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On the cover: Children's Museum of Houston by Jackson & Ryan Architects and Venturi Scott Brown Associates; photo by Lisa Carol & Paul Hester, Photographers/Fayetteville, Texas

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TEXASARCHITECT

7/8 1993 NEW TEXAS MUSEUMS



New Texas Museums

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Over a century ago, the first Texas museums were created to house collections of commercial decoration and political memorabilia. The fine arts came later, with the first civic museums built in Dallas, Houston, and San Antonio in the 1910s and 1920s. Today's new Texas museums are big business, housing everything from expanding public art collections to ships and planes. *By Willis Winters*

From Hines to Eternity

44

Texas connections played a pivotal role in the 1970s, when Philip Johnson and his partner John Burgee worked with Houston developer Gerald Hines to revolutionize the world of big-time real estate. By the early 1990s, however, Johnson was ready to settle down to his first love, architecture as art, as shown in the latest Texas commissions he has been designing. *Part two of a profile by Frank Welch, FALA*

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Second-class postage paid at Austin, Texas, and additional mailing offices. **Postmaster:** Send address changes to *Texas Architect*, 114 West Seventh, Suite 1400, Austin, Texas 78701. Phone: (512) 478-7386. Printed in the U.S.A.

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Architects and State Procurement

ARCHITECTS IN TEXAS will find much to praise and not a little to be apprehensive about in *Procurement Reengineering Project: Final Report*, a document released in May by State Comptroller John Sharp as part of his performance review of state-government operations.

Each year, the State of Texas through its various departments and agencies spends \$3.5 billion for goods and services, under a system of requisitions and approvals centralized in the General Services Commission. Intended to hold down costs to the state, the system has been, in Sharp's words, "needlessly costly, duplicative and time-consuming." Adds Sharp, "It's a system that breeds waste and makes our employees' jobs difficult and frustrating."

The Procurement Reengineering Project: Final Report, put together by a team from the Comptroller's Office, the General Services Commission, the state's Department of Information Resources, and the consulting company Deloitte & Touche, recommends decentralizing the state procurement process and giving individual agencies authority and responsibility over their own purchases through changes in state law and creation of an electronic purchasing network, with control functions moved from pre-purchase reviews to post-purchase audits. Along with this change, the report's authors propose to change the philosophy underlying purchasing decisions. The current philosophy emphasizes low bids for every purchase, to the exclusion of quality, functionality, service and other considerations.

The authors of the report suggest changing the emphasis for all state procurement decisions to quality, performance, service, and life-cycle cost, within a new procurement process that utilizes Requests for Proposals and other processes that would allow state agencies to gather and share information more effectively than they do now.

Architects in Texas would welcome such a change: The state's agencies are currently bound by the Professional Services Procurement Act (PSPA) to choose architects on the basis of qualifications, but the widespread philosophical attachment to focusing first and foremost on low bidders leads many agencies to circumvent or ignore the PSPA whenever they can. The *Reengineering* report suggests revamping all state laws affecting purchasing into a single code based on the quality-driven focus of the PSPA. Unfortunately, the report then suggests abolishing the PSPA, as unnecessary. While the people of Texas would be better served by a reworked state purchasing system, doing away with the law that provides the best model for the system seems like a very bad place to start. **Joel Warren Barna**

UPCOMING ISSUES:

We invite submissions to TEXAS ARCHITECT for all our upcoming issues. Scheduled issue themes for 1993 and 1994 include

NOV/DEC (deadline 9 Aug)

"New Churches for a New Decade"

This issue will focus on designing for the liturgical and logistical requirements of new churches, particularly for rapidly growing congregations.

JAN/FEB '94 (deadline 1 Oct)

"The Way Things Ought To Be:

Successful Collaborations across Professional Disciplines"

MAR/APR '94 (deadline 15 Dec)

"Design Trends in New Texas Housing"

MAY/JUN '94 (deadline 15 Feb)

"Buildings for Higher Education"

We also need stories about new architectural projects, interiors, historic preservation, urban design, zoning, mass transit and highway development, competitions, and education for our NEWS and SURVEY sections. In addition, we are looking for stories about innovations in technique and management for our SMALL PRACTICE ISSUES section.

If you can help with any of these topics, please call TEXAS ARCHITECT at 512/478-7386.

JWB

Letters

Paying for Public Housing

CONCERNING the closing paragraph of your "Editor's Note" column (*TA* Mar/Apr 1993) and Susan Williamson's News story ["House of Pain"] in the same issue, it appears that you as well as most media individuals feel the government should fund low-income housing. I feel a reminder that the government collects funds from the citizens might be in order. In a time that federal, state, and local budgets are consistently filled out in red ink, I think someone should ask where the money's coming from. Providing housing through this government bank account will not help. Instead, look toward private enterprise. The January 1993 issue of *Architecture* published several examples of projects funded privately in the California market, made profitable by cities needing low-income housing and willing to work with architects and developers.

So, you see, when a need exists, we must stop thinking that the government needs to solve it through spending and look instead to the entrepreneurial spirit that made this country great.

Rex L. Carpenter, AIA
HKS Inc.
Dallas

The White Budd Verdict

THOSE OF US who experienced first-hand the agony and frustration of "The White Budd Verdict" (*TA* Mar/Apr 1993) appreciated Jack McGinty's article on the case. Overall, the article reasonably summarized the issues of this case. There are, however, several other points from our perspective [as litigants] that should be of additional interest to architects.

1. Following the Texas Supreme Court's rejection of our appeal due to the length of the brief rather than the merits of the case, the case was appealed to the U.S. Supreme Court on the basis that WBV had been denied due process. Unfortunately, the case was not one of the very small number selected to be heard by the court.

2. Contrary to the implication of the article, there was, in fact, a creditable, well-qualified licensed architect who served as our expert witness and who testified on our behalf as to the role of the architect and the standard of care.

3. The jury's finding of "unconscionable actions" was based on the plaintiff's allegation that WBV knowingly approved tile that was not suitable for the intended purpose. It should be noted that it was the owner and contractor who initiated the proposal to substitute "C-tile" in lieu of the specified

material and that the manufacturer represented that the tiles were, in fact, suitable for the intended use. Unfortunately, both the manufacturer and the tile subcontractor went out of business after installation, and thus were not available to the case.

4. Finally, as additional items on what we can all learn (or re-learn) from this case: a. Jury findings are often unpredictable, and; b. There can be no such thing as too much documentation in our dealings with contractors, manufacturers, and clients—particularly in identifying for our clients the risks associated with the decisions they make.

We would also like to recognize the Texas Society of Architects; the Consulting Engineers Council of Texas, Inc.; the Texas Medical Association; the Texas Pharmaceutical Association; and the Texas Civil Justice League for their support in this case.

Raymond L. Beets, Jr., AIA
Principal, Budd Beets Harden Kolflat
Houston

The Capitol Extension

EVERYONE associated with the Capitol Extension and Restoration project (*TA* Mar/Apr 1993) is to be commended. We must include Allen McCree, FAIA, for his contributions that eventually led to the development of the master plan and approval of the project.

John M. Davis, FAIA
The University of Texas System
Austin

Rangergate

IT WAS with great relief that I read Joel Warren Barna's "Rethinking Rangergate" (*TA* Jan/Feb 1993). For too long, the architectural community has been silent in the face of the erosion and abuse of the profession by those who see us as a ready target for quick lawsuits, as an expendable commodity that can be discarded when the budget does not "allow" for design, as the first on the list of those who will not receive compensation when a job goes sour, or, as in this instance, as a quick and ready dupe for a cynical PR scheme.

As an intern architect who was involved in the Texas Rangers stadium competition (as part of the Lawrence Speck/Page Southerland Page team), I saw the amount of time, effort, and money that a firm pours into such an effort. Now, as principal of a graphic arts/environmental graphics firm, I can also see that competitions do not have to involve the wholesale bankruptcy of firms but can be truly based on the merits of a firm's work.

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"Letters," continued from page 6

The Graphics Arts Guild (GAG) has published guidelines for competitions that disapprove of creating work on "speculation"—i.e., specifically for a competition without financial remuneration for the work performed. Perhaps the AIA should create similar guidelines, stating that competitions should be based on submitted portfolios for an initial cut, followed by a final round with a stipend for firms involved. The men and

women of the firms involved in the Rangers competition, who gave up weeks for something they believed in, the firms that spent tens of thousands of dollars on materials and labor, and the profession, which needs no further economic drains on its already tapped membership, could only benefit from such guidelines.

Eric Josowitz
Zero•G
Austin

THANK YOU for the story on the Capitol Extension. Your article was well done, and the photographs [by Joe C. Aker, Houston] were fabulous. We are currently raising money for the Capitol and Extension furnishings, and want additional copies with which to show donors how beautiful the Extension really is.

Dealey Herndon
Executive Director, State Preservation Board
Austin

3

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News

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AUSTIN Plans for a downtown art museum appear to be revived after years of problems.

Then there were two 13

SAN ANTONIO The Alamodome invites comparisons to its predecessor, the Astrodome.

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DALLAS A lawsuit may save the historic Dr. Pepper building and could set a national precedent.

Downtown Enterprise 17

AUSTIN The city has approved a downtown management organization funded by a tax on property owners.

Dallas does design 18

DALLAS Fourteen projects were honored at the chapter's design-awards competition.

A Remarkable Rebirth

AUSTIN Although plans for a downtown art museum in Austin are apparently back on track, questions have been raised about the city's use of a design completed seven years ago by Venturi Scott Brown Associates of Philadelphia. The city owns the design but it was prepared for another site, says Ann Trowbridge of Venturi Scott Brown, and questions of cooperation between the city and Venturi regarding adaptation of the design to the new site have not been worked out.

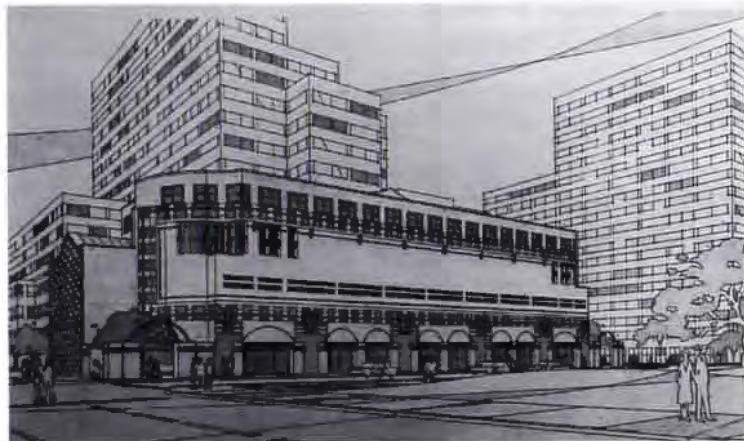
In 1983, plans were made for a city-funded museum to be built on land donated by Watson-Casey, a development company then planning a large mixed-use development in the warehouse district at the southern edge of downtown. Laguna Gloria Art Museum, a private museum established in 1946 and housed in a West Austin mansion, would operate the new museum. Venturi Scott Brown designed a three-story, 25,000-square-foot building composed of lineal galleries and circulation spaces similar to that subsequently used in several of Venturi Scott Brown's museum projects, including the Seattle Museum of Art (1989), the Sainsbury Wing of the National Gallery in London (1991), and the Houston Children's Museum (1992, see "New Texas Museums," page 36).

In 1985, Austin voters approved a \$14.7-million bond issue to fund design and construction; the city began selling some of the bonds in 1986. But Watson-Casey did not survive the real-estate bust of the late '80s, and the lender who ended up with the property couldn't agree on terms with city officials. In 1990, the city council voted to kill the project.

In the intervening years various ideas for spending the bond money were proposed, including the possibility of a new museum on the nearby University of Texas campus. But the bond issue had specified a downtown museum on donated land, so that idea was abandoned. In 1992, apparently conceding the death of the downtown plan, Laguna Gloria hired Lake/Flato Architects of San Antonio to prepare a masterplan for the museum's existing West Austin campus.

That planning process, which is continuing, was to include a new, smaller gallery addition as part of the program.

But even then museum board members were working to forge alliances with the George Washington Carver Museum and the Mexican American Cultural Center, impoverished but politically well-connected Austin arts groups. Early this year, the groups announced their joint backing for the project, rechristened the Austin Museum of Art, which Laguna Gloria would operate, and which would give exhibition space to the other groups. The Meadows Foundation, they said, had donated



Venturi Scott Brown Associates' design for a downtown Austin museum may finally be realized seven years after it was completed.

\$370,000, approximately half the money needed to buy land from the Union Pacific Railroad a block south of the original site. In late April, the city council voted to lend the groups the rest of the purchase price.

Museum officials say that current plans are to use the design completed by VSBA in 1986, the plans for which are "in a drawer over at the public works department," according to Daniel Stetson, Laguna Gloria's director of two years.

The city has said it will sell the rest of the bonds when it is repaid the money it loaned the museum alliance for the land; Stetson says the board is confident it can raise the necessary funds. However, other details must be worked out before the deal is done—VSBA's design, construction contracts—and, for a project as troubled as Austin's downtown museum, those details may not be trivial.

Joel Warren Barna

Then there were two

SAN ANTONIO On May 15, Texas' largest indoor sports and convention center—the Alamodome in San Antonio, with room for 73,200 including temporary seating—eased into a week-long grand opening. Texas is the only state with two of these dreadnoughts: Houston's Astrodome, the original domed stadium, opened in 1965.

San Antonio's "dome" (actually it has a relatively flat, cable-suspended roof) endured some

hostile public opinion during its design. However, the much-predicted parking crisis has not materialized and snide comparisons to a dead armadillo or a barn have also faded once aerial views of the scale model gradually gave way to ground-level views of the actual building as it was constructed (see *TA*, Mar/Apr 1993).

The site's virtues are substantial. This is a surprisingly urban project, with mass transit



Douglas Pequeus Harvey



The Alamodome's most prominent exterior features are the towers that rise 300 feet at each corner. The towers are part of an innovative roof structure that

leaves the stadium's interior column-free. The roof is supported by cables attached to the towers and anchored to piers sunk 90 feet into the ground.

Curving bays of blue glass at each corner of the Alamodome and

along both sides provide visitors with glimpses of outdoors.

service and limited parking, on a tight site in the inner city rather than in a suburban "loop land." It is a short walk from the Alamo, the existing convention center, and the San Antonio Riverwalk. Its proximity to the Southern Pacific rail tracks and terminal even holds out the possibility of train service (high-speed or otherwise) someday.

Linked to the dome is a new VIA Transit Authority bus terminal underneath the plaza north of the stadium and adjacent to the historic St. Paul Square area. The terminal, dwarfed though it is by its neighbor, deserves mention, too. Although primarily a set of loading bays, still this is the first downtown transit terminal in the state. Ramps to the adjacent IH-37 were altered to enhance access to the

"Alamodome," continued on page 15

OF NOTE

Award for designing with wood
Paul DeGroot of Houston won the Grand Award in the 1993 Innovations in Housing Competition. The international competition, which recognizes creativity in residential design using wood products, is sponsored by the American Plywood Association, BETTER HOMES AND GARDENS, BUILDER, and PROGRESSIVE ARCHITECTURE. DeGroot, who works for Morris Architects, will receive \$10,000; his winning entry will be constructed and featured in BETTER HOMES AND GARDENS.

And also with brick

La Estrella Ranch House by Lake/Flato Architects of San Antonio (see *TA*, Jan/Feb 1992) was one of 11 winners in the 1993 Brick in Architecture Awards. The program, cosponsored by the American Institute of Architects and the Brick Institute of America, recognizes outstanding architectural achievement in brick. Lake/Flato's ranch compound is located in Starr County in South Texas.

And even with words

CITE: THE ARCHITECTURE AND DESIGN REVIEW OF HOUSTON has been awarded a \$29,500 grant from the National Endowment for the Arts. The grant will fund two issues: "On the Border," which will examine issues related to the Texas-Mexico border and "Outer Spaces," which will survey new developments on the peripheries of large, Southern cities. CITE is published by the Rice Design Alliance.

