

Fall Semester 1997 Vol. 8, No. 3

Features

- **Learning Through Architecture**
- **The Kimbell Art Museum**
- **TAEA 1997: A Guide for Conference Participants**
- **Modern Art Museum of Fort Worth**
- **Resources for Teaching Architecture**
- **Art - O - Gram Architectural Treasure Hunt**
- ***Ranchos Church - Taos, Georgia O'keeffe***
- **Adobe Architecture**
- **Instructional Unit Adobe Architecture**
- **The Amon Carter Museum**
- **Recent Changes at NTIEVA**
- **The ArtLinks Inquirer Cityscapes in Silhouette**
- **Architecture Internet Links**

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Fall Semester 1997 Vol. 8, No. 3

LEARNING THROUGH ARCHITECTURE

Why Teach Architecture?

Students in our classrooms are familiar with architecture, even if they are not consciously aware of, the structures around them. Children experience the built environment of architectural forms as part of everyday experience. Because architecture is so available, it offers the teacher an effective subject to help students develop visual literacy and aesthetic sensitivity to their surroundings. We invite you to investigate the suggested resources and the architecture of the art museums included in this issue and to involve your students in exploring architecture.

In an excellent book, *Architecture is Elementary: Visual Thinking through Architectural Concepts*, Nathan B. Winters suggests that students need to be able to perceive important concepts of design and to recognize the priceless parts of our architectural heritage. A valuable resource for teachers, Winters' book is organized into the basic and most important concepts used by great architects. Fifty lessons progress from levels one to seven as the concepts become intertwined. The book, filled with the author's black and white illustrations, gives clear insight into the possibilities of teaching architectural concepts in the public school curriculum.

"Architecture provides us shelter from the elements, privacy, beautiful spatial experiences, cities and towns, comfort, and humaneness, and it must be planned by humans who do those things."
-Nathan B. Winters

Fall Semester 1997 Vol. 8, No. 3

THE KIMBELL ART MUSEUM

The collection of the Kimbell Art Museum is admired and appreciated, but the building itself is as important and as well known as any of the works found within its walls. This did not happen by accident. The history of the building describes the development of "a museum of the first class," as benefactor Kay Kimbell described it.

Kimbell, a prosperous businessman with holdings in a variety of companies, along with his wife, Velma, and a sister and brother-in-law, formed the Kay Kimbell Art Foundation in 1936. At that time, neither Dallas nor Fort Worth had a museum. The only place where one could see paintings was in department stores where they were for sale. Trips to see these few paintings and his appreciation for beautiful pictures led Kimbell to build a collection of art. Works from the collection were often loaned to the local library, churches, colleges and other institutions.

When Kimbell died in 1964, the collection included 360 works and his will stipulated, in part, that he wished "to encourage art in Fort Worth and Texas by providing paintings and other meritorious works of art for public display, study, and observation in suitable surroundings." Initially, the Kimbells had planned to bequest their home to the Foundation to use as a museum, but, as the Fort Worth cultural district began to develop, members of the Foundation felt that they would prefer a location in same area as the Amon Carter Museum and the Modern Art Museum of Fort Worth.

The Selection of a Director

The Kimbell's first director, Richard Fargo Brown, was chosen because of his experience in construction, acquisitions, and administration. Selecting a director prior to having a building was in a somewhat juxtaposed order, but the Foundation wished the museum director to be actively involved in the planning and construction of the project. One of Brown's initial actions as director was to propose **Louis Kahn** as the architect for the museum. In Brown's comments concerning the construction of the building, he stated that he wanted the museum to be a creative contribution to the history of architecture and anticipated that the building itself would be part of the collection, "designed, constructed, and maintained according to those same aesthetic standards that govern the collections which it houses."

The Selection of an Architect

Kahn's reputation had already been firmly established before he agreed to design the Kimbell. His work was widely admired and he had completed many important commissions. The Salk Institute in California especially demonstrated his ability to deal with light and glare. Brown was acutely aware of the Texas environment with its intense sunlight. Brown's specific instructions to Kahn included that "light should play a vital part in illumination," but added that he desired "warmth, mellowness, and even elegance."

The preliminary designs for the Kimbell Art Museum were quite different than the completed building. Preparatory drawings called for a large vaulted building that almost filled the entire site. Brown responded to this first plan with apprehension about the large size. His fear was that the Kimbell's paintings would be overwhelmed by the space and that maintenance of such vast spaces would be cost-prohibitive. Subsequent plans scaled down the building's size and angular vaults were changed into lower, gentler curves. These curves, known as cycloid curves, seem to define the exterior and interior spaces of the museum.

