraordinary maintenance that may be required, such as sash removal and reglazing, is easy and economical.



Pella offers a tough aluminum cladding in attractive colors outside — the warmth and beauty of wood inside. Aluminum exterior is cleaned, etched and coated with a high-temperature baked acrylic polymer. It won't chip, crack, or peel.

Only the Pella package delivers it all!

FREE catalog! For more detailed information send for your free copy of our 28-page, full color catalog on Pella Clad Windows & Sliding Glass Doors. Or look in the Yellow Pages under "windows" for the phone number of your Pella Distributor.

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Our New Look

By now, at this point in the magazine, our regular readers will have noticed that this issue features a dramatic change in typography and format, the most comprehensive since the May/June issue of 1973, whose appearance was heralded as "a bright, new face" for TSA's official publication. With this issue, the 1979 Editorial Policy Committee (EPC) and the *Texas Architect* editorial staff introduce another new face for *Texas Architect*, designed by Dennis Felix, AIA, head of the Graphic Design Group at Caudill Rowlett Scott (CRS) in Houston and one of the newer faces on the EPC.

Since joining the committee in January, Felix continually has proposed various changes in the magazine's look and feel. (His duties at CRS include not only total environmental graphics for the firm's hotel, bank, hospital, school and office-building projects but also the firm's print graphics—brochures, books, exhibit panels, project report manuals and presentation analyses.) His input culminates with this issue, put together in *charette* at CRS offices in Houston, where Dennis layed out virtually the entire issue in two days under the anxious scrutiny of Editor Larry Paul Fuller and Associate Editor Michael McCullar.

At this end, the EPC, the magazine staff, and Dennis Felix are pleased with our new look, achieved primarily through uniform typography and consistent adherence to a new grid system which provides more white space. And we hope that our readers and advertisers will also be pleased. If you are, and even if you aren't, let us know about it. And, in general, please don't hesitate to express your opinions about architectural issues or the way we address them.

Dennis Felix, AIA.

The Federal Penitentiary, Alcatraz Island, California, originally constructed of brick masonry: completed 1909; evacuated 1963.

"Okay, it's durable. But design-wise, it's too confining."

There is no myth to the durability of masonry buildings. Lasting examples are everywhere.

Before, to get that durability, you had to accept imprisoning design restraints, and base your concepts on intuition.

Today, technology has released masonry buildings from the shackles of thick, massive bearing walls. Your creativity is freed to explore composite structural systems, panelization, or loadbearing masonry.

The exoskeletal nature of loadbearing masonry virtually eliminates duplication of support and finishing components common to other building systems, which can mean less initial cost.

And, thanks to its inherent thermal lag properties, masonry costs less to heat and cool. And less to maintain and insure, meaning long-term savings for the owner.

So, before making the age-old mistake of writing off masonry as too confining, write us for the real truth. Contact Gregg Borchelt at the Texas Masonry Institute, (713) 629-6949. Or write P.O. Box 42097, Houston, Texas 77042.

Contributing cities include Austin, Corpus Christi, Dallas, El Paso, Fort Worth, San Antonio, Temple/Waco and Wichita Falls.

MASONRY, AN EXCELLENT PERFORMER IN MANY ROLES

Whether cast as an insulator, a fire protector, a load bearer, a sound tamer or a handsome leading man: Masonry performs well in many roles.

Masonry is able to insulate all buildings with a single bond.

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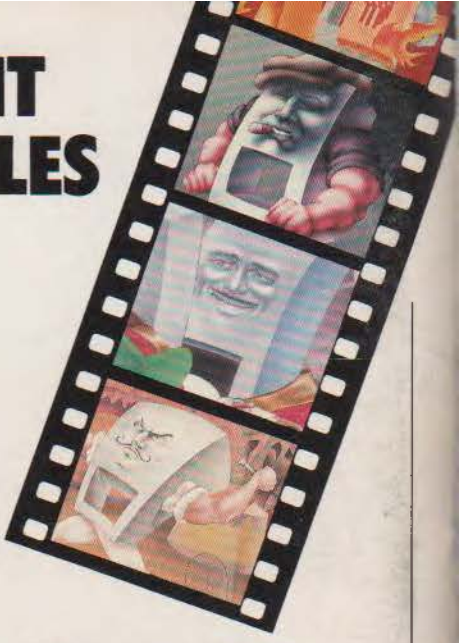
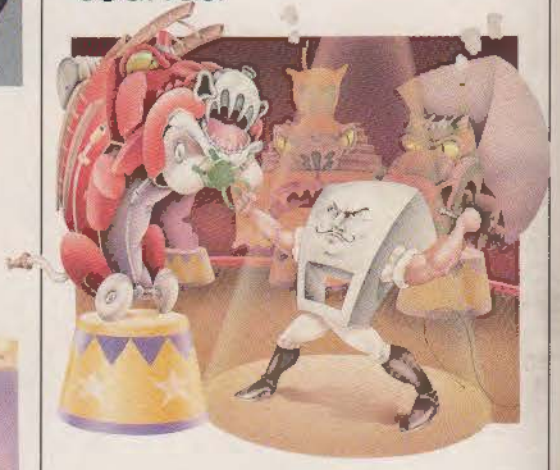


Masonry keeps the most ferocious sounds at bay and tames the wildest sounds.



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