A Summer in Paris

Kimberly R. Kohlhaas, an architecture student at the University of Texas at Austin, is one of two winners of the Gabriel Prize, a \$15,000 award given annually by the Western European Architecture Foundation. The winners are chosen for their personal creativity and original work in design and drawing. As a prize recipient, Kohlhaas will spend three months in Paris pursuing architectural studies with the foundation's representative.

CALENDAR

"In the Realm of Architecture"

The first major retrospective to examine the work of Louis Kahn includes drawings, sketches, models, photographs, and artifacts. The exhibition's installation was designed by Arata Isozaki, with walls modeled upon Kahn's plans for an unbuilt Philadelphia synagogue. A series of lectures by Texas artists and architects is to be presented as part of the exhibition; it will include Donald Judd (July 3); Michael Benedikt (July 17); W. Mark Gunderson (July 31); David Lake (Sept. 11); and Gary Cunningham (Sept. 25). Kimbell Art Museum, Fort Worth (817/332-8451), JULY 3-OCT. 10

AIA Award Deadlines

Entries for the 1994 Honor Awards for Architecture program must be postmarked by Aug. 2; submission binders must be postmarked by Aug.

30. Projects can be anywhere in the world. Categories are design resolution or advancement; technical, societal, or environmental advancement; and/or preservation or restoration. Submission binders for the Twenty-five Year Award must be postmarked by Aug. 30. The award is given each year to a work of architecture that exemplifies a design of enduring significance. American Institute of Architects (202/626-7300)

Professional Development Seminars

The American Institute of Architects presents two seminars this summer in Washington, D.C.: "From ADA to Universal Design" on July 22 and "ConDoc" on Aug. 19. American Institute of Architects (202/626-7357)

"Public Address: Krzysztof Wodiczko"

A 20-year survey of the artist's work presents large-scale lightbox trans-

parencies of his outdoor projections as well as drawings and photographs of his projects. Contemporary Arts Museum, Houston (713/526-0773), through AUG. 22

Annual Conference on Lighting

The conference of the Illuminating Engineering Society of North America, to be held this year in Houston, will be an educational forum for professionals involved with design, specification, maintenance, and applications in lighting. Illuminating Engineering Society of North America (212/705-7269), AUG. 9-AUG. 12

"Painters of the Great Ming"

This exhibition of paintings from the Ming Academy of the 15th and 16th centuries portrays a range of traditional subjects of Chinese painting in a variety of formats. Dallas Museum of Art (214/922-1200), through AUG. 1

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"Alamodome," continued from page 13

terminal. It may prove to be the nucleus of a real transportation system.

The Alamodome provides an interesting counterpoint to the Astrodome (see *TA*, May/June 1990). At the time of its construction the Astrodome stood outside the domain of the city, on an empty prairie, surrounded by the world's largest parking lot.

The Astrodome brought the outdoors indoors. Its events had previously been outdoors: baseball, demolition derbies, Billy Graham's Crusade for Christ. At the same time, its planimetric roundness, its luminous roof, and its true dome profile all alluded to the historical meaning of domes as places of metaphysical import. It was a surreal and otherworldly setting that reshaped everything it held. It was larger than life.

But then the Astrodome's mission was different. It was a pioneering effort, a wild-cat well on the frontier of urban development by visionary civic plungers—Houston's latter-day Florentine princes. Unavoidably, it was a shot in the dark. Luckily, it hit the mark, and wound up redefining what it means to be a metropolis, to have vast ritual events, to gather for spectacles.

San Antonio's domicile is the product of more deliberative thinking, and the difference shows. It reflects a long local effort (led aggressively by former mayor Henry Cisneros, and eventually joined by most of the city's political and business leaders) to thrust San Antonio into the big leagues of American cities by putting up an assembly center that could not be ignored.

Years of debate led to concept proposals and detailed studies of existing domes and eventually to a well-understood strategy. The facility would aim at attracting those events that would catalyze the city's existing status as a tourist destination. The result is a civic "business" venture in the local tradition of public-private partnership. With that goal obviously in mind, the site and building program do as much to accommodate conventions as mass spectator sports.

In response, architects Marmon Mok and HOK-Sports Facilities Group and structural engineers W.E. Simpson and Company, Inc., have designed a *building* rather than another Astrodome. The arena is straight-forward, rectilinear, and strongly architectural. It has the character of a well-bounded meeting room—none of the Astrodome's sense of infinite interior space.

The difference in emphasis starts as the bottom—no dirt. In its place is a concrete floor with two NHL-specification ice rinks. No trac-

tor pulls here. The arena has a trade-show underfloor grid and the world's largest retractable-seating system. There are 30,000 square feet of conference rooms to support a major convention. From the concession promenades, visitors have panoramic views of Hemisfair Park and downtown. Unlike the Astrodome, which is every bit a world apart, this facility takes pains to stay in touch with the city's other amenities.

The Astrodome fulfilled its creators' wildest dreams. The Alamodome appears equally well equipped to do what *its* builders want: attract some of those redefined spectacles in order to redefine and enrich the city. Now the real test begins.

Douglas Pegues Harvey

Douglas Pegues Harvey is an architect in San Antonio.



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A Possible Reprieve?

DALLAS Hoping to save the historic Dr Pepper building in Dallas, the National Trust for Historic Preservation and the Historic Preservation League of Dallas were waiting as *TA* went to press for a ruling from the U.S. Court of Appeals in Washington, D.C.; they hoped the ruling would require the Federal Deposit Insurance Corporation to assess the historic value of buildings it owns and sells nationwide.



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Preservationists hope a lawsuit filed against the FDIC will keep the historic Dr. Pepper headquarters building from being demolished.

The suit was filed to keep the FDIC from selling the art moderne Dr Pepper headquarters (Thomas, Jameson and Merrill, 1948). The FDIC has owned the property, at the intersection of Central Expressway and Mockingbird Lane, since 1991. Preservationists' concerns were aroused when DalMac Investment Corporation, buyer for the property, applied for a demolition permit as part of the sale process. The permit was granted in March, but DalMac has since withdrawn it. DalMac has indicated that it intends to pursue commercial development of the property, a prime site on the city's planned light-rail line. The Dr Pepper building is eligible for listing in the National Register of Historic Places. It was the soft-drink company's headquarters from 1948 to 1986; its clock tower inspired the slogan, "Drink Dr Pepper at 10, 2 and 4."

Preservationists across the country are watching the Dr Pepper lawsuit carefully, according to Libby Willis of the National Trust's Fort Worth office. If the appeals court finds in favor of the trust, it could affect the future of the many historic buildings that have fallen into the hands of the FDIC.

The National Trust's lawsuit, filed in U.S. District Court in Washington, D.C., in early May, argued that, under the National Historic Preservation Act, the FDIC, as a federal agency, must do nothing that would adversely affect a historic site or building without giving consideration to alternatives that might save it. The FDIC claimed that it is not a government agency and is thus not bound by the preservation law. The request for an injunction to block the sale to DalMac was denied by the district court; the National Trust immediately filed an appeal and while that appeal is pending any sale or demolition of the building was blocked.

Susan Williamson

Downtown Enterprise

AUSTIN A group of property owners seeking to form a Public Improvement District (PID) in downtown Austin cleared a final hurdle on April 15 when the Austin City Council voted 5-2 to allow formation of the PID.

For years, downtown areas in many U.S. cities, including Austin, have seen a steady decline in living and working conditions. City, state, and federal governments, themselves beholden to increasingly suburbanized constituencies and tax bases, have shown little inclination to commit political or financial capital to central-city problems. Faced with these pressures, downtown advocates in many Texas cities have turned to state legislation, enacted in 1977, that establishes a process for the formation of Public Improvement Districts to address neighborhood funding needs by allowing property owners to place a special tax on their own property to raise funds for needed services. In Austin, the City Council approved an initial assessment rate of 8-cents-per-\$100 valuation for privately-owned downtown properties valued over \$500,000. PID revenues will be administered by a non-profit Downtown Management Organization (DMO).

In a 1990 study, a visiting AIA Regional/Urban Design Assistance Team strongly urged civic and political leaders to pursue the formation of a DMO/PID in downtown Austin. The recommendation of this eight-member team of architects and planners, along with the completion of Austin's downtown convention center, galvanized community support for the DMO concept.

The Austin DMO's first (partial year) budget of \$586,625 contains \$400,500 for the organization's three main service areas: security, maintenance, and promotion. A \$215,000 security allocation will be used primarily to hire and equip eight "Downtown Rangers" who will assist visitors and inform police of suspicious activity. The \$140,000 earmarked for maintenance will be used to purchase sidewalk-cleaning and graffiti-removal equipment and to compensate homeless individuals who participate in a "Scrub-Club" litter patrol. A \$45,500 marketing/promotion component will fund a public-relations campaign aimed at making downtown more appealing to Austin residents and employers.

While testimony at the April 15 public hearing was generally positive, some objections were raised, particularly from owners of properties in the \$500,000-to-\$1 million range, who criticized the PID's exemption of properties

valued at under \$500,000. These small properties, critics claimed, will enjoy virtually all of the benefits of the DMO without sharing in any of the cost.

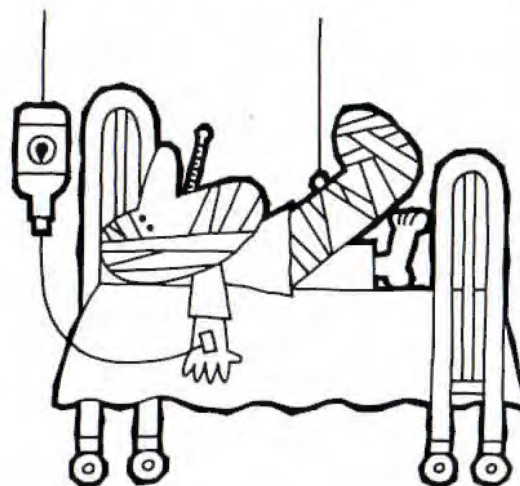
The City Council approval was the final step in a process prescribed by state law. PID backers were required to garner the support, demonstrated by petition, of owners representing at least 50 percent of the geographic area

and 50 percent of the assessed value of affected properties within the PID boundaries. While the PID will dissolve automatically after an initial five-year term, property owners may dissolve it earlier by following the same petition procedure used for its creation.

Mark Denton

Mark Denton is an Austin real-estate analyst and free-lance writer.

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Dallas does design

DALLAS Fourteen projects, including both built and unbuilt designs, were selected as winners in the 1993 Dallas Chapter/AIA design-awards competition. Jurors Bruce Kuwabara of Toronto, Enrique Norten of Mexico City, and James Stewart Polshek of New York City chose the winners from among 49 submissions.

The only project to receive an honor award was the Lebowitz Townhouses in Dallas by Lionel Morrison, FAIA, of Omniplan, Inc. Morrison also received a merit award for the Fidelity Bank in Dallas.

Other merit awards went to Good, Fulton & Farrell Architects for the Harris Adacom Technology Center in Irving (see *TA*, Nov/Dec 1992) and to Phillips/Ryburn Associates, Inc., for a Country House in Athens.

In addition, citation awards were presented to Cunningham Architects for the Cistercian Abbey Church in Irving (see *TA*, Nov/Dec 1992); to RTKL Associates for The Boulevard, a shopping mall in Las Vegas, Nev.; to Dan Shipley for 5501 Columbia, a non-profit arts center in a converted fire station in Dallas; and to Phillips/Ryburn Associates for its restoration of the Levin Residence in Dallas.

Awards were also presented for unbuilt projects. Merit awards went to Richard Ferrier, FAIA, for An Observation Tower; to Howard Glazbrook III, Architects for Residence, St. Croix, U.S. Virgin Islands; and to Good, Fulton & Farrell Architects for Park Cities YMCA-Preston Center Satellite Facility.

Citation awards in the unbuilt category went to Good, Fulton & Farrell for Laser Tech Color Corporate Headquarters; to Haldeman, Powell, Johns Consortium for Architecture for University Library Competition, Mexico City; and to HKS Inc. for St. Mary's Hospital Ozaukee, Port Washington, Wis.

The Republic Bank Complex was selected as the winner of the chapter's 25-year award. The multi-building complex includes the Republic National Bank Building designed by Harrison & Abramowitz of New York, with Gill & Harrell



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of Dallas, completed in 1954; and the Republic Bank Tower by Omniplan Architects/Harrell + Hamilton of Dallas, completed in 1964. *SW*

Top left: Lebowitz Townhouses by Omniplan, Inc., winner of an honor award

Center right: Fidelity Bank, Dallas, by Omniplan, Inc.

Top right: Harris Adacom by Good, Fulton & Farrell Architects

Right: Republic Bank Complex, by Harrison & Abramowitz with Gill & Harrell, and Omniplan Architects/Harrell + Hamilton, winner of the chapter's 25-year-award

Center left: Country House, Athens, by Phillips/Ryburn Associates



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The Case from Hell

LAWSUITS involving construction projects are often long and complex, but this was one for the record books.

In the spring of 1991, a jury in San Antonio, in a case involving a leaky nine-story bank building, returned a verdict that delved into arcane interpretations of contract law, including the meaning of certain parts of the AIA's A201 agreement.

The verdict marked the end of a trial that all concerned had come to call *The Case from Hell*, a legal treadmill, involving a relatively insignificant amount of damages (\$878,000, plus interest of \$340,000), that generated huge legal fees (\$1.375 million to the plaintiffs' attorneys and a comparable amount to the attorneys for the defendants), and that lasted long enough for one of the jurors to conceive and bear a child, for two others to fall in love and marry, and for another juror to retire from his job. When the trial was over, the defendants (the bonding company for the contractor, who had gone bankrupt before the trial) appealed, meaning that the legal fees will eventually be even higher by the time final resolution is reached. The architects involved, by the way, settled before the trial began.

The heart of the case, as it affects architects, was this: The building's curtainwall leaked. The contractor had installed the curtainwall without first performing the mock-up testing required by the architects' specifications. The architects, despite knowing that the testing had not been done, had nevertheless certified that the construction was satisfactory in a series of applications for pay to the owners from the general contractor, including the certification for final payment. After the building opened, the owners (two banks) sued for damages.

The general contractor's bonding company refused to pay, however, on the grounds that the owners had made both periodic and final payment to the contractor with knowledge that the construction was defective. The basis of this claim by the defendants was that the architect's certification of the contractor's pay applications constituted ratification by the *owner* of the defective work because the architect was an agent of the owner.

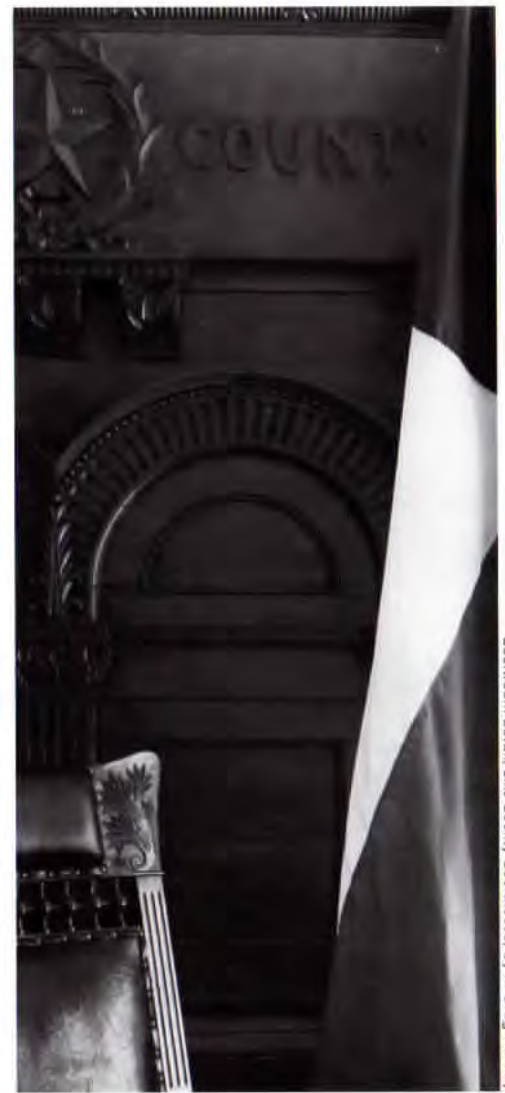
The appeals court agreed with the trial jury that the bonding company's argument was wrong, however, and the court's ruling on appeal has important implications for Texas architects. The appeals court held that the architects' role as agent for the owner is limited, specifically by the wording of AIA A201, the contract used in the case. The court cited three articles of AIA A201. Article 2.2.2 says architects can act for owners "only to the extent provided in the Contract Documents" unless otherwise authorized in writing; article 4.3.3 says "the Contractor shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Architect in his administration of the Contract"; and article 9.5.5 says that neither payment for work nor occupancy by the owner "shall constitute an acceptance of any Work not in accordance with the Contract Documents."