Kahn did not appear concerned about the changes being made upon his third and final set of plans. He told Brown, "the building gives you answers as it grows and becomes itself." For Kahn, all of the changes had merely been a part of the creative process of building. Construction began and continued in spite of a multitude of problems and changes. Details were given as much attention as major elements. Kahn's intimate association with the selection and specification of materials is exemplified in the final transmittal from his office to the Museum. It was his design for the drinking fountains.

The Kimbell Art Museum opened to the public in October 1972 . Brown described the Kimbell as "what every museum has been looking for ever since museums came into existence: a floor uninterrupted by piers, columns, or windows, and perfect lighting, giving total freedom and flexibility to use space and to install art exactly the way you want." The last building completed under Kahn's guidance, the Kimbell is considered to be possibly the architect's greatest achievement.

Probably the most difficult problem the Kimbell may have to face in the near future is the problem of space. As the collection continues to grow, limited gallery space poses problems. In 1989, the Kimbell announced a planned addition to the building. This addition was halted, however, when the international architectural community protested. They and others felt that the building as a work of art should not be altered in any way. Today the Kimbell Art Museum remains essentially as it was on its opening day, a graceful tribute to the generosity of the Kimbell Art Foundation and the architectural genius of Louis Kahn.

written by Kay Wilson

References

The Kimbell Art Museum, Fort Worth. *In Pursuit of Quality: The Kimbell Art Museum, An Illustrated History of Art and Architecture*. New York: Harry N. Abrams, Inc., 1987.

Fall Semester 1997 Vol. 8, No. 3

TAEA 1997: A GUIDE FOR CONFERENCE PARTICIPANTS

Fort Worth welcomes the 1997 TAEA Conference on November 5-9, and invites participants to explore and enjoy the many sites and activities of the area. This year's conference will be held at the Worthington Hotel (200 Main Street), conveniently located within historic Sundance Square. Named after one of its early visitors (the Sundance Kid), Sundance Square is located in a renovated part of downtown Fort Worth just a few blocks south of where the original city was established in 1849.

Reservations for the Worthington may be made by calling 817-654-2211 or 817-870-1000. Room rates begin at \$98.00 per night for double occupancy.

Featured Speakers

The TAEA conference will present four exemplary speakers from the world of art. The four include two widely-respected Texas artists, a Texas university art educator, and a museum educator from New York. **Philip Yenawine**, former Director of Education at the Museum of Modern Art in New York, will open the conference at the first general session on Friday, November 6, from 9:00-10:30. Texas sculptor **Jesus Moroles**, recent subject of an ArtsEdNet online exhibition and discussion on the Internet, will be the featured speaker on the same day at 12:00 at the opening luncheon. Texas artist **Melissa Miller**, an Austin-based painter, will speak at the general session on Saturday from 9:00-10:30, and **Dr. Dennis Fehr**, author of *Dogs Playing Cards: Powerbrokers of Prejudice in Education, Art, and Culture* will speak at the final general session from 9:30-11:00 on Sunday morning.

Sundance Square

Within easy walking distance of the Conference Hotel are art museums, theaters, historic buildings, a variety of restaurants, and shopping. Sundance Square is busy all day and into the night. Conference participants can enjoy The Sid Richardson Collection of Western Art (309 Main Street), home to an assortment of Remingtons and Russells) or the Modern Art Museum of Fort Worth Sundance Square Annex (410 Houston Street), offering mini-exhibits of the Modern's collection and a large gift shop.

Those who would like to take in a live performance can attend an African-American production at the Jubilee Theater (506 Main Street), see a play at the Circle Theater (230 West 4th Street), or sample a musical at Casa on the Square (109 East 3rd Street). The Caravan of Dreams (312 Houston Street), easily identified by its rooftop grotto and cactus dome, showcases diverse music as well as mainstream and experimental theater. Call the individual theaters for venue, times, and ticket information.

To the north of Sundance Square is the beautifully restored Tarrant County Courthouse (100 E. Weatherford) and its adjacent tromp l'oeil addition. The Fire Station Number 1 Museum (2nd and Commerce Streets) showcases The 150 Years of Fort Worth exhibition and continues with a tour of the area.