The appeals court further ruled that even though the owner had also sued the architect for the very fact of approving defective work, such action did not constitute an admission by the owner that the architect was his agent. In other words, *architects can be liable to the owner for faulty approvals and certificates, but the contractor has a separate unilateral duty to the owner to build according to the contract documents, and the owner must enforce this duty of the contractor's.*

Finally, the appeals court ruled that the owners themselves, by making final payment, could approve defective work, thereby effectively waiving claims for damages involving work performed before the final payment was made.

The court again cited AIA A201 article 9.9.4, which says "The making of final payment shall constitute a waiver of all claims by the Owner except those arising from: 1. Unsettled claims; 2. Faulty or defective work appearing after substantial completion; 3. Failure of the Work to comply with the requirements of the Contract Documents; or 4. Terms of any special warranties required by the Contract Documents."

The court held that the obvious purpose of 9.9.4.2 is to prevent an owner from making final payment to a contractor and then holding



Courtroom detail, Ellis County Courthouse, by R. Greg Hurstley

A Texas appeals court rules that an architect's certification of faulty work does not waive a contractor's duty to build according to contract documents.

the contractor (or contractor's bonding company) liable for curing defects. It is interesting to note that the 1987 version of AIA A201 eliminated article 9.9.4.2 as contained in the 1976 version (which was the operative document in this case), thereby discrediting the court's opinion of AIA's "obvious purpose" in the matter.

This case is now pending appeal to the Supreme Court of Texas.

Jack McGinty, FAIA, of Houston testified for over 60 hours as an expert in this trial on behalf of one of the plaintiff owners.

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San Antonio's new Alamodome is roofed with an energy-efficient white Hi-Tuff single-ply roofing membrane from Stevens Roofing Systems



Stevens Roofing Systems

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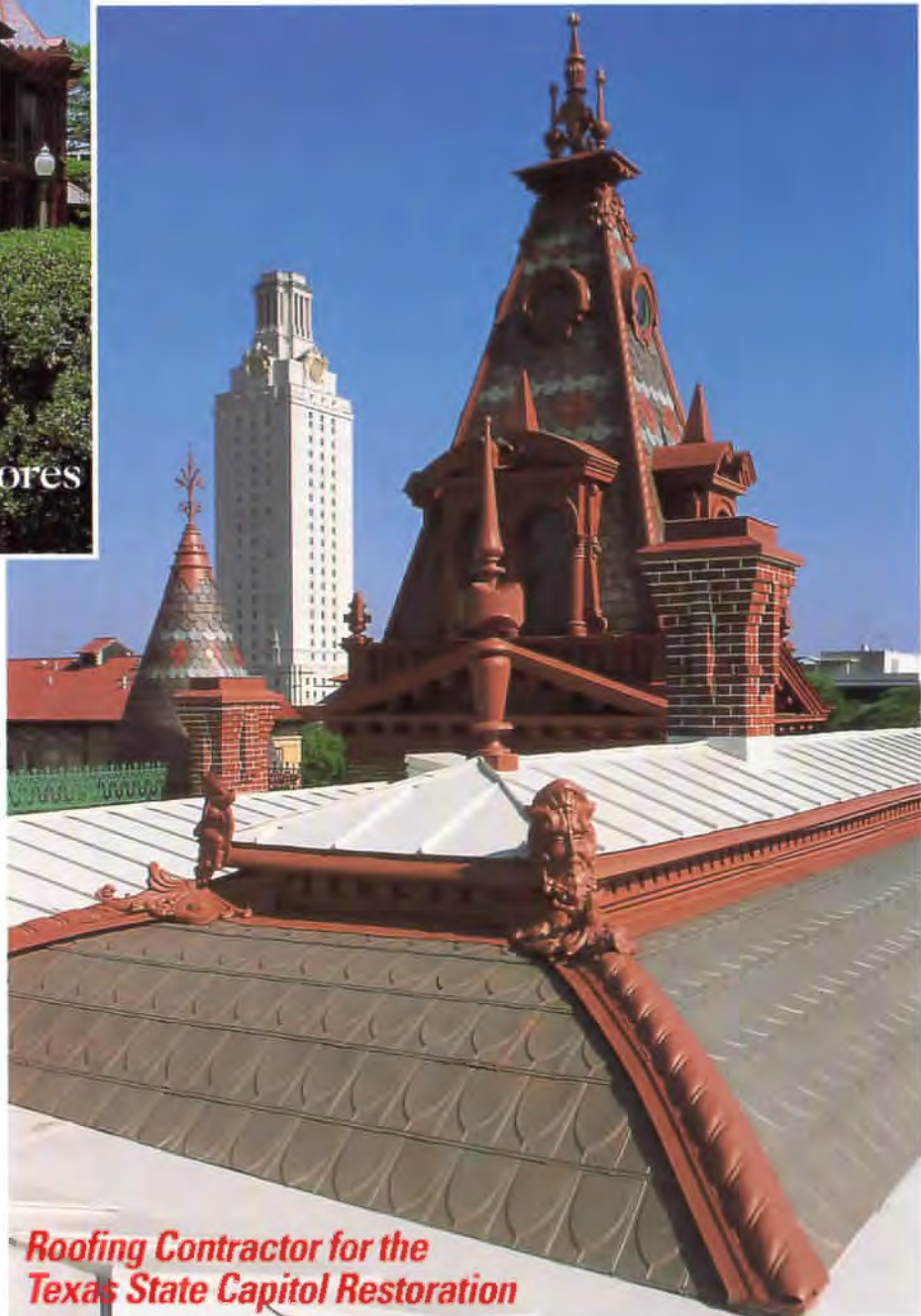
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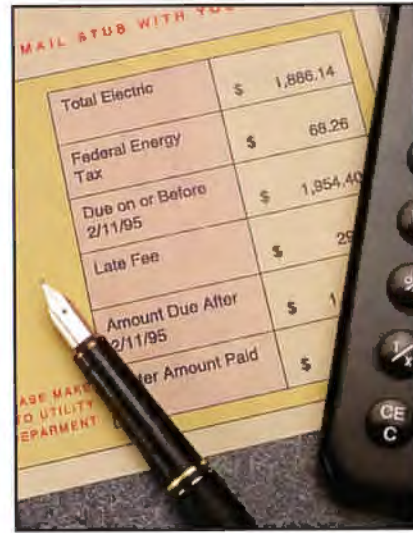
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CURVED BERRIDGE TEE-PANELS, FORMED ON SITE TO A RADIUS OF 65' FORM AN ARC (REMINISCENT OF AN AIR FOIL) OVER THE IWERKS THEATRE. THE "SATIN FINISH GALVALUME" PANELS TIE IN WITH THE SHINY METAL OF THE VINTAGE DC-3 ON DISPLAY ADJACENT TO THE ENTRY PLAZA.

Project: AMERICAN AIRLINES - C.R. SMITH MUSEUM
Architect: FT. WORTH, TEXAS

CORGAN ASSOCIATES ARCHITECTS, DALLAS

GENERAL CONTRACTOR: THOMAS S. BYRNE, INC., FT. WORTH

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Berridge Product: CURVED TEE-PANEL; 65'-4" RADIUS

Finish: SATIN FINISH GALVALUME



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Monier

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If you would like additional information about Monier and its products, call 214/299-5233.

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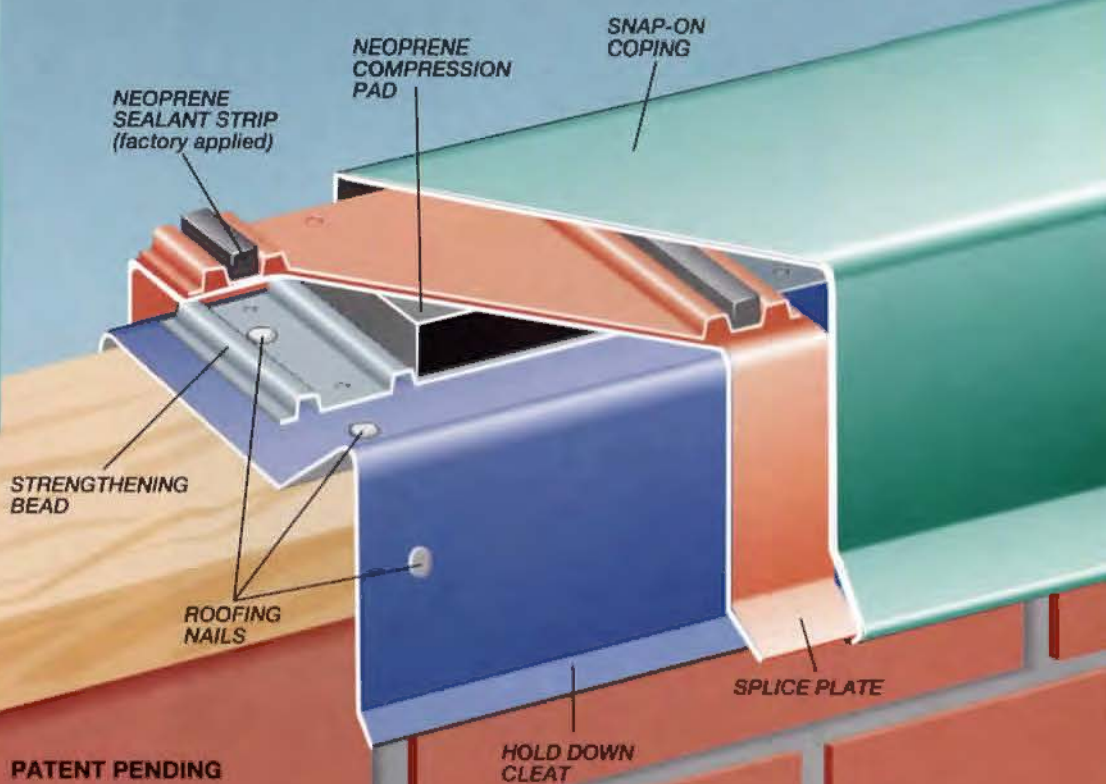
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Petersen's PAC-CLAD Metal Roofing Panels are available in a wide variety of profiles and are factory produced to order. Several profiles have been tested to meet the full requirements of the UL-90 wind-uplift test and all roofing panels have been tested for resistance to air and water infiltration. In addition, fastener pull-out tests are available upon request.

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Andrew



Hugo



Alicia



Kevin

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That fellow below, on the left, is Kevin Willis. He's the Manager of Quality Control at Stevens Roofing Systems' \$12 million calendaring facility. And he's instrumental in overseeing the quality of the industry's most successful white, single-ply roofing system: Stevens Hi-Tuff®. Which has proven its durability in some of the worst conditions Mother Nature has to offer. Namely, Hurricanes Andrew, Hugo, and Alicia.

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Berridge Manufacturing Company began operations in 1970 as a manufacturer of architectural panels, tiles and shingles. In 1984, Jack Berridge revolutionized the architectural panel industry with the introduction of the company's first portable roll former, the Model SS-14 which formed continuous length straight or curved panels on site from Berridge color-coated coil. Today, Berridge offers a total program of eight models of portable roll formers, pre-finished coil & flat sheet material and a full line of architectural panels, shingles and products, all backed by complete marketing and technical support services.



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Certified roofing contractors mean business. Check the list above for the certified roofing contractors in your area. More are being certified regularly. You can call RCAT headquarters—512/454-8626—for the latest information on certification.

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Public Culture and Museums



THE FIRST museum in Texas preserved the house and effects of Texas President Sam Houston; the next museum was a saloon with a display of horns and antlers. Times have changed: The exhibition of painting, sculpture, and other high-culture artifacts has become a significant industry, and major museums around the state are expanding to serve crowds drawn to their blockbuster shows and growing collections. Our lead feature, by Dallas architect Willis Winters, presents some of the recent and planned museum projects in Texas.



Frank Welch, FAIA, also of Dallas, concludes his profile of Philip Johnson in this issue, covering the years in which Johnson and John Burgee, working for Gerald Hines, revolutionized the business of big-time real estate worldwide. Welch's article brings the issue full circle: As Johnson builds a new practice with new clients, his attention has shifted more and more to The Glass House, which he has given as a museum to the National Trust for Historic Preservation. *JWB*

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New Texas Museums

by Willis Winters



Courtesy Drawings Collection, UT Austin School of Architecture

Evolving from saloons to urban cultural precincts in a little more than a century, museums in Texas have become more important institutions and bigger business.



Blackmon/Winters

THE PAST FEW years have been the best of times for museums in Texas, but success and expanding public patronage have brought about unprecedented change in a wave of expansions, relocations, and redefinitions of museums across the state. Since 1987, over 520,000 square feet of museum space around the state has been completed, with another 120,000 square feet now under construction. When added to the 400,000 square feet currently being designed (not including CRSS Architects's Bush Presidential Library, planned for College Station), the statistics suggest sustained growth in the museum industry, supporting a growing expertise in the field among Texas design firms.

Building Texas Culture

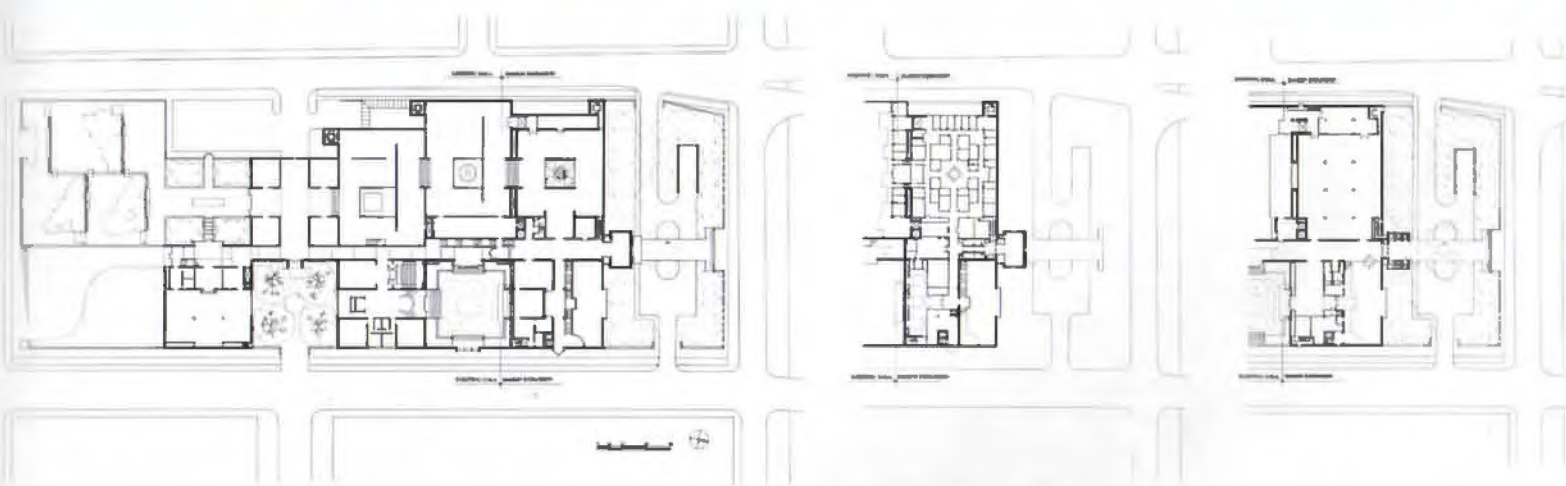
MUSEUMS IN TEXAS started as places for the preservation of local culture, for celebration of native natural-history curiosities, and for education. The first Texas museum was established in 1879 in Huntsville to preserve materials relating to Sam Houston. In 1881, Albert Friedrich began exhibiting his collection of horns at his downtown saloon, which would eventually become the Buckhorn Hall of Horns in San Antonio. By the turn of the century, the Museum of Human Anatomy at the University of Texas Medical Branch in Galveston (Nicholas J. Clayton, 1890), the Strecker Museum at Baylor University in Waco (1893) and the teaching museum at Our Lady of the Lake College in San Antonio (James Wahrenberger, 1896) were in operation, and art associations throughout the state had given birth to art galleries in Houston, San Antonio, Dallas and other cities.

The initial wave of civic museum building began in Dallas prior to the first world war with Hubbell & Greene's 1910 Museum of Textiles and Fine Art. Houston followed suit with its new Museum of Fine Arts in 1924, designed by William Ward Watkin, with Cram & Ferguson; and San Antonio's Witte Museum, by Ayres & Ayres, opened in 1926. These three institutions, while modest in size, were built on prominent sites in or near City Beautiful-era urban parks, by the best local architects, reflecting the intellectual and artistic trends of the era, as well as the cultural aspirations of each city. This wave continued during the 1930s, with the Texas Centennial Celebration, which provided the impetus for museums around the state, but which centered on the Texas Centennial Exposition in Dallas. Six major museums built for the Centennial in Fair Park all remained in place after the conclusion of the fair's two-year run, leaving Dallas with unprecedented collection of museums in one location.

The second wave of museum-building started in 1958, with Mies van der Rohe's powerful Cullinan Hall addition to the Houston Museum of Fine Arts. Hiring an out-of-town star architect became a trend for museum boards across the state in the years that followed. The best-known examples were Philip Johnson's Amon Carter Museum in Fort Worth (1961) and Museum of South Texas in Corpus Christi (1972); Louis Kahn's Kimbell Art Museum in Fort Worth (1972); Edward Durrell Stone's Amarillo Art Center (1972); Gunnar Birkerts's Contemporary Arts Museum in Houston (1972); Cambridge Seven Associates' San Antonio Museum of Art building (1982); Edward Larrabee Barnes's Dallas Museum of Art downtown building (1984); and Renzo Piano's Menil Collection in Houston (1986).



BlackmonWinters



Even some of these institutions have been pressured to make radical changes, however. The Dallas Museum of Art, headquartered in Fair Park until 1984, illustrates some of the forces at work.

The Dallas Museum of Art Hamon Building

SEEMINGLY STATIC cultural repositories, museums have become, in fact, singularly dynamic institutions. The proliferation

Facing page, top: The Buckhorn Saloon, San Antonio, c. 1890.

Facing page bottom: Interior, DMA Hamon addition

Top: DMA Hamon addition, seen from Woodall Rogers Freeway

Above, left to right: gallery, second-floor and ground-floor plans

A "fortification tower" marks the north-side entry of the DMA's Nancy and Jake Hamon building, set in a skillfully planned vehicular court.



of "blockbuster" exhibitions to museums across the country in the late 1970s created space needs that forced smaller museums to place their permanent collections entirely in storage or to look elsewhere for suitable venues. Greatly increased memberships at these institutions (usually stimulated by the blockbuster shows) raised expectations about the physical facilities, at the same time placing severe space constraints upon them. Collections grew with donations, but operating funds shrank. Cultural organizations (not just museums), by necessity, became more competitive in their capital campaigns for new buildings or new wings. Museums, for the first time, began to study other sources of revenue-producing income: museum stores replaced gift shops, full-service restaurants replaced volunteer salad buffets and museum galleries—as the final blow to curatorial sanity—were rented for private parties. And finally, the very nature of museums themselves was fundamentally shifting, with a greatly increased emphasis on education. Expansion, or in some cases, relocation, became a necessity, to keep up with burgeoning collections and thriving attendance.

More important to the DMA than blockbuster exhibitions, however, was a sense of isolation at Fair Park, which by the late 1970s had become a tattered enclave in a neighborhood whose fortunes were declining. At the same time, city planners envisioned the museum as the cornerstone of a new arts district that would revive the values in the

northeast corner of downtown—a role it has ably filled since the relocation, helping to encourage creation of the Meyerson Symphony Center (I.M. Pei, 1989), Trammell Crow Center, and Texas Commerce Bank Tower (both SOM, 1986 and 1989, respectively).

After less than a decade at its new location, the DMA is expanding. Scheduled to open in September, the new Nancy and Jake Hamon Building will add 140,000 square feet of gallery, educational, administrative, storage, and public space to the museum's current inventory, resulting in the largest museum of any type in the state. The addition provided the opportunity for the museum's staff, with the architects, to re-program the existing building concurrently with the new wing. This was a difficult process, at times, for Barnes's office (now Edward Larrabee Barnes/John M.Y. Lee Architects), as functional flaws and aesthetic problems in the original museum were identified and discussed. Yet there was never a doubt, according to Consulting Director Richard Brettell, that Barnes would be the architect. There was much to admire about the original building: a rational, yet flexible, plan; smooth gallery circulation; a modesty of materials and detailing; and a pervasive calm atmosphere. These traits are replicated in the new building.

The Hamon Building serves as the centerpiece of the DMA's program to transform the institution into an integrated complex of four different "museums"—of Contemporary Art, of Europe, of Africa and Asia, and of the Americas. It will house the Museum of the Americas (surveying art of the Western Hemisphere) on its top floor. Directional flow through the re-programmed facility will be from this new floor "down" through the existing museum terraces (the current flow pattern is "up"). The three existing galleries are being remodeled to accept their respective designated "museum" units: the Museum of Europe was the first to re-open this summer. Brettell describes the four museums as a series of architectural "precincts" that can be re-programmed over time. Barnes's original gallery concept, extended upward into the new wing, admirably avoids the cultural maze found in most large urban art museums in the U.S.

The new building also re-orientates the museum's exterior. The original building had three more-or-less equal entries scattered around the building. In the Hamon wing, Barnes gives the institution its long sought-after front door by addressing the primary needs of the automobile. In a heavily planted vehicular court, located on the north side of the building facing Woodall Rogers Freeway, cars are received from two directions, then manipulated

past the pedestrian drop-off around the site to an underground parking garage.

The entrance to the Hamon Building is marked by a "fortification tower" (connoting, officials say, strength and protection for the art objects within), which can also be seen as a miniature of the office towers lining Ross Avenue. The tower has, extending down from its parapet, a vertical window slit, recalling a similar device on the west face of the original barrel vault. Inside, the tower and entrance connect back to the existing museum via an extension of the original circulation spine, resulting in a hallway longer than the Grand Galerie of the Louvre. Upon entry, however, attention is quickly diverted to the left, into a majestic public space, which Brettell describes as the "living room" of the museum. Along one side is a grand promenade staircase which takes visitors up first to the education-administration level, then upward again to the Museum of the Americas. Near the top landing, a triangular window penetrates the wall and extends outward from the facade of the building, allowing dramatic views of the Arts District (mostly parking lots, for now), the Meyerson Symphony Center, and to the north along the east face of the existing museum. It is a cathartic experience to ascend the stairs and then to move beyond the plane of the building. A second extraordinary experience also follows on this same level. Inside the fortification tower, Barnes has inserted an impossibly narrow slice of the formidable barrel-vault gallery from the original museum; with the same cross-sectional proportions as the original, but one-fifth its length, the gallery is an awe-inspiring vertical space, made more dramatic by the narrow window slit extending down from the ceiling. The room will contain the treasures of the new world, and is itself an architectural gem, providing both a resonant reminder of the original building and an uplifting culmination of the new.

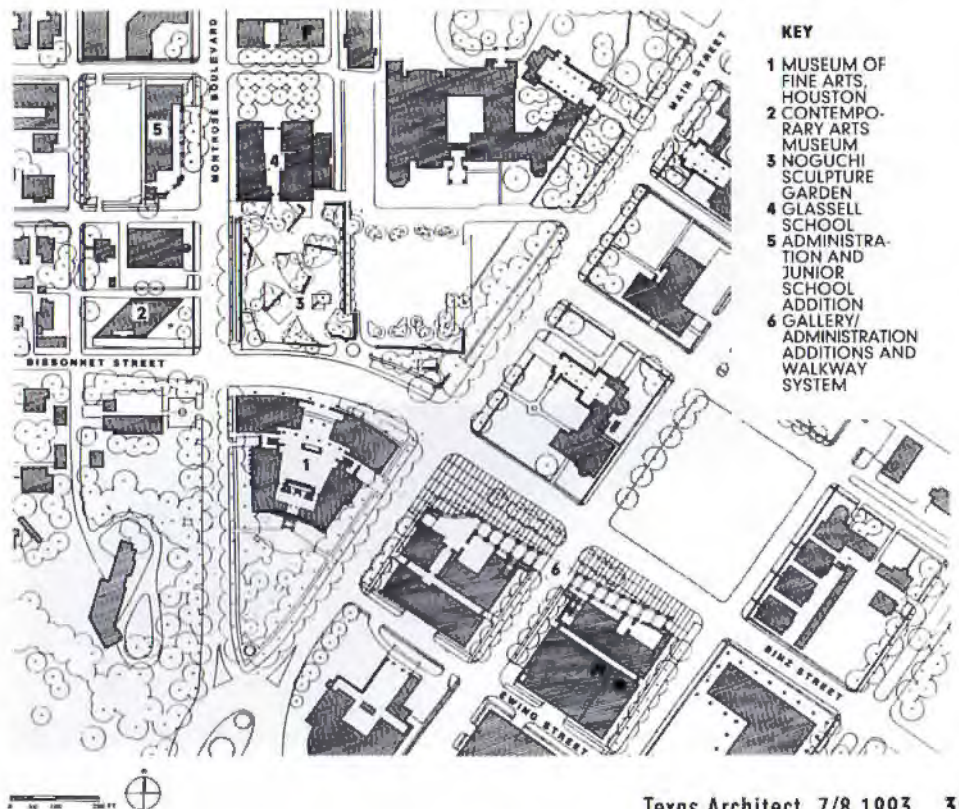
Houston Museums

THE MOVE to an empty downtown site made this expansion relatively easy for the DMA. Administrators of the Museum of Fine Arts, Houston (MFAH), however, face a more difficult task for their planned expansion. The MFAH's functions are currently scattered, and, because the main building site on Bissonnet is crowded and surrounded by major thoroughfares, there is no way to create a contiguous addition. To deal with the dilemma, the MFAH hired Venturi Scott Brown Associates (VSBA) of Philadelphia to create a 30-year master plan (completed in 1990) for a museum "precinct" of multiple buildings on nearby city blocks

purchased for expansion. There is virtually no precedent for a single-institution museum campus in the United States; the disjointed L.A. County Museum of Art comes to mind, but its buildings are not separated by city streets. In Houston, VSBA's focus was to maintain and strengthen the museum's identity and image, while further dispersing its many parts. The architects and planners also strove to create a new "public realm" for the institution.

The first component of the master plan, now under construction, is the Administration and Junior School Building on Montrose (across from the Glassell School), designed by Carlos Jimenez, associated with Kendall/Heaton Associates, both of Houston. The three-story, L-shaped building has its primary long facade along Montrose and will be clad in limestone, with anodized aluminum panels; the ensemble will be topped by a vaulted standing-seam metal roof. The serene composition, together with Jimenez' skillful expression of interior functions and handling of elegant materials, will stand in stark contrast to the building's less-subtle neighbors: the Glassell School and Birkerts' Contemporary Art Museum. At the southern end of the new museum precinct, at the corner of Main and Bissonnet, Spanish architect Rafael Moneo is currently designing the principal ingredient of VSBA's master plan: a new 125,000-square-foot gallery addition. Scheduled for completion in 1999, this building will hopefully overcome the site constraints and capture the public realm identified in the master plan.

Venturi Scott Brown Associates's masterplan for the Museum of Fine Arts, Houston creates an arcaded east-west precinct of buildings.





Lisa Carol & Paul Hester, Photographers/Foyetteville, Texas

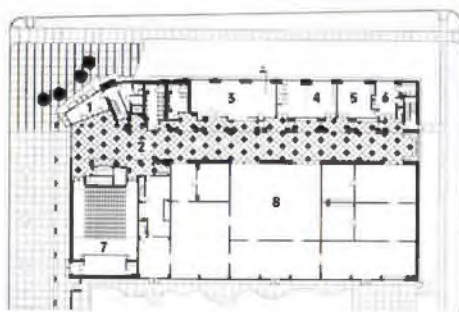
Top and top right: Skillfully handled EIFS cladding and a sensible circulation plan turned a low-budget job into a colorful, convincing object at the Children's Museum in Houston.

Right: first-floor plan of Houston Children's Museum

Below: (middle left in photo) model of the new Administration and Junior School Building at the Museum of Fine Arts, Houston

1ST-FLOOR PLAN

- 1 LOBBY
- 2 KID'S HALL
- 3 GIFT SHOP
- 4 CLASSROOM
- 5 CELEBRATIONS
- 6 WORK ROOM
- 7 AUDITORIUM
- 8 GALLERY



VSBA's masterplan did not win the firm the commission that went to Moneo, but it did influence their selection as design architects for the Children's Museum of Houston, designed with Jackson & Ryan Architects of Houston. The museum is located six blocks east of the Museum of Fine Arts, and is situated among towering pine trees on virgin property carved out of the original Hermann estate. The plan is simple and coherent: a double-loaded circulation spine (called the Kid's Hall) with classrooms, a museum store and admin-



Paul Hester



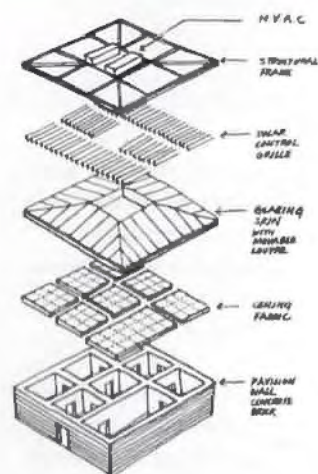
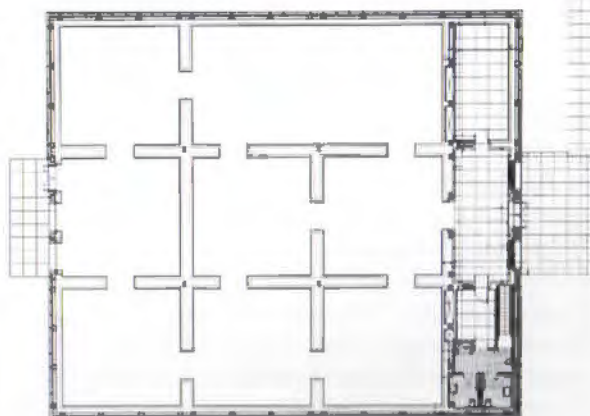
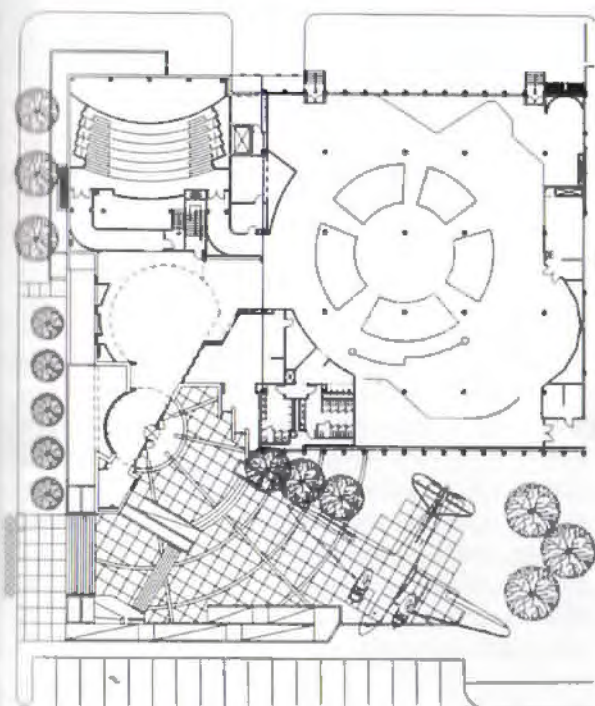
Lisa Carol & Paul Hester, Photographers/Foyetteville, Texas

istration on one side (in a two-story building), and an exhibit hall and auditorium on the other side. The monumental Kid's Hall is filled with natural light filtered through ceramic frit glass in high clerestory windows. Colorful arches at the ceiling echo devices employed by VSBA in their other museums. The galleries consist of a series of well-proportioned spaces that look onto an activity courtyard framed between the main building and a shed containing support and service functions.