Under construction is the Bass Performance Hall on Commerce Street which will soon be home to the performing arts in Fort Worth. The building's exterior architecture and sculpture are noteworthy and not to be missed. No walking tour of Sundance Square is complete without seeing The Chisholm Trail Mural painted on the entire side of a building located at 3rd and Main Streets.

Dining

A partial list of restaurants and cafes in the Sundance Square vicinity include menus that should appeal to any and all tastes. Mi Cocina (509 Main Street) and Juanita's (115 West 2nd Street) specialize in Mexican food. Razzoo's (318 Main Street) serves Cajun while Risky's (300 Main Street) has barbecue. The Cactus Bar and Grill at the Radisson Plaza (815 Main Street) offers a Southwest menu. For steak dinners, try Reata's (5th and Throckmorton on the 35th floor of the Bank One Building) or Del Frisco's Double Eagle (812 Main Street). Java Creations (5th and Taylor streets) and the Coffee Haus (404 Houston Street) provide a place for a relaxing coffee break.

Shopping

For shopping, try the new Fort Worth Outlet Square at 1st and 3rd streets, Barnes and Noble Bookstore (with coffee shop) at 3rd and Calhoun Street, or the Legacy Trading Post (500 Main Street) in the Burk Burnett Building. Many other specialty stores and shops are located within Sundance Square. These are but a few highlights of downtown Fort Worth. Guided tours of Sundance Square will be led by local TAEA members or you may feel free to plan your own walking tour. Experience the charm and hospitality of Fort Worth, where the West begins!

Fall Semester 1997 Vol. 8, No. 3

MODERN ART MUSEUM OF FORT WORTH

Architect Selected for New MAMFW Site

In April of 1892, the Founding Charter of the Fort Worth Public Library and Art Gallery was established. Today we know this institution as the Modern Art Museum of Fort Worth (MAMFW). With a charter more than 100 years old, the MAMFW is the oldest art museum in Texas. Soon this Fort Worth tradition will break ground for a new building designed by Osaka-based architect, Tadao Ando. A self-taught architect, Ando was one of six international architects to submit proposals for the Modern.

This is Ando's first major commission outside of Japan, although he has designed a variety of important buildings in that country and has received numerous architectural awards throughout the world. In the United States, an example of Ando's completed work is found only at the [Art Institute of Chicago](#), where he designed a small gallery for Japanese screens. A private residence in Chicago and a private gallery in St. Louis are both under construction.

The MAMFW is considered one of the decade's most distinguished architectural commissions. According to James Wood, director of the Art Institute, "with the [Kimbell](#) and the Amon Carter, Philip Johnson's greatest museum (Fort Worth), has the opportunity to create one of the great campuses of modern architecture in the world."

The design presented by Ando took into consideration some grand challenges: the new museum's location, a creation of space that is simultaneously comfortable and stimulating for visitors while safeguarding art objects, and of course, certain extremes in Texas weather. Located on almost 11 acres in the Fort Worth Cultural District and bordered by Arch Adams Street, Camp Bowie Boulevard, and University Drive, the Modern will be a neighbor to Louis Kahn's masterpiece, The Kimbell Art Museum.

According to The Fort Worth Star-Telegram, Ando acknowledges Kahn as "undoubtedly the last great architect to represent the 20th century" and considers that in "doing a project next to the Kimbell, I have to make my best effort." The Museum's selection committee recognized Ando's sensitivity to the location and needs of the city. "The Committee was very moved by the beauty of Mr. Ando's concept, his responsiveness to our program, and his poetic handling of the site."

Tadao Ando's Design

According to Ando, his plan for the MAMFW was based upon his idea of visitors feeling that they were in an arbor. Ando's concept suggests a dual interpretation of both human made and natural arbors; the human arbor modeled from art objects-the natural arbor formed by trees, greenery, and water. Original plans for the simplistic 200,000 square foot building call for six side-by-side rectangular modules to be constructed from poured concrete and glass with complementary exterior landscaping of trees and water. The completed building will be modified into a smaller version that will reduce construction and operation costs. Projected final costs to construct the smaller version could be as much as \$70 million. Land for the museum was funded by a major grant from the Burnett Foundation.

Understanding that Texas weather most often is harsh in its extremes of heat and cold, construction concerns will take into consideration widely varying summer and winter temperatures as well as conditions such as hail and high winds. The process of selecting a team of architects, engineers, and contractors to address all of the building's requirements is in the early

stages. Ando's own architectural firm and MAMFW officials are working collaboratively to choose the team to construct the building.