The organizational principles of this building are derived from the 1986 plan for the Laguna Gloria Art Museum in downtown Austin (killed in the late 1980s but seemingly resurrected by the Austin City Council in April of this year), via subsequent VSBA museums in London and Seattle. The building's didactic character is derivative as well. A grand classical order, awash in vibrant color, is established on the monumental north facade, only to be violated—as at the Sainsbury Wing in London—in incisive and mischievous ways. Bold lettering marches across the facade's cornice—as it also does at the Seattle Art Museum—then turns the corner and announces that this building is a “museum” on an almost vulgar, oversized temple pediment supported by four mammoth columns. This is Toonland, and kids probably love it. Compared with the pomp of the entry and north facade, however, the now-famous “Caryakid” arcade, facing east, is pleasantly appealing. It functions to shelter and organize busloads of children as they queue before entering the building for orientation. The 13 fiberglass columns consist of six different head designs, two clothing styles, and thirteen skin and hair colors, all studied on CADD, according to



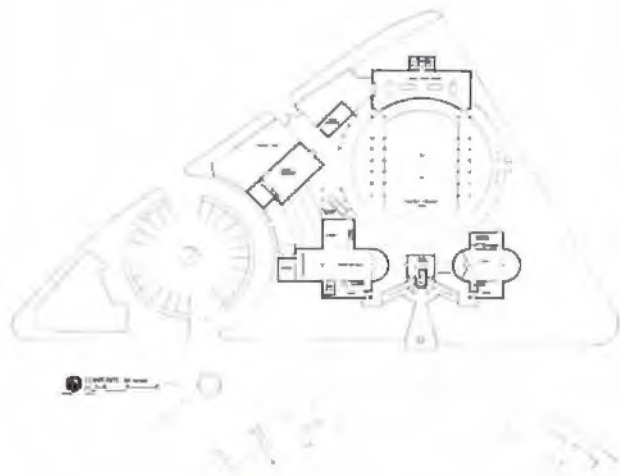
BlackmonWinters



Entry plaza (top) and plan (left) of C.R. Smith Museum at D/FW Airport

Above and above right: plan and conceptual diagram of roof

structure for the Cy Twombly pavilion at the Menil Collection in Houston by Renzo Piano Workshop with Richard Fitzgerald Partners



BlackmonWiners



North/Schreyer

Top left and top right: plan and harbor view of the Maritime Museum in Rockport by O'Neill Conrad Oppelt

Above: The Museum of Southeast Texas in downtown Beaumont by The White Budd Van Ness Partnership

project architect Martha Seng, to achieve the most desirable combination and placement.

Perhaps the most impressive accomplishment of the Children's Museum is what Venturi Scott Brown and Jackson & Ryan achieved on a budget of \$90 per square foot (the Hamon Wing at the Dallas Museum of Art cost \$214 per square foot). As a basic metal box clad on one facade in EIFS (a stucco-like material), the building moves beyond a simple interpretation of the decorated shed: It is a bold and complex composition, beautifully detailed and crafted, that also manages to speak the language of children.

A little over a mile away, Italian architect Renzo Piano is at work in familiar surroundings. The Menil Collection has broken ground on a free-standing gallery devoted solely to the paintings and sculpture of Cy Twombly, designed by Piano with

Richard Fitzgerald Partners of Houston. Located across the street from the existing museum, the new gallery will be inserted among existing bungalows and will be respectful of their scale, in the manner of Piano's original building. Conceived as a nine-square gallery plan, with an additional bay for lobby and service, the building will be topped by a carefully-conceived and elaborate, light-filtering roof. Beginning inside with fabric panels stretched across the ceiling of each room, the multi-layered system continues up through the building with a zone of operable sun shade louvers, followed by a glass pyramid expressed above the parapet. On top of the entire composition is a horizontal steel frame with another layer of louvers. The new gallery will retain a strong, separate identity from the museum building, while continuing its dialog with the neighborhood.

Museums as Urban Reclamation

FEW OTHER Texas cities have built civic museums on the order of those undertaken in Houston and Dallas since the mid-1980s. Booth Kiersey Mijares of El Paso with Bill Booziotis of Dallas are working on retrofitting El Paso's downtown bus station as an art museum. In Beaumont, the Museum of Southeast Texas, designed by White Budd Van Ness Partnership (now Budd Beets Harden Kolflat) opened in 1989. The architects were faced with defining a precinct surrounded by parking lots and railyards. Their response was a postmodern building of four symmetrical gallery spaces, opening from the corners of a central atrium with a pyramidal glazed roof, all fronted by a massive porte-cochere.



Ships and Planes

BUT CIVIC art museums are not the only game in Texas. Three recent projects resurrect the commercial and educational museum types that kicked off the Texas museum industry a century ago.

The smallest of these projects is the Texas Maritime Museum in Rockport by O'Neill Conrad Oppelt Architects of San Antonio. Sited at the terminus of Rockport's circular harbor, the building has a commanding sculptural presence that belies its small size. Nestled among shrimp boat masts and palm trees, the museum embraces what architect Larry O'Neill describes as a "coastal image": simple, yet slightly eccentric, massing, mixed with an irregular ground plan and solid-appearing white walls. Inside, the two-level exhibit hall yields similar results without a literal interpretation of its subject matter. The room is surprisingly spacious, visually complex and rich in maritime imagery. Two other recent museums share similar transportation themes—yet very different architectural responses.

The first is American Airpower Heritage Museum at the Confederate Air Force World Headquarters in Midland by Rhotenberry Wellen Architects of Midland. The museum, a modified aircraft

manufacturing facility, incorporates a wide range of programmatic functions—everything from a gift shop to a B-29 hangar—rendered in a style reminiscent of the World War II era. The architects researched early military structures and devised a surprisingly coherent scheme by merging the diverse styles and building types associated with the state-side, European, and Pacific theaters of war. For example, the Administration Building references the International Style predominant in British airfields, while the Museum and the Display Hangar both exhibit art moderne influences. Visual unity is sustained throughout the new campus by crisp detailing, minimal exterior graphics and a cohesive military gray color scheme.

At the C.R. Smith Museum near Dallas/Fort Worth International Airport, Corgan Associates uses a less metaphorical language than in Rockport or Midland, and concentrates instead on defining an emerging sub-species of museum architecture: the corporate museum. As an instrument of public relations for American Airlines, this building (named for a former company president) approaches its image more deliberately, yet it is not as conservative as one would expect. In fact, it is a visually aggressive project, designed to terminate the end of a mundane existing '60s arcade, while capturing the gaze of motorists speeding to the airport. The architects capitalized on the twelve-foot change in grade by tucking an administrative and archival-storage floor under the main exhibit level, giving the south facade of the museum a formidable presence to the main vehicular and pedestrian approach. The exhibition area (with a beautifully crafted permanent installation designed by Zalisk Martin Associates of Cambridge) is inserted into the existing '60s building, leaving the public functions for the comparatively small new footprint. These elements—lobby, gift shop and IWERKS theatre (similar to, but smaller than an IMAX)—are all expressed on the exterior and easily comprehended. A restored DC-3 is to be parked on the front plaza, where its silver skin will contrast with the softer stone exterior of the museum. A grand flight of steps (another grade-change bonus) rises between the new building and a dramatic pylon, focusing attention on the plane.

Horns and political memorabilia, ships and planes, paintings and sculpture: For over 100 years, Texans have collected and displayed every aspect of popular and high culture. The need for cultural aggrandizement spawned the state's earliest museums, modest ancestors of the institutions currently being built. **TA**

Willis Winters is an architect practicing in Dallas.

Entry plaza (this page, left) and site plan (facing page, center left column) of the American Airpower Heritage Museum at the Confederate Air Force World Headquarters in Midland by Rhotenberry Wellen Architects

From Hines to Eternity

Part two of a history of Philip Johnson's Texas Connections
by Frank Welch, FAIA

Below: Philip Johnson's Thanks-Giving Square in Dallas is a pocket park of fountains and grass focused on a swirling mastaba of concrete and stucco.



This photograph: Frank Welch, FAIA. Facing page: Richard Payne, FAIA

Facing page: Johnson's evolving aesthetic and formal interests are illustrated by Pennzoil Place (1976) and RepublicBank (1986) in Houston.

TEXAS CONNECTIONS have always been important in the long and productive career of Philip Johnson, FAIA. In the late 1940s, even before his soon-to-be-famous transparent house in Connecticut was completed, Johnson was commissioned to design an influential house in Houston for the French-American art patrons John and Dominique de Menil.

The Menil patronage and the referrals that followed—including the Menil house and the campus of St. Thomas University in Houston, the Amon Carter Museum and the Water Gardens in Fort Worth, the John F. Kennedy Memorial in Dallas, and the Art Museum of South Texas in Corpus Christi—formed the basis of Johnson's 40-year architectural practice for Texas clients.

Philip Johnson and John Burgee's commercial projects revolutionized big-time real estate by turning tall developer office buildings from business into mass entertainment.

As influential as these early Texas projects were, it was commercial projects, undertaken in partnership with John Burgee for developer Gerald Hines of Houston, that came to define Johnson's reputation in the late 1970s, until the partnership's final break-up in 1992. As architectural historian Stephen Fox has said, Johnson, working for Hines, revolutionized big-time real estate by turning tall developer office buildings from dull business into mass entertainment, and putting Houston and Dallas at architectural center stage.

In a 1992 interview, Johnson was at a temporary loss to recall how Hines had entered his life and become his most important client in terms of both artistic success and magnitude of projects. "Gerald Hines," he said distractedly. "Where in the world did *he* come from?"

The answer lies in the web of Johnson's Texas connections from the 1950s. Johnson had wanted to use a New York firm to supply the millwork for the Amon Carter Museum in Fort Worth, which was to be built by Thomas S. Byrne Construction Co. But Byrne recommended millwork from the Brochstein Company of Houston, and Johnson acquiesced. Johnson became a fan, and used Brochstein's millwork in a number of later projects.

By the mid-1970s, Gerald Hines had started to move vigorously into large high-rise development, after the success of his Galleria mixed-use project. It happened that the Brochstein family owned a parcel of land near the Galleria that Hines leased, and Raymond Brochstein urged Hines to hire Philip Johnson to design the planned office buildings. Hines had already been turned down by I.M. Pei and SOM Chicago. Johnson and Burgee's then-recent I.D.S. Center in Minneapolis, their first high-rise project together, had garnered national publicity as a successful architectural landmark. Hines found that the architects were not averse to participating in speculative high-rise development.

Post Oak Central

THE HOUSTON PROJECT, later dubbed Post Oak Central, was new territory for Johnson, however. Earlier experience with institutional clients was far re-



Right: Built after Pennzoil Place but designed before, Post Oak Central was Johnson/Burgee's first commercial project for Gerald Hines.

Below right: Johnson/Burgee webbed Pennzoil's stumpy trap-ezoidal towers together at the base with a taut, sloping glass lobby atrium.



moved from the commercial venue, but he and Burgee enthusiastically joined the task of complying with developer Hines' system for achieving construction economy while producing an appropriate architectural image for the maximum market impact and response.

Hines relates that the Johnson/Burgee team went through several quite different design "iterations" before proposing the streamlined moderne language for the three-building project. Post Oak Central Two (1976) was the first building completed; the three buildings in the complex vary in footprint, but all were cut from the same deco-ribbioned fabric, standing out from the orthogonal, tawny-toned, and rather earth-bound concrete buildings of the Galleria, a few blocks to the south.

Pennzoil Place

ALMOST simultaneously, Hines was looking for an architect to design a major downtown building for which he had a lease agreement with the Pennzoil petroleum company. Work for the site by SOM/Chicago had been rejected by Hines as not market-sensitive enough, and Johnson/Burgee won the commission. (Interestingly, Hines stresses that a different group of architects is interviewed for each of his projects, as he searches for "the right architect for the building." As a result, none of the many large projects Johnson/Burgee did for Hines came in the door without comparison shopping by Hines among other high-profile designers.)



Pennzoil Place (1976) is composed of two trap-ezoidal buildings webbed together at the base by a taut, sloping glass lobby atrium. The two stumpy "towers," chopped off at their tops at a 45-degree angle, struck the public and professional press as fascinatingly dynamic. Ten feet apart, the project's dark sculptural chunks of bronze glass and alumi-

num are like two magnets, drawn together and held apart by this slimmest of neutral fields. They are reminiscent of the minimalist sculpture of Tony Smith, but rendered in an architectural language of curtainwalls and at the scale of the Seagram Building (1959), Pennzoil's obvious precursor.

Hines recalls: "I did not want another boxy tower. Allen Center, a Trammell Crow project of grouped rectangular slabs was having trouble renting several blocks away, and I felt a strong and original statement was needed here at the western edge of high-rise offices in downtown Houston. Johnson came up with the scheme of two towers, which made more marketing sense than one building—you could have *two* major tenants. The shorter buildings were easier and cheaper to build than one tall one, and the angular configuration of the shapes turned out to be a boon: The sloping-roof top spaces rented first. I remember Philip sketching the basic idea for me on a paper napkin—it looked like the NBC logo."

This project with Burgee again stimulated publicity for Johnson throughout the architecture and design world, matching the attention the Glass House had won in 1949. Ada Louise Huxtable of *The New York Times* praised Pennzoil Place extravagantly, calling it the "building of the decade." The effect on the local market was electrifying. Hines had a major winner in his circle.

Sculpted, carved, and modeled buildings became staples of the late 1970s and early 1980s as a result of Pennzoil Place's well-publicized success. Very few of the offspring were as notable, but the dam of modernist rigidity of form had been breached.

Thanks-Giving Square

JOHNSON'S NEXT major project came shortly after completion of Fort Worth's Water Garden, when Dallas businessman Peter Stewart began dreaming of a spiritualized public space in the center of his downtown—Thanks-Giving Square, expressing gratitude for Dallas's and the world's many blessings. Stewart and his group travelled widely and conducted research and interviews with numerous architects before awarding the job of designing the small park and a chapel to Johnson/Burgee.

Composed largely of elements borrowed from the Water Garden, Thanks-Giving Square (1977) is located on a once-active and colorful patch of downtown Dallas land previously known as the Live Oak Triangle. The sloping, three-sided site sits below office towers on all sides, the most notable being Harrison and Abramowitz's Republic Bank Building (1954) and, later, I. M. Pei's Arco Tower (1983). The scooped-out, sculpted plaza

employs the same Frank Stella-like rotating, angular planes of buff-toned concrete and descending levels of tumbling, falling, and quiet water used for the Water Garden but on a much reduced scale, liberally garnished with grass and large trees.

The chapel, a creamy-white mastaba spiral of concrete, anchors and dominates the composition, an art deco ornament on the site's higher and most visible side, while the lower apex has a sturdy concrete gantry of the same white concrete, holding a bronze bell carillon. Robert Campbell, architecture critic of the *Boston Globe*, expressed the press's reaction to the project's scalelessness. "The chapel seems designed to commemorate Liberace's ascension into heaven," he wrote. Other critics disliked the park's walled-off character, with its gates that closed at sundown. ("They expected a park and they got a church!" says Johnson.) It is, nevertheless, a welcome piece of civic design and repose in downtown Dallas, and is currently being redesigned and enhanced by Johnson.

The late '70s were busy years for Philip Johnson and John Burgee throughout the country as well as

in Texas. All the buildings of Post Oak Central were completed, facades were designed for new Marshall Field stores in Hines's Galleria centers of Houston and Dallas (both 1978, both with false fronts

faced with shell stone and centered with a tall skylighted art deco entry faced in gold glass tiles), and the first and only unit in a group of low-rise buildings was completed for a Hines office park in Sugar Land, southwest of Houston (1980). This long three-story building is a sort of stripped, late-19th-century generic office structure, with an angular winged plan. Regular punched windows and large-scale flush stone trim range across the pediment-crowned brick facades.

While the firm was turning out such commercial fare, it was simultaneously seeing the completion of the spectacular Crystal Cathedral (1980) in Garden Grove, Calif., for Rev. Robert Schuller, who had previously hired Richard Neutra to design the world's first drive-in church. Johnson says the firm almost lost this one: Schuller had come to the office unannounced while Johnson was out of town. Told that a man out front wanted to discuss a job, Burgee dismissed him, mistaking him for a draftsman seeking employment. Schuller persisted in seeing Johnson and a landmark commission was won by the firm.

Critic Robert Campbell of Boston said of Thanks-Giving Square: "The chapel seems designed to commemorate Liberace's ascension into heaven."



Frank Welch, FAIA



Paul Hester

Above: The Transco Tower is Johnson's most monumental landmark, a 64-story glass-skinned shaft with a '30s-moderne quality.

Above right: The banking lobby of RepublicBank Houston (now NationsBank, after a government bailout) provides a vista of receding arches.

Right: In the tower for Mercantile Bank (now Bank One) in Dallas, the masonry shaft is defined by punched windows, flanking tall, sheer, central panels of off-the-shelf glass curtainwall.



BlackmonWintersKuhner

After the Crystal Cathedral opened to near-universal acclaim, Johnson turned one of the stylistic flips that have marked and extended his career. This came in 1978, when he released his design of the AT&T Building in New York. His extemporaneous speech on receiving the AIA Gold Medal in Dallas was an eloquent defense of the design; it was

followed by *Time* magazine's cover, which showed Johnson holding the model, and by the loudest critical furor of Johnson's career. Johnson had brought the previously academic discussion of postmodernism, with its appropriation of historical imagery to contemporary buildings, into popular currency.

Practically the entire fuss over AT&T was concerned with the "Chippendale" top (which most likely derived from the split-pediment facade of Robert Venturi's house for his mother); the rather flat pink-granite shaft of the building, with its handsome detailing and orderly fenestration was seen as a respectful quotation from Manhattan's 1920s-era high-rise vocabulary. It has aged well, compared to some of the gaudy, ill-considered central-Manhattan towers that followed.

RepublicBank to MBank

SHORTLY AFTER AT&T's completion, Johnson and Burgee began work on a building that would substantially raise the ante on historicist postmodern design. A grand Gerald Hines project on a corner diagonal from Pennzoil Place in Houston, the RepublicBank Center (1984, now NationsBank, after a \$2-billion bailout), is strongly marked by a Gothic rendering of stepped-back, ascending masses of steeply gabled roofs, pricking the air with ranks of lead-covered finials. The sides of the granite-faced stair-stepped tower are ribbed with alternating pilasters and mullions, aligned with the



Frank Welch, FAIA

Left and below: The University of Houston College of Architecture

was criticized as a Ledoux rip-off, but its interior atrium, joining stu-

dios to open space, proved popular with students and faculty.



Paul Hester



Frank Welch, FAIA



BlackmonWinterKuhner

finial-studded roof edges. The singular aspect of this building, which Johnson's historian colleague Henry-Russell Hitchcock deemed his best, is the high-rise, stepped massing, one level of which Johnson says was positioned to preserve the views from Pennzoil's top-floor executive suites. Half of the ground plan is occupied by a relatively low, single-gabled banking hall soaring inside with ranges of Piranesian arches. Johnson recalls the endless design attempts to gracefully accommodate an existing and unbudging Western Union building on one corner of the block.

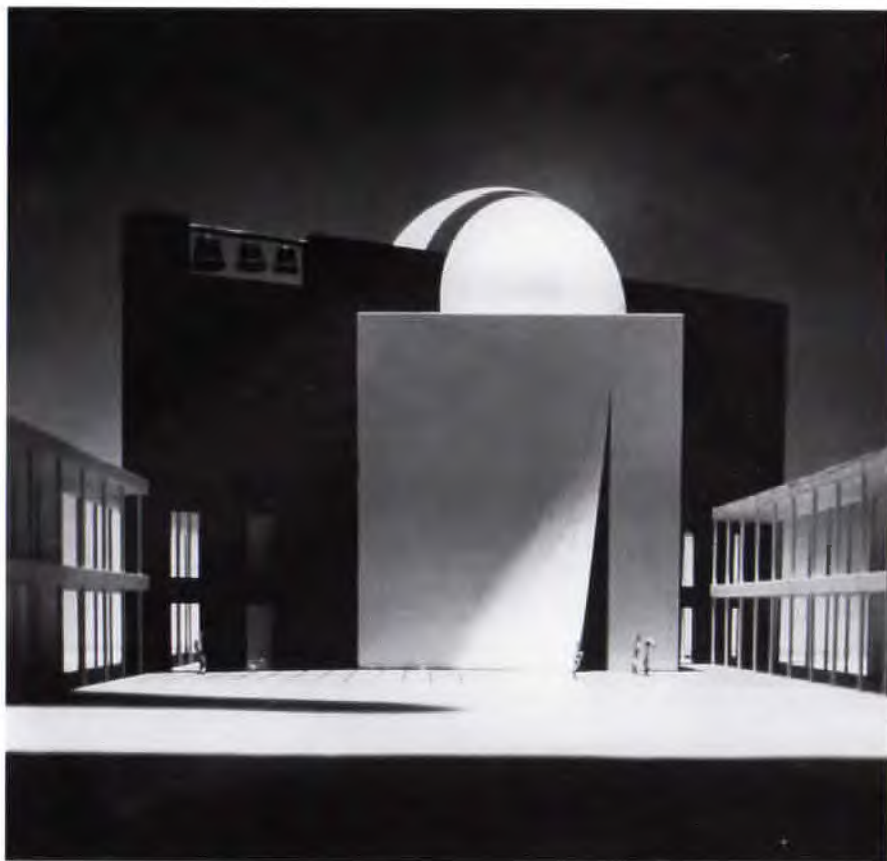
One thing seems certain: Nowhere is Johnson's range of evolving aesthetic and formal curiosity better illustrated than with these two oddly com-

patible neighboring landmarks, Pennzoil Place and RepublicBank, sharply defining the Houston skyline as well as representing two vivid aspects of postmodern referential design.

In the mid '80s, Johnson (who had long known Houston architects Howard Barnstone and Burdette Keeland, both members of the University of Houston's architecture faculty) was commissioned to design a new School of Architecture building for the UH. Finished in 1986, the School of Architecture is a large-scale paraphrase of an unbuilt 18th-century scheme for a "House of Education" by Claude-Nicholas Ledoux. It is an eclectic assembly of barrel arches and square and rectangular openings in a four-story block mass topped with low

Above left: Johnson designed a curved facade for the Marshall Field store in Dallas.

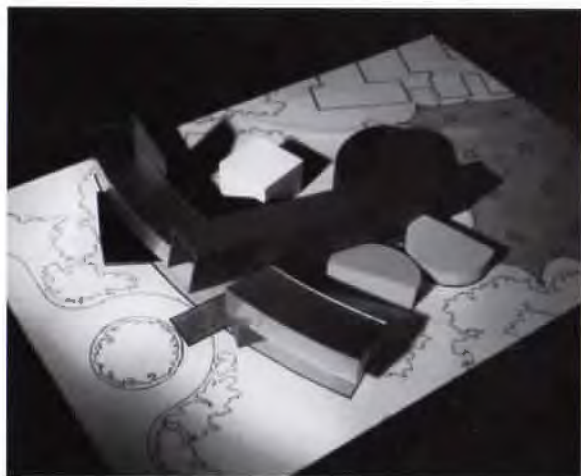
Above: The Crescent, with its decorative filigree and bland curtain wall, was Johnson's most controversial design in Texas.



Photographs these pages courtesy Phillip Johnson, Architect

Above: model for the proposed chapel at the University of St. Thomas in Houston

Right: model of proposed University of Houston School of Law



roofs, both gabled and hipped, supporting a square, roofless stone *tempietto*. The school's plan of design studios stacked around an open atrium beneath a glass skylight (the "floor" of the roof temple) works very well. The studios, visually open to each other across the broad central space, are defined by heavily detailed x-configured "Roman" railings surrounding and connecting each level. Although some students and faculty opposed the design when it was announced, Johnson, standing on the ground floor of the tall space during a 1991 visit, received a thunderous ovation from the entire school.

The next Texas building (and the tallest in suburban Houston for a long time into the future) was again for Gerald Hines. The 64-story Transco

Tower (1985) in Hines's Galleria district serves as that neighborhood's glistening campanile, a landmark for all of southwest Houston. The 900-foot mirror-glass shaft rises straight up with intermediate setbacks and outside corner rabbets, diminishing the mass as it rises and giving the whole a '30s-moderne quality, recalling square towers such as the Nebraska and Louisiana state capitols, Fort Worth's Will Rogers Coliseum, and New York's Empire State Building. Here Johnson lays up the glass without floor articulation, in sizes echoing stone masonry, and combines a silvery reflective surface (strapped tight in white metal) with gray-tinted projecting accents that give the building added vertical velocity. There is an adjacent park anchored symmetrically and fondly with a semicircular fountain and a mock-neoclassical "gazebo" of pedimented brick and stone. For the visitor, the pulse-quickening drama of the fountain rivals that of the gorge in the Fort Worth Water Garden. (Johnson says: "The secret of great fountains is GPM—gallons per minute.") In its bold use of water, this corporate "folly" captures the imagination in the human and popular terms that are missing from the icy and aloof tower.

Also completed in 1985 with Shepherd & Boyd, associated architects, was the Crescent complex in Dallas, a mixed-use development for Rosewood Corporation that Johnson justified by calling it reflective of late-19th-century Texas buildings. That was a bit of a stretch, but the land-use plan for the triangular site north of the central business district is thoughtful and logical. At the apex of the site's triangle, Johnson located a fan-shaped multilevel retail block, open in the center to a patio and fountain. In mid-block, a five-story hotel and garden formed an arc across the site, while on the widest side of the block, there was a 17-story concave office building facing the downtown skyline.

The development opened with great fanfare just as the state's economy was collapsing, and its faltering fortunes seemed to underscore a major misstep on Johnson's part. The problem was that, in the project's Dallas neighborhood, local bungalows for years had been tricked up with mansard roofs to make them look more "European," and the Crescent, with its slate mansard roof, became simply the most "mansardic" project of all. The tall office block, with its vertical yokes of filigreed balconies and its shockingly commonplace curtainwall, stretched out the six-story, 18th-century Parisian model as if it were so much Silly Putty. The limestone exteriors and the hotel's interiors and garden were executed luxuriously, and the office block and hotel have eventually proven popular, but the retail

section intended for luxury marketing was not as successful. The Crescent's parody of Paris marked the low point of Johnson's espousal and embrace of postmodernist appropriation of architecture's past.

The last Johnson/Burgee job in Texas was a huge tower for Mercantile Bank, now Bank One (1989) in downtown Dallas, on a block across from the Nieman-Marcus flagship store. Completed after Texas' shattering real estate bust of the mid-'80s, it stands as a monumental metaphor for the excesses of the decade. In its facile design, MBank Tower also culminates the years of the Johnson and Burgee association, which began to dissolve in 1986. The granite-faced tower employs a large-scale barrel arch at its entry and copper-covered intersecting vaulted roofs at the top. The design kit recalls ancient Rome, as well as parts of AT&T and even the Wilson Building (1920) across the street. The masonry shaft is defined by punched windows—without plan or floor expression—flanking tall, sheer, central panels of off-the-shelf glass curtainwall, a clumsy melding employed before in the Crescent and in New York, Boston, Chicago, and San Francisco buildings by Johnson/Burgee. The square mass of the tower diminishes near the top with half-vault glass setbacks to its cruciform top and roof plan. The banking room, enormous and stridently expensive, has been toned down by the new owners.

Late Career

PHILIP JOHNSON, the artist-architect of the 1950s, had wanted to be more—to be, in fact, *l'architecte du roi*, and he had made an almost Faustian pact with his partner John Burgee and America's corporate world to achieve his goal. As the '80s construction boom ended, it was time for everyone, including Johnson, to face reality and return to the essentials. Having split with Burgee, Johnson began again, with enthusiasm, heading a small office and looking for work. Moving to a smaller space above the sleek suite once occupied by the 80-member office he shared with Burgee, Johnson is delighted to have "Philip Johnson Architect" on the door. (Burgee also moved to smaller quarters after declaring bankruptcy following Johnson's departure and following a \$16-million judgment against Burgee won by another partner.) At 87, Johnson is excited about starting again as proprietor of a small firm dedicated to architecture as art, with emphasis on his current stylistic mode, deconstructivism.

Johnson has long been criticized for being so flagrantly flip and inconsistent in his design philosophy. Miesian modernism, monumental modernism, expressionist modernism, postmodernism, and now deconstructivism have all served as avant-

garde platforms for the evolution of Johnson's body of work. Despite the chameleonlike way he has embraced and then distanced himself from stylistic modes, Johnson is emphatic and apparently sincere when he says, "I am not a form-giver like Mies or Wright. I wish I were."

From the beginning of his career in the 1930s, it would seem that Johnson has been obsessed with the artistic *zeitgeist* of the moment. Johnson says, showing his pleasure in its protean quality, "You can feel it in the air." He is a chummy patron of iconoclasts such as Peter Eisenman, Frank Gehry, and Zaha Hadid, but one feels he is drawn less to their crusading ideas than to the form, the look, the "art-objectness" of their architecture. It is perhaps symptomatic that he regularly dismisses Eisenman's didactic posturings as "impossible bullshit." Embracing deconstructivism, he makes clear the thread that has run through his work: snaring high-flown ideas to produce high-style objects.

Wedded to decon's currency on architecture's edge, Johnson's recent designs include a highly abstract collage of colorful structures for the Univer-



Left: Johnson's new office has designed an entry pavilion, in the deconstructivist style, for The Glass House, the 30-acre estate donated by Johnson to the National Trust for the Preservation of Historic Buildings in 1986.

sity of Houston College of Law, as well as a chapel for the University of St. Thomas in Houston. Designed to finally anchor and close the axis of Johnson's 1956 Jeffersonian composition, the chapel is to be a large white cube topped with an off-center dome, cleaved by a dark, heavy masonry plane cutting diagonally through cube and dome.

Entry will be through a vertical slit in the cube, curling outward like a blowing curtain.

Besides projects in Germany and Japan, Johnson and the young associates in his new office have designed an observation structure for his collection of buildings in New Canaan, which are known collectively as The Glass House. In 1986,

Johnson donated the 30-acre estate to the National Trust for Historic Preservation, to be opened to the public following his death. At the time of the gift, following receipt of a cash settlement from Burgee, Johnson said he was prompted both by tax considerations and his 80th birthday. "I always wanted to keep that sense of ownership, but with the intimations of mortality that one gets after 80, that doesn't seem as important as before," he says.

Private Realm

FOR 40 YEARS his sponsorship of architecture as *ideas*, along with his patronage of today's most celebrated stylistic leaders, made Johnson the most influential American architect of the era. As he enters this last phase of his career, Johnson's role in the eastern establishment is, obvious differences notwithstanding, not unlike the one once held by O'Neil Ford in Texas—charismatic leader, outspoken advocate, and inspirational maverick.

These days, Johnson leaves the office most Thursdays for the private domain in Connecticut that is both his private sanctuary and the clearest expression of the development, decade by decade, of his ideas and meditations on the tempers of the times.