Six Designs Submitted

In addition to Ando's design, architectural submissions for the new Modern were made by Richard Gluckman (New York), Arata Isozaki (Tokyo), Carlos Jimenez (Houston), Ricardo Legorreta (Mexico City), and David Schwarz (Washington, D.C.).

Fall Semester 1997 Vol. 8, No. 3

RESOURCES FOR TEACHING ARCHITECTURE

Publications

American Architects, book and 12 prints, available from Crystal Productions, 1-800-255-8629.

Architects Make Zigzags: Looking at Architecture from A to Z, by Roxie Munro.

Architecture is Elementary: Visual Thinking Through Architectural Concepts, by Nathan B. Winters.

Architecture Timeline, Crystal Productions, (6 panels make a 13-foot timeline).

Discover America's Favorite Architects, by Patricia Brown Glenn.

Frank Lloyd Wright for Kids: His Life and Ideas - 21 Activities, by Kathleen Thorne-Thomsen.

Historic Preservation Education and ArchiTeacher, by Gary and Michele Olsen.

Homes of Frank Lloyd Wright, video, available from Crystal Productions.

SimCity 2000, CD-ROM, Crystal Productions.

SimTown, CD-ROM.

Under Every Roof: A Kid's Style and Field Guide to the Architecture of American Houses, by Patricia Brown Glenn.

Why Design? Activities and Projects from the National Building Museum, by Anna Slater and Kevin Cahill.

Other Resources

Architecture in Education (AIE), The Foundation for Architecture, One Penn Center at Suburban Station, Philadelphia, PA 19103, 215-569-3187, E-mail: ffa@voicenet.com; write for information on their teacher guide, *Architecture in Education: A Resource of Imaginative Ideas and Tested Activities*, (\$25.00 plus \$2.50 for shipping) and *Structure* (\$10.00 plus \$1.00 for shipping), a 20" x 36" poster that illustrates the basic concepts of structure, building, and architecture.

The Center for Understanding the Built Environment (CUBE), 5328 W. 67 Street, Prairie Village, KS 66208, 913-262-0691, E-mail: cubegg@aol.com; a sample packet of materials (newsletter, catalog, and various related materials) is available for \$2.50 by mail, or for free on the Internet; also available is a workbook for students and teachers, *Walk Around the Block Curriculum*.

Learning by Design, the Environmental Education Program of The American Institute of Architects; for information, contact The American Architectural Foundation at The American Institute of Architects, 1735 New York Avenue, NW, Washington, DC 20006.

Architecture Internet Links

Architecture Can Teach

19th and 20th Century Architecture and Design The Aesthetic Movement

Community Bridge

Frank Lloyd Wright Designs for an American Landscape, from the Library of Congress

RANCHOS CHURCH - TAOS
GEORGIA O'KEEFFE

Picturing Architecture

One approach to learning about architecture is to investigate works of art that use architecture as subject matter. Many painters have included architectural images in their works, either as the primary focus or in the background of a composition. For example, *Rouen Cathedral* has been painted by both Claude Monet and Roy Lichtenstein. The Eiffel Tower is found in paintings by Marc Chagall and *A Lady at the Paris Exposition* by Luis Jimenez Aranda, and



Edward Hopper is known for architectural paintings such as *Early Sunday Morning*. Georgia O'Keeffe's *Ranchos Church - Taos* is a particularly rich image that exemplifies the impact of a monumental structure on the artist.

Georgia O'Keeffe and *Ranchos Church - Taos*

Georgia O'Keeffe's art and life are closely associated with the Southwest, particularly New Mexico, her home for nearly four decades. Although she had passed through the state on a trip to Colorado in 1917, her first extended stay occurred in the summer of 1929. She returned each year until 1949, when after settling the estate of her husband, Alfred Stieglitz, she moved there permanently. Over the years, the region continually fascinated and inspired her. Among the best-known of her many and varied images are her several paintings of the eighteenth-century mission church of St. Francis of Assisi, located in Rancho de Taos.