He works and studies in the tiny stucco building he built in 1979 on the sloping meadow a hundred yards or so south of his glass-walled house. No path or walk leads to the study. It stands apart, aloof and proud, bespeaking its discrete role and its special, private place in Johnson's life. The walls



Photographs this page by Frank Welch, FAIA



are lined with books on art and architecture—monographs, histories, essays, criticism, and biographies collected since his earliest days as a scholar and architect in the '40s. A square white table sits beneath a tall conical skylight, with rolls of thin yellow paper, scales, triangles, and pencils arranged neatly on top. (Johnson says of the setup: "I never

could draw. It's been a terrible handicap. But to stop working is to die") Facing the table is the room's only window, framing the distant trees down the slope like a painting. At the edge of the woods, on axis with the window, is a small, sharply gabled structure built on an 18th century stone foundation with walls and roof of chain-link fencing. Johnson calls it his Gehry Ghost House.

Beyond the woods at the bottom of the hill is the artificial pond and Pavilion built in 1962. The original gold-leaf ceiling of the tiny hypostyle has all but disappeared but it still arrests the senses with its eye-fooling scale. Far up the hill behind the pond is a cubist totem of concrete masonry designed by Johnson in 1986 as a tribute to Harvard classmate Lincoln Kirstein, the ballet impresario and his patron for the New York State Theater.

Anchoring the north end of the eclectic composition of buildings and spaces is the Sculpture Gallery (1970), embedded in the ridge of the slope that forms a lateral axis through the north-south confines of the complex. This white-brick, barn-like polygonal volume below a great low-pitched gable of glass and steel is undoubtedly the most original concept on the property. The brilliant interior stuns with the striations of shadow cast by the roof structure. The closely spaced shadows angle across the white walls that descend and heighten, turning down four levels of dark masonry steps. The building is a piece of sculpture holding sculpture pieces that, on sunny days, are laced with slow-moving chevrons of shadow that rake across them.

The fourth structure that Johnson built on his property (after the Glass House, the Guest House, and the Pavilion) was an underground gallery for his paintings, completed in 1965. Like a bunker or a tomb, it lies between his house and the Sculpture Gallery, buried in the hill that slopes up to the public road. One enters the vault between splayed retaining walls faced with red, hand-cut limestone and, after a neutralizing, rectangular foyer, one comes into a high-ceilinged circular space that interlocks with a smaller semicircular volume. Each concave part is centered with pivoting panels that hold paintings like a vertical Rolodex, an arrangement that provides both storage and flexible viewing. The furniture is minimal and the track lighting adjusts to dramatically focus on the changing array of Johnson's large collection of paintings, including pieces by Warhol, Stella, Rauschenberg, and Salle.

When one enters the property and first sees his steel-framed dwelling from the gate, it looks terribly fragile, vulnerable and small. (As with a human celebrity, one is often chagrined, made uneasy by the disparity between the familiar two-dimensional

media image and the real thing: *She's much taller than I thought; He's thinner than he looks in photos.*) But as one approaches the Glass House, past an old free-standing stone wall and the brick box that is the guest house, its presence magnifies and the details become as important as the parallel reflective planes subtly mirroring you and the setting. When you enter the crystalline mass it evaporates instantly and you are centered in Johnson's universe, an encompassing panorama of natural beauty. Through the years of enhancement to the property with structures of various use and expression, Johnson has constantly redesigned the native landscape, but the Miesian temple of glass and black steel has never changed and remains the mooring centerpiece for everything there, as well as possibly the *chef d'oeuvre* of his career.

Johnson welcomes the prospect of starting again, at a scale much like that at which he began. The eye, the enthusiasm, and the mental energy are much the same as in the beginning. The difference is obvious: unmatched position as sage, celebrity, and pop-deity of modern high culture. What is constant and undiminished is his love of architecture, architects, and being an architect. Apologizing last year when he was late for an interview, he said, "Been on the phone planning a trip to Berlin. I have a new client and a new building. There's nothing more exciting than that for an architect, is there?" **TA**

Frank Welch, FAIA, is an architect in Dallas.

Facing page, top left: interior of the Sculpture Gallery, raked with chevrons of shadow

Facing page, below left: Johnson's studio aligns with the chain-link "Gehry Ghost House."

Facing page, right: interior of the Painting Gallery, with its pivoting storage/display system

Below: The Sculpture Gallery, under a ridge, faces the Glass House.



Courtesy Philip Johnson Architect

Survey

Addition Geometry 54

ARCHITECTURE W.O. Neuhaus Associates worked with the National Park Service to create a compatible addition.

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SMALL PRACTICE ISSUES Barry Moore, FAIA, outlines the rules for a successful preservation practice.

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Addition Geometry

ARCHITECTURE Chamizal National Memorial is a 55-acre park in El Paso commemorating the treaty that established the border between the United States and Mexico. When the National Park Service determined that an addition to the existing two-story building was needed, W.O. Neuhaus Associates of Houston conducted an on-site charrette with park staff and other potential users to explore various options; the park service required addition of a multi-purpose and exhibition space, a conservation and art storage facility, offices, and a maintenance facility.

The park service was concerned about obscuring the existing hexagonal building (Carroll, Daeuble, DuSang and Rand, 1972) and wanted to



photograph this page by Mark A. Brochtrup

Cubism in Czech

CZECH CUBISM: ARCHITECTURE, FURNITURE, AND DECORATIVE ARTS 1910-1925

**Alexander von Vegesack, editor
Princeton Architectural Press (1992)**

344 pgs., 540 illus.

\$65 hardcover, \$39.95 paperback

BOOKS Rounding the corner of a narrow street in Prague's Old Town (Staré Město) a couple of years ago, I was arrested by the vision of a cubist building. Lurking in the flat light of a drizzling spring day was a building whose entire surface was fractured, almost like a dirty crystal, into small irregular planes of stucco. Projecting, receding, tilting, and twisting, the facets decomposed the building's mass into a floating swarm of tones.

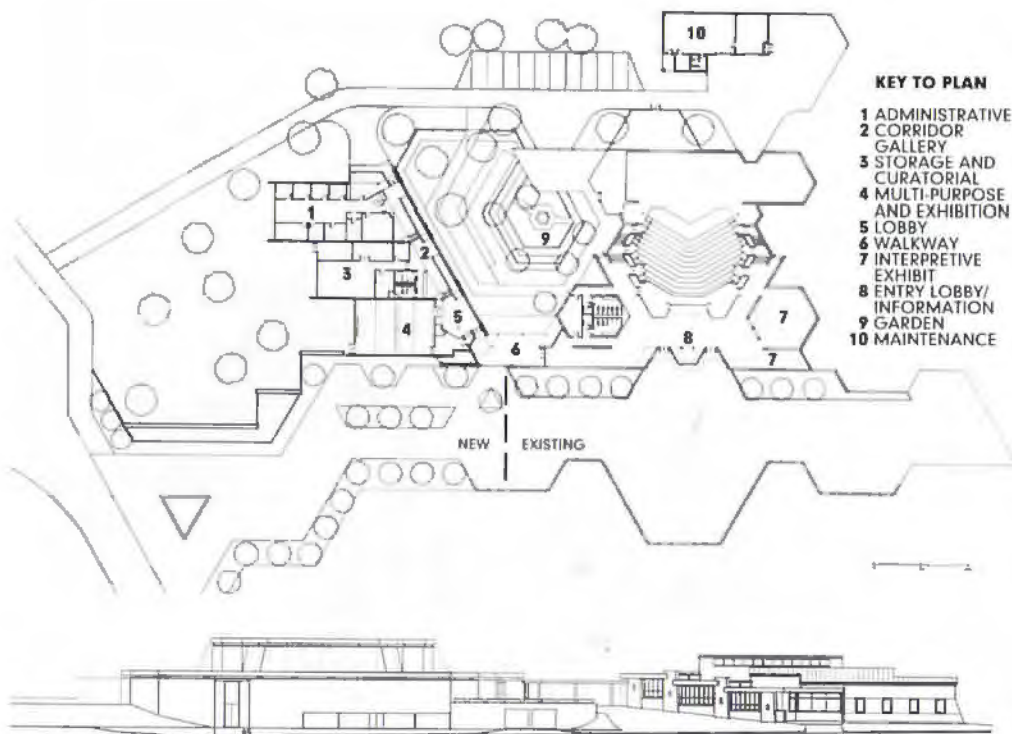
I had come across vague references to Czech cubism in my disjunctive readings, usually illustrated by a tea pot or a chair. But here was a work of architecture, an apartment building, where the cubist principles of abstraction, fragmentation, and space-time deception had been taken from the painter's canvas and applied to a three-dimensional object. Over the next several days in Prague I encountered more of this

astonishing architecture, work that was created during a spirited period in the first decades of this century by both artists and architects in Bohemia and Moravia (in what is now the Czech Republic).

Political conditions in Eastern Europe from the 1930s through the 1980s prevented the display or study of this work. Communist regimes rejected modernism and suppressed avant-garde attitudes in art and architecture. The exhibition of cubist design described in this book, which opened in Prague in 1991 and traveled to Germany, France, Spain, Canada, and the U.S. (currently at the Cooper-Hewitt in New York through August), was the first comprehensive collection and analysis of this little-known period. This volume is much more than an exhibition catalog, however. The presentation of drawings, furniture, architecture, china, objects, and posters is expanded with period theoretical writings, a history placing the work in context, biographies of the architects, a period chronology, and useful maps. Overall, this is a stimulating and essential reference to a curious tangent of the early modern era.

Gerald Moorhead, FAIA

Gerald Moorhead, FAIA, is an architect practicing in Houston.



- KEY TO PLAN**
- 1 ADMINISTRATIVE
 - 2 CORRIDOR
 - 3 STORAGE AND CURATORIAL
 - 4 MULTI-PURPOSE AND EXHIBITION
 - 5 LOBBY
 - 6 WALKWAY
 - 7 INTERPRETIVE EXHIBIT
 - 8 ENTRY LOBBY/INFORMATION
 - 9 GARDEN
 - 10 MAINTENANCE

NORTH ELEVATION WITH ADDITION

Opposite page, top: The three-tiered addition encloses the garden,

creating an interior courtyard between old and new sections of the center.

Opposite page, bottom: A ramped corridor, open on the east to the garden,

connects the three levels and can be used as gallery space.

retain the existing Spanish garden. The solution devised features a three-level addition that steps down and encloses the garden. The square angles of the addition contrast with the hexagonal geometry of the original building, while stone, stucco, and copper roofing materials connect the addition to its predecessor.

Use of multiple levels in the addition reduced the building's mass, the architects say, and preserved the visual integrity of the original entrance as requested by the park service. At the highest level is the multi-purpose exhibition and assembly room; clerestory windows take advantage of the northern exposure. At the middle level is the storage and curatorial space, and at the lowest level is the administrative area. The levels are connected by a single-loaded corridor open to the garden that can be used as a secondary exhibition space.

The addition is separated from the original building by a 20-foot-wide portal with a sliding gate. The gate provides a focus to the Spanish garden and allows access to the garden from the exterior mall as needed for special events.

The project included reworking of portions of the existing building, including the interpretive-display space and sales counter, along with addition of a small gallery connecting the new building to the old. *Jobanna Rowe*



Missing architectural details, including newells, banisters, and balusters, were reproduced in fiberglass by Jerry Post during

the renovation of the Driskill Hotel in Austin. Carved wood reproductions would have sent the project over budget.

Looks like new

CRAFT Restoration architects often need additional copies of an architectural detail that is essential to recreating the look and feel of the original structure. When reproducing that element in the original material is too costly or time-consuming, or even impossible, Austin-area architects often turn to Jerry Post, owner of Anything Fiberglass. Working with fiber-reinforced polymer (FRP), Post can replicate virtually anything, though he specializes in producing natural-looking imitations of stone and wood.

FRP is useful for restoration work for a number of reasons, Post says. FRP, commonly known as fiberglass, can be cut, patched, and sanded, and is very lightweight and relatively inexpensive. It is formed by pouring polyester or epoxy resin gel-coat into a mold. These molds can be made from existing architectural components, and can preserve even the most minute details, Post says. In addition, the molds can be made on-site, eliminating the need to remove elements, such as gateposts, light fixtures, balustrades, and doors, and ship them elsewhere for replication. Pigments can be added to the resin to create a range of colors, or the material may be painted. Virtually any sur-

face may be represented, including cast metals, adobe, brick, and painted wood. The only requirement is that the object to be replicated have a surface that is stable or that may be stabilized. FRP does have some disadvantages, Post admits. Since it can be damaged by impact, its use at the base of buildings should be limited. It is also subject to ultraviolet deterioration and must be coated, painted, or have pigments added in order to protect it.

Post has made fiberglass replicas of hard-to-replace components of such Austin landmarks as the Driskill Hotel, the Bremond and Hoffman Houses, and the Littlefield Building. During the restoration of the 100-year-old Driskill Hotel, replacements for missing carved wood newels, banisters, and turned-and-carved balusters were needed. The contractor found a woodworker in Canada who could carve the items, but at a price well over budget. In the interest of money and time, the contractor turned instead to Post and composite replication. An original newel, a section of banister, and a baluster were molded and replacement parts were fabricated. In order to duplicate the original parts as closely as possible, Post says, extra care was taken in making the molds to preserve details such as surface nicks, brush marks, and paint drips. *JR*

Profit in Preservation?

HISTORIC PRESERVATION has been a part of my architectural practice since I entered the profession in 1967. The challenge of achieving profitability has been a constant since that time. Fear of unprofitability, I suspect, keeps many architects away from historic preservation. But preservation practice can be profitable. In my firm, our efforts to achieve tighter control over project budgets have helped us understand better ways to guarantee a profit on our own bottom line. Practicing preservation can be just like "normally" profitable design specialties if the practitioner adheres to eight principles, which are unique to the field.

- **Break the contract to pieces.** In preservation, phasing is good for you. Let's face it: Historic preservation is complicated because of often-hidden conditions. That means it's hard to estimate your task time. By phasing a contract, you can isolate the time-risky portions (such as field measurement) from other, better-controlled phases (such as contract documents). If you have a small firm, chances are your clients will be a modest 501-C3 non-profit group, and their capital campaign will be phased also. You can match their efforts with profitably phased services. One of our projects, the Stafford Opera House [see *TA*, Aug 1991], had a final budget of \$850,000, stretched out over eight years, with four separate contracts for architectural services—all profitable.

- **Research—don't give it away.** Anyone who enjoys preservation work is a history nut, and that can be dangerous to your profit potential. We practitioners are so enthusiastic, we tend to jump in and do the research for the fun of it. But if you think of this as part of your professional services and are able to give it a defining scope, you can sell it legitimately for compensation, of great value to the owner.

- **Photography—don't subsidize it.** Most architects expect reimbursement for photography related to project conditions, and the preservation architect should be no different. You and your client should realize that photodocumentation is an important part of research, often integral with the contract documents. If you underestimate the cost of photography, the client may not want to pay when the actual cost

becomes clear. In our firm's restoration of the Orange Show, a folk-art environment in Houston, photography represented half of the documents; the project manual included four sleeves of slides, primarily for color matching; subsidizing them would have been a costly mistake.

- **Take a peek early.** If you can, schedule selective demolition in an early phase—after design development, but before contract documents. Two things will happen: You will discover any unknown conditions, thereby addressing them in the documents instead of with change orders in the field; and, during the bidding period, the contractor will realize that the unknown is minimized, which should be reflected in the contractor's pricing. In a phased project, this, together with roof repairs, constitutes a perfect first construction phase.

- **Define your documentation level.** Is it Historic American Building Survey format, or something less? The answer can determine a lot about profitability. HABS drawings (and the field notes that produce them) are the most rigorous in standard usage, but that format is not well-suited to average clients or their budgets. You and your client need to understand beforehand the *level* of measured drawings necessary to do the job. Then you can be profitably compensated for it.

- **Plan the measured drawings for multiple duty.** Think of your measured drawings as backgrounds for a historic-preservation project—draw once, use twice or more for architectural, electrical, demolition, reflected ceilings, and so on. You could realize a profitable savings in production time. Measured drawings of the Stafford Opera House served as backgrounds through four phases of architectural services.