O'Keeffe depicted this impressive church about eight times during her first two summers in New Mexico. All, except one, focus on the massive, bulging exterior of the structure's apse end. This adobe church, which O'Keeffe considered "one of the most beautiful buildings left in the United States by the early Spaniards," undoubtedly appealed to her because of its tremendously close identification with the land out of which it seems to grow, its undulating lines, its colors and material imbue the structure with a distinctly geological, as opposed to architectural, sensibility. For O'Keeffe, painting *Ranchos Church* must have been very much akin to rendering a "pure" landscape, such as *Dark Mesa and Pink Sky* (1930). In both instances, immense sculptural forms and rhythmic contours fill the space, and as in the best of her work, the artist finely balances representation and abstraction.

by Mark Thistlethwaite, from *American Paintings: Selections from the Amon Carter Museum*.
Fort Worth: **Amon Carter Museum**, 1986.

ADOBE ARCHITECTURE

Introduction

The term adobe generally refers to all structures made of unfired earth, usually built with cast, sun-dried bricks made from a mixture of mud and straw. The history of the word traces the development of adobe architecture through time and around the world. The Egyptian hieroglyph *tob*, the Arabic word *at-tub* (or *attuba*), and the Coptic word *tobe* all mean "brick." From Egypt the term entered the language of the Arabs and then the Spanish, moved from North Africa to Spain to Latin America, and finally to the Southwest United States. Adobe architecture is often considered to be *vernacular* or folk architecture - the traditional use of materials and forms native to a region or country.



The existence of historic adobe buildings and the continued contemporary use of the material in both West Africa and the Southwest United States offer significant opportunities for cross-cultural comparison of form and design and an investigation of the historical connections between two geographically-distant areas of the world.

The History of Adobe

The use of adobe, especially in brick form, traveled from West Africa to southern Spain with the Moors, a Muslim continued from page 6 people originally from Mauritania who invaded Spain in 711, not to be vanquished until 1492. The Moorish Islamic influence on styles and construction of Spanish architecture affected, in turn, a synthesis of Native American and Spanish architectural traditions beginning around 1598 with the establishment of the first Spanish settlement in New Mexico.

When Francisco Vasquez de Coronado entered northern New Mexico in 1540, he encountered over 100 occupied villages, mostly located along the Rio Grande River. Called *pueblos* (the Spanish word for villages) by the conquistadors, these communities consisted primarily of flat-roofed, apartment-like dwellings, with numerous rooms and multiple stories.

These were built of stone and mortar or by the adobe construction known as *coursing* or *puddling*. In coursing or puddling adobe construction, a thick layer of mud is formed by hand. When it is dry, another layer is added on top of the first; subsequent layers are added in the same fashion .

The Spanish introduced the use of the adobe brick and built homes and churches based on forms remembered from Europe. This synthesis of Indian and Spanish architectural forms and construction methods that occurred during the Colonial period is evident in adobe architecture in contemporary New Mexico.

Adobe as Shelter

Adobe shelters about 1.5 billion people in arid climates throughout the world today. Adobe architecture provides relatively simple, economical, and thermally efficient buildings in dry, desert climates. In such climates, stone is often rare and wood is too scarce for building or to fuel brick kilns. Local earth provides a building material to create an "artificial cave" that is in harmony with its environment. Substantial walls that may be two-feet thick and small window and door openings provide insulation against temperature extremes, keeping indoor temperatures fairly constant.

The nature of adobe as a building material dictates to a great degree its aesthetic forms and characteristics. Forms are organic, simple and rounded, often molded by hand.

Adobe architecture is found in desert environments of Mauritania, Mali, Senegal, Ivory Coast, Burkino Faso, Guinea, and Niger, other countries such as Morocco, Algeria, Egypt, Afganistan, Iraq, Iran, India, Pakistan, Oman, United Arab Emirates, Yemen, and Saudia Arabia, and the Southwest United States.

The Design and Maintenance of Adobe

The most common contemporary method of adobe construction around the world is the use of adobe bricks. The individual bricks are cast in rectangular wooden molds and left to dry in the sun. Mortar to connect the bricks is also made from mud and straw. Adobe structures tend to rise from broad bases and have organic, rounded forms. Exterior walls may be plain or earth-colored, but are sometimes whitewashed or painted with designs or carved in relief. Southwest United States adobes often have roofs supported by heavy, round, exposed peeled beams called *vigas*. Interior details may include molded contours, corner fireplaces, and *nichos*.

Adobe architecture may last an extremely long time if provided with regular maintenance. Yearly mud replastering is necessary to repair the erosion caused by annual rains. Modern building codes have, at times, had a detrimental effect on adobe structures. Many adobe buildings in the Southwest United States have been damaged by the application of cement, rather than adobe, plaster. Adobe walls tend to shrink away from cement plaster, allowing water underneath to melt away the adobe.

Rancho de Taos Church

The San Francisco Mission Church at Rancho de Taos, was built south of Taos, New Mexico, in 1815. Made famous in paintings by artists such as Georgia O'Keeffe, it was covered in cement plaster in 1967. The resulting deterioration was finally corrected in 1979 when the cement plaster was removed and replaced with mud. Since that time, the Church undergoes an annual mud replastering by its parishioners.

INSTRUCTIONAL UNIT

**UNIVERSAL CULTURAL CONCEPT:
Connections to the Natural World**

UNIT TITLE: Adobe Architecture: Southwest United State/West Africa

Objectives

Students will:

1. recognize distinctive characteristics of traditional adobe architecture from cultures around the world.
2. compare and contrast adobe architecture from the Southwest United States and West Africa.
3. determine the inherent properties of adobe that affect the design of adobe architectural forms.
4. create a contemporary architectural model made from clay that incorporates adobe aesthetic traditions.

Materials and Preparation

- sketch paper and pencils
- wedged wet clay
- burlap pieces or canvas to cover tables
- clay tools
- slab roller or tools for rolling slabs (rolling pins, wooden lathe strips, needle tools)
- containers of water and clay slip
- assorted objects for creating texture in clay
- plastic bags for storing work
- kiln
- colored slips
- brushes or sponges for applying slips

Resources

Bourgeois, Jean-Louis, *Spectacular Vernacular: The Adobe Tradition*

Romero, Orlando, and David Larkin. *Adobe: Building and Living with Earth*

World map; slides of adobe architecture from the Southwest United States, West Africa, and other world regions.

Content Base/Motivation

Show and discuss slides or other images of adobe architecture, primarily from the Southwest United States and West Africa (include adobe from other areas of the world, if possible). Compare

and contrast the adobe forms from these two widely-separated world regions. Determine the geographic location of each image on a world map. Investigate similarities in climate and availability of raw materials. Trace the development of the use of adobe and the changes in its aesthetic forms from West Africa to Spain to New Mexico.

Explain the three primary methods of adobe or mud construction: rammed earth (*pisé de terre*), coursing or puddling, and the use of sun-dried bricks. Lead students in a speculative discussion about the inherent properties of adobe as a building material and how these properties affect the design of adobe architectural forms.

Encourage students to develop initial designs of three-dimensional architectural clay models through sketches. Designs should be contemporary interpretations of traditional adobe aesthetic characteristics: organic forms, molded contours, arches, doorways, and windows, and the use of natural colors.

Procedure/Production

Develop designs for clay architectural models through a number of thumbnail sketches with pencil on paper. Draw different views of final design choice and determine hand-building techniques appropriate for construction of the chosen design. The size of the resulting clay form will be dependent on the structural design, as the clay must be able to support its own weight.

Clay slabs for walls may be created using a slab roller (if available) or rolled and cut by hand. Depending on the design chosen, paper templates may be needed for cutting walls from clay slabs. A slab base for the form may or may not be needed, but some opening needs to be left in the final form so that it will not explode when fired in the kiln.

A variety of hand-building methods may be used to construct the clay architectural model. Slabs of clay may be cut into shapes, bent, textured, shaped, or combined with other forms. Clay may be pinched or sculpted and attached. Join forms by scoring connecting edges and applying slip, smoothing joins with the fingers. Keep work moist between classes by sealing in plastic.

When clay forms are finished, let dry completely. Add natural colors and/or texture by applying engobes with brushes or sponges before firing. When finished with the addition of color, fire in a kiln. Display and have students take turns to discuss the development of their designs.

Extensions

1. Display work with a written narrative explaining development of the design and design influences.
2. Investigate the decorated adobe walls traditionally painted with intricate geometric designs by women in Mali and Burkino Faso. Develop contemporary designs to decorate clay architectural models. For natural colors, paint forms with colored slips before firing; for bright colors, paint after firing with acrylic paints.

Vocabulary

- adobe
- coffer
- vernacular or folk architecture
- pueblo/village
- adobero(a)

- enjarador(a)
- organic
- molded contours
- mortar
- viga
- niche/nicho
- placita
- mission
- mosque

Evaluation/Outcomes

1. Distinguish characteristics of traditional adobe architecture from cultures around the world?
2. Compare and contrast adobe architecture from the Southwest United States and West Africa?
3. Investigate natural properties of adobe that effect the design of adobe architectural forms?
4. Create a contemporary clay architectural model incorporating adobe aesthetic traditions?