- **Weight your fee for construction observation.** In spite of your best-planned documents, the experience of your contractor, or the sophistication of the client, historic buildings re-



Paul Hester

The Orange Show, the late Jeff McKissack's folk-art environment in Houston, was restored by Barry Moore for the Orange Show Foundation in 1981.

quire more field time than other kinds. Stuff comes up, appears, is uncovered, or new solutions happen, and you need to be there, preferably with your camera. Within a fixed-fee project, we insist that 25 percent of it be in construction administration.

- **Control the number of client meetings.** If you don't, you may lose it all at the conference table. Remember, most owners of historic buildings are as excited about the project as you are, and thus may not equate their time with money, as you must. Decide together up front how many review sessions are necessary, and include the time in your fee.

HAVING carefully analyzed in this article how to make money at preservation (or, at least, how not to lose it), I must admit that it's often hard to get it all right on a single project. And it took us a long time to learn different techniques on different projects. The key is putting it all together, with compensation adequate to allow you to do a thorough job for your client and still do the work as a profitable project for your firm.

Barry Moore, FAIA

Barry Moore, FAIA, is a principal in The Mathes Group, a multidisciplinary firm based in New Orleans and Houston. He has practiced in Houston for 24 years, originally with his father, Harvin Moore, FAIA, the first practicing preservationist in Houston. An Associate Professor of Architecture at the University of Houston College of Architecture, he is director of the college's Center for Historic Preservation and Adaptive Reuse.

PRODUCTS AND INFORMATION



The **Ironmonger, Inc.**, has introduced the first hardware designs from French designer Phillippe Starck. The door handles, door knobs, and cupboard knobs are available in either aluminum or in aluminum encased in translucent colored plastic.

Circle 174 on the reader inquiry card

The Guild 8, a sourcebook published annually by **Kraus Sikes, Inc.**, includes the work of nearly 200 artists and artisans who specialize in architectural installations, including architectural glass, metal, ceramics, mosaics, and sculpture. The book includes photographs, pricing information, and client references.

Circle 175 on the reader inquiry card



This year's **American Plywood Association Design/Construction Guide: Residential & Commercial** contains revised material on grade designation of APA performance-rated panels, and building requirements

for fire and wind resistance, among others. Information on glued laminated beams and APAs Code Plus program has also been added.

Circle 176 on the reader inquiry card

Eastern Exterior Wall Systems produces lightweight, durable, prefabricated exterior panels for use in re-cladding applications. The panels are manufactured with light-gauge galvanized steel framing and can weigh up to 75 percent less than other cladding systems. Claddings available include stone, thin brick, ceramic tile, EIFS, aluminum, and others.

Circle 177 on the reader inquiry card



SweetSource, from **Sweet's Electronic Publishing**, is an interactive CD-ROM that contains product information from

more than 500 manufacturers. Users can select and compare product information including photographs, illustrations, and specifications and can then cut and paste information into other desktop software packages, including CAD and word-processing applications.

Circle 178 on the reader inquiry card



CastGlass™ from **Dura Art Stone** is a precast concrete grid system that holds solid glass paver units from Pittsburgh Corning;

the system allows glass block to be used to create walkways, stair treads and landings, floor panels, and other traffic-bearing components.

Circle 179 on the reader inquiry card



Bio-Lite from **Biovation Products** eliminates the subtle "flicker" of standard incandescent and fluorescent bulbs, providing natural light that is twice as bright as ordinary lighting. Bio-Lite, which uses an ordinary 60-watt bulb, is designed to duplicate the effects of natural morning sunlight; this soft light reduces eye strain and enables colors to appear true-to-life.

Circle 180 on the reader inquiry card

GRAFFITIGARD™ from **Hudson & Hudson Scientific** is a high-performance protective coating that can be used to protect buildings and public transportation systems from graffiti. It is abrasion and impact-resistant and may be applied directly to many surfaces and over old graffiti. GRAFFITIGARD is available in clear and in most colors.

Circle 181 on the reader inquiry card

Doors, Windows, and Skylights

The **Crystal View Series** from **SIMPSON DOOR COMPANY** features polished radius-cut grooves to create a divided-light effect without the intrusion of traditional panes.

CIRCLE 182 ON THE READER INQUIRY CARD



The **Hidden Places** guide from **VELUX** provides examples of the use of roof windows in remodeling unused attic and garage space. The guide answers questions about such topics as placement of roof

windows and raising the pitch of a roof. **CIRCLE 183 ON THE READER INQUIRY CARD**

EGGERS INDUSTRIES offers rated wood jambs, side lights, and borrowed lights with up to 1,296 square

inches of glazing per pane. The jambs and lights are available in any wood species and can be supplied with a wide variety of casing profiles.

CIRCLE 184 ON THE READER INQUIRY CARD



KALWALL CORPORATION's skylights and skyroofs feature a highly insulated, translucent sandwich panel formed by bonding fiberglass sheets to a grid core of interlocked, ex-

truded structural I-beams. The panels can be flat or curved and assembled into a variety of shapes.

CIRCLE 185 ON THE READER INQUIRY CARD

Resources: Manufacturers and Suppliers

Alamodome, pp. 13-15

Concrete: Schoenfeld; **Reinforcing steel:** SMI; **Steel forms:** EFCO; CECO; **Structural steel:** Crown Steel; **Steel joists:** Vulcraft; **Precast concrete:** Manco; **Joint sealant:** Sonneborn (Chem Rex); **Paint for steel:** Benjamin Moore; Sherwin Williams; **Miscellaneous steel:** Beck Steel; **Precast masonry:** Barrett Industries; **Wall insulation:** Dow Styrofoam; **Standing-seam metal roof:** Steelite; **Metal wall panels:** Steelite; **Single-ply roofing:** Stevens Roofing Systems (JPS Elastomerics); **Glass:** Tempglass; **Curtainwall panel system:** Alucobond; **Overhead doors:** Overhead Door Corp. of San Antonio; **Metal drywall studs:** Dietrich Industries; **Gypsum wall board:** USG; **Interior paint:** Sherwin Williams; **Interior wall covering:** Koroseal; B.F. Goodrich; **Dock leveler:** Rite Hite; **Carpet:** Prince Street Technologies; Patcraft; **Wood doors:** Fenestra; **Toilet accessories:** Bobrick; **Folding partitions/operable walls:** Advanced Equipment; **Lockers:** List Industries; **Millwork:** Koehler Co.; **Hollow metal doors and frames:** Tex-Steel; **Hardware:** Sargeant; Soss; Stanley; Trimco; Rixson-Fivemark; Remko; National Guard Products; H.B. Ives; **Plumbing fixtures:** Crane (Noland Distributors); **Drinking fountains:** Elkay; **Fire-sprinkler system:** Grinnell; **Ice-rink system:** Rothmar; **Air-handling units:** Trane; **Switchgear:** Westinghouse; **HVAC and lighting-control system:** Johnson Controls; **Light fixtures:** Redwine Krueger; **Structural frame;** precast concrete; **field-level slab;** masonry; **hollow-metal doors, frames, and hardware;** and **Cherry Street improvement:** Lyda, Inc.; **Aluminum glazing systems:** Arrow Glass Company, Inc.; **Graphics (signage):** ANDCO Industries, Corp.; **Conveying systems, escalators, and elevators:** Montgomery Elevator Co.; **Sound systems:** Proshow; **Upper-deck seating:** Interkal, Inc.; J.F. Clark Co.

Dallas Museum of Art, Nancy and Jake Hamon Wing, pp. 36-39

Ready mix concrete: TXI; **Concrete masonry units:** TXI; **Indiana limestone:** Harding & Cogswell; **Roofing:** Stevens Roofing Company (JPS Elastomerics); **Ceramic tile:** Dal Tile; **Carpet:** Prince Street Technologies; **Rubber flooring and base:** Roppe; **Ceiling tile:** Grio; **Paint:** Sherwin Williams; **Waterproofing:** Volclay, W.R. Grace; **Skylight:** Naturalite; **Stainless-steel doors:** Hoffman; **HVAC:** Trane; **Ice-storage tanks:** Calmac; **Window systems and glass:** PPG; **Fireproofing:** W.R. Grace, Mowokote; **Light fixtures:** Edison Price; **Lightolier;** **Toilet accessories:** American Standard; **Plumbing fixtures:** Kohler

Administration and Junior School Building, Museum of Fine Arts, Houston, p. 39

Limestone: Indiana Limestone; **Windows:** Kawneer; **Glass block:** Pittsburgh Corning; **Customized mill corrugated-finish anodized-aluminum panels:** M.D.C.; **Concrete block:** Featherlite; **Drywall:** U.S. Gypsum Co.; **Stair railings and metal work:** Berger Iron Works; **Terrazzo flooring:** National Terrazzo and Tile Co.; **Ceramic tile:** American Olean; **Elevator:** Otis; **Plumbing fixtures:** American Standard; **Hardware:** Sargeant; **Lighting:** Halo

Children's Museum of Houston, pp. 40-41

Cast stone: HAKCO Precast, Bryan; **Millwork:** Reynolds Millwork, Houston; **Fiberglass:** Associated Fiberglass, Fort Worth; **Roofing:** Top Concepts, Pearland; **Aluminum and glass:** Binswanger Glass, Houston; **Exterior insulation and finish system:** Corev America, Houston; **Drywall:** Marek Brothers,

Houston; **Tile and terrazzo:** American Marble & Mosaic, Houston; **Painting:** Owens and Burnett, Houston; **Pre-engineered building:** 4M Construction Services, San Antonio; **Elevators:** Dover Elevator, Houston; **Fire protection:** Northstar Fire Protection, Dallas; **Plumbing and HVAC:** Way Engineering, Houston; **Electrical:** KenMor Electric Co., Houston; **Tree pruning:** Davey Company; **Earthwork:** AYG Construction Company; **Fencing:** Astro Fence; **Redi-mix concrete:** Pioneer Concrete; **Concrete placement and paving:** Baker Concrete; **Reinforcing steel:** Texas Cold Finished Steel; **Structural steel:** United Structures of America; **Acoustical ceiling:** Austex Ceiling; **Hollow metal:** Pearland Industries; **Finish hardware:** Century Hardware; **Caryakid painting:** Glen Miracle; **Auditorium seating:** Hoover Brothers; **Overhead and fire doors:** Overhead Door Co. of Houston; **Exterior pavers:** Narciso Tile; **Sealants:** ABCO Enterprises; **Pediment sheet metal:** Seline Roofing; **Folding partitions:** TRW Modernfold Co.; **Insulation, carpet, floor-covering, redi-carpet:** Ryder Company; **Greenhouse:** Russell Building Services; **Toilet Accessories:** Clyde Griesenbeck & Son; **Toilet partitions:** Klinger and Associates

American Airpower Heritage Museum, Confederate Air Force World Headquarters, p. 43

Exterior insulation and finish system: Dryvit (Circle Supply); **Pre-engineered building components and low slope roofing:** Butler; **Steel windows and doors:** Hopes; **Cast stone:** Pyramid Stone Co.; **Hanger windows:** Kalwall; **Glass block:** PPG; **Paint:** TCI; **Steel fencing:** American Fence; **Light fixtures:** Metalux, Halo, Appleton, Benjamin; **Carpet:** Lees; **Vinyl-composition tile:** Armstrong; **Rubber base:** Roppe; **Skylight:** View Thru; **Countertops:** Corian; **Ceramic mosaic tile:** Dal-Tile; **Plumbing fixtures:** Crane, Kohler; **Millwork:** Hunter Millwork; **Rolling Ladder:** Cotterman; **Hardware:** Sargeant

C.R. Smith Museum, p. 43

Terrazzo floors: American Terrazzo Co.; **Structural and miscellaneous steel:** Vulcraft; **Elevator:** Dover Elevator; **Ceiling tile:** Armstrong; **Silhouette grid:** Armstrong; **Sprayed acoustical insulation:** International Cellulose Corp.; **Fabric-wrapped acoustical panels:** American Fabric Panel by Stretchwall Inc.; **Capcore fabric-wrapped ceiling tile:** Capaul; **Open-cell ceiling system:** Alcan Magnagrid; **Electrical:** Kim Lighting for plaza and aircraft; **Exhibit lights:** Prescolite; **Interior recessed lights:** Kurt Versen; **Built-up roofing:** Tamko, Inc.; **Glass entrance systems:** Tri-dent Consolidated; **Overhead doors:** Texas Overhead Door; **Resilient flooring:** Armstrong; **Carpet tiles:** Collins, Aikman; **Below-grade waterproofing:** W.R. Grace; **Granite block:** Texas Quarries Limestone; **Metal roof:** Berridge Manufacturing; **Sound doors:** Overly; **Ready-mix:** Scofield Architectural Concrete Color; **Ceramic tile:** Dal-Tile

Chamizal National Monument, pp. 54-55

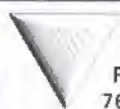
Metal roof: Berridge Manufacturing; **Windows and curtain wall:** Kawneer; **Multipurpose room and ceiling:** Potlatch Lock-Deck; **Multipurpose room lighting:** Lightolier; **Multipurpose-room flooring:** Robbins Sportwood; **Hall ceiling:** Forms and Surfaces; **Hall lighting fixtures:** Holophane; **Ceramic tile:** American Olean; **Paint:** Hanley; **Carpet tile:** Interface; **Plastic laminate:** Wilsonart and Nevamar; **Suspended-ceiling system:** Armstrong

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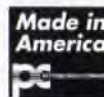
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Texas Index July/August 1993

LEADING INDICATORS:

	March 1993	March 1992	Percent Change
Texas Index of Leading Economic Indicators (Jan. 1981 =100)	119.40	116.20	2.8
COMPONENTS			
Initial Claims for Unemployment	72,282.00	81,631.00	-11.5
Average Manufacturing Hours/Week	42.43	42.50	-0.1
Help Wanted Index (1979=100)	109.80	99.50	10.4
Retail Sales (Million \$)	11,565.00	11,037.00	4.8
Oil Price (\$/Barrel)	18.18	16.66	9.1
Stock Index (1980=100)	155.10	118.70	30.7
Housing Permits (3-month moving avg.)	5,780.00	4,832.00	19.6
New Business Incorporations (3-month moving avg.)	3,228.00	2,882.00	12.0
Consumer Confidence Index (1985=100)	64.40	55.70	15.7
U. S. Leading Economic Indicator Index (1982=100)	152.00	147.90	2.8

AFTER RISING for seven months in a row, the State Comptroller's "Index of Leading Texas Economic Indicators" (see left), fell slightly in March, while still managing a 2.8-percent increase over its March 1992 level. The Texas Stock Index, which measures investor confidence in 75 Texas-based companies, saw the most improvement, rising 30.7 percent from one year ago. Housing permits also registered a strong gain with a 19.6-percent improvement. The regional Consumer Confidence Index, which has been extremely volatile in recent months, still recorded the third largest annual improvement, 15.7 percent. The only negative index component was average manufacturing hours per week, which fell by one tenth of one percent. With nine of ten index components improving from their March 1992 figures, the slight monthly decline poses little cause for concern.

In 1992, the number of houses sold in major Texas metropolitan areas reached 102,432 (see below), surpassing 100,000 for the first time since 1979, when 107,816 houses were sold. The 1992 sales, valued at nearly \$9.7 billion, represent a 7.5-percent increase over 1991's total of 95,324 units sold. Houston led the state with more than 30,000 sales, while Dallas was second with 19,700. Austin saw 8,500 sales, San Antonio recorded 7,000, and El Paso had 5,100. Based on the pace of house sales in the first two months of this year, real estate experts are predicting that 1993 will better 1992's total by approximately 2,000 houses.

RESIDENTIAL HOUSE SALES IN TEXAS (sold through Multiple Listing Services):

Period	Sales	Period	Sales
1973	34,060	1984	90,657
1974	50,754	1985	88,099
1975	59,103	1986	81,155
1976	72,798	1987	85,462
1977	97,790	1988	90,803
1978	113,365	1989	87,993
1979	107,816	1990	95,997
1980	88,087	1991	95,324
1981	79,798	1992	102,432
1982	68,563	1993*	104,495
1983	85,236		

* 1993 figure projected based on actual sales through February.

Compiled by Mark Denton

Source for Leading Indicators: John Sharp, Comptroller of Public Accounts

Source for Home Sales: Real Estate Center at Texas A&M University

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