Fall Semester 1997 Vol. 8, No. 3

THE AMON CARTER MUSEUM

Although the two men never met, the visions of Amon G. Carter, Sr. (1879-1955), a Fort Worth publisher and philanthropist, and Philip C. Johnson (born 1906), a famed New York architect, combined to create a museum that is celebrated today for its outstanding collection of American art.

Carter had long indicated his desire to build a public museum to display his impressive collection of works by Frederic Remington and Charles M. Russell. In 1951 the Amon G. Carter Foundation purchased a portion of the museum's future site to protect the land from commercial encroachment. Although Carter did not live to see his dream fully realized, the wheels had been set in motion. In 1959 the city of Fort Worth provided an adjoining tract for the express purpose of building a museum.

Philip Johnson was one of the originators of the term International Style to denote a simple and unadorned building style that expressed structure through the direct use of modern materials. By the time he designed the Amon Carter Museum, Johnson had modulated his earlier, more austere style. He created a simple, elegant design that combined the warmth and richness of bronze with the creamy, intricately patterned surface of native Texas shellstone.

Johnson placed the building on what he termed "a noble slope overlooking the city's center" and designed a two-story portico with five segmented arches on tapered columns that faced east to the city's skyline. Johnson compared his design to a Renaissance loggia--a covered, open porch that looks out over an open court. Indeed, the museum's east facade faces a terraced plaza that culminates in a large sunken square of grass, surrounded by a walk. At its eastern end, Henry Moore's monumental sculpture, *Upright Motives*, provides balance and focus as one gazes across the open prospect.

Sheltered by the arched portico, the museum's front wall consists of a two-story curtain of glass windows with bronze mullions. Johnson wrote that this curtain wall separated "the art from the city, the cool from the warm, the peaceful from the active, the still from the windy." The main entrance leads directly into a two-story hall of Texas shellstone, dark bronze, rich brown teak, and a floor of pink and gray granite.

Beyond the main area, Johnson designed five intimate galleries of equal size for the display of art. Above these, on the mezzanine level, he placed five similar rooms for a library and offices; today they serve as galleries for rotating exhibitions, each with a balcony opening that looks out over the main hall. The latter space provides a grand, yet serene setting for sculptures and large paintings.

Although the museum was initially conceived as a small memorial structure, its collections grew rapidly, and the institution soon required additional space. In 1964, only three years after the museum first opened, a 14,250-square-foot addition was completed to provide space for offices, a bookstore, a research library, and an art storage vault in the basement. Joseph R. Pelich, an associate architect on the original building, carried out the work and consulted with Philip Johnson to assure consistency with the original architectural vision.

The Museum opened yet another addition, designed by Johnson and his partner, John Burgee, in 1977. It expanded the museum's area by 36,600 feet, to more than double its original size. The three-story section, which comes to a point at the junction of Camp Bowie Boulevard and Lancaster Avenue, included more office space, a two-story storage vault, a greatly expanded library, and a 105-seat auditorium that enabled the museum to present a broad range of interpretive programs.

In 1996 Philip Johnson made important adjustments to the design of the museum's east facade, allowing the building to have a greater flexibility to withstand the effects of sharp sunlight and the extremes of Texas weather.

When he first designed the Amon Carter Museum, Johnson observed: "Not only is the building to house art and be a public monument, but beyond that to be a memorial to an extraordinary man." The years have proved the truth of his words. A cultural district has grown up around the museum and its neighbor institutions, and the building is noted for its architecture as well as for the artwork it contains.

Like the collection it houses, the building has expanded and adapted to the demands placed upon it, but remains first and foremost a place where people can come to experience American art. It is a fitting tribute to Amon Carter himself, and to his vision of a great museum for a city "where the West begins."

Reprinted with permission from *150 Years of American Art: Amon Carter Museum Collection*, compiled by Carter Johnson Martin. This publication is for sale in the Museum Store. A new study of the architecture of the Museum, *A Monument for a City: Philip Johnson's Design for the Amon Carter Museum*, will be available in 1997. To place an order, call 1-800-573-1933, Monday through Friday, 9:00 a.m - 5:00 p.m. CST.

Fall Semester 1997 Vol. 8, No. 3

RECENT CHANGES AT NTIEVA

Please note that NTIEVA now has a different area code, post office box number and E-mail addresses for its staff. You may reach us at:

North Texas Institute for Educators on the Visual Arts
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The *ArtLinks* Inquirer

CITYSCAPES IN SILHOUETTE



Two Ways to Create a Cityscape

Cityscapes are artworks that focus on the city as the main subject. They can be created as collages or on the computer using the same ideas and designs. Cityscapes may contain people, but they are often not as important as the buildings. A comparison may be made with landscapes, artworks in which the environment is the most important element.

Getting Started

For this project, *Cityscapes in Silhouette*, you will first create a cityscape with traditional artist's tools and materials. Then you will create a similar cityscape design using the computer as a tool.

Begin by carefully examining and comparing cityscapes made by artists. Five possibilities are found in the *Take 5 Art Print* set titled *Cityscapes* (other examples of cityscapes by artists may be found in art books and textbooks).

How are they different? How are they alike? What do you think is most important in each of the artworks you've investigated? What shapes most commonly appear? If possible, compare cityscapes with landscapes.

Look for silhouettes in the cityscapes. A silhouette is usually a solid, dark shape or form with a distinct outline, such as a building seen against the sunset. How could you show lighted windows in a silhouetted skyscraper?

Making a Silhouette Collage with Paper

Using a 12" x 18" piece of construction paper, paint a sunset sky with watercolors. Paint the entire paper, then let it dry. When it is dry, cut out buildings from black construction paper and glue

them to the background to create a skyline. Overlap shapes and add details such as windows, lights, signs, and people cut from a choice of contrasting colors of construction paper.

Using the Computer to Create a Cityscape

Using a computer drawing program such as *Kid Pix*, *Claris*, or *Easy Color Paint*, create a silhouetted skyline. First use the paint bucket tool to create a sunset sky with yellow, orange, red, or purple (some programs have gradient colors that allow you to produce skies with shades and tints of the chosen color).

Next create a silhouetted skyline for your computer cityscape. Choose the color black (or any dark color) from the color palette, then select the rectangle tool to create skyscrapers and other buildings in different sizes and shapes across your sky. Use the same process to add details such as lighted windows, using colors that contrast with the dark buildings. When complete, print your cityscape. Hang both cityscapes side by side to display and discuss.

Nancy Walkup, NTIEVA, and Carolyn Sherburn, Art Teacher, Burton Hill Elementary School, Fort Worth, Texas

The *Take 5* sets of *Cityscapes* and *Landscapes* may be ordered from Crystal Productions. Call 1-800-255-8629 for a free catalog.

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RESOURCES FOR TEACHING ARCHITECTURE

Publications

American Architects, book and 12 prints, available from Crystal Productions, 1-800-255-8629.

Architects Make Zigzags: Looking at Architecture from A to Z, by Roxie Munro.

Architecture is Elementary: Visual Thinking Through Architectural Concepts, by Nathan B. Winters.

Architecture Timeline, Crystal Productions, (6 panels make a 13-foot timeline).

Discover America's Favorite Architects, by Patricia Brown Glenn.

Frank Lloyd Wright for Kids: His Life and Ideas - 21 Activities, by Kathleen Thorne-Thomsen.

Historic Preservation Education and ArchiTeacher, by Gary and Michele Olsen.

Homes of Frank Lloyd Wright, video, available from Crystal Productions.

SimCity 2000, CD-ROM, Crystal Productions.

SimTown, CD-ROM.

Under Every Roof: A Kid's Style and Field Guide to the Architecture of American Houses, by Patricia Brown Glenn.

Why Design? Activities and Projects from the National Building Museum, by Anna Slater and Kevin Cahill.

Other Resources

Architecture in Education (AIE), The Foundation for Architecture, One Penn Center at Suburban Station, Philadelphia, PA 19103, 215-569-3187, E-mail: ffa@voicenet.com; write for information on their teacher guide, *Architecture in Education: A Resource of Imaginative Ideas and Tested Activities*, (\$25.00 plus \$2.50 for shipping) and *Structure* (\$10.00 plus \$1.00 for shipping), a 20" x 36" poster that illustrates the basic concepts of structure, building, and architecture.

The Center for Understanding the Built Environment (CUBE), 5328 W. 67 Street, Prairie Village, KS 66208, 913-262-0691, E-mail: cubegg@aol.com; a sample packet of materials (newsletter, catalog, and various related materials) is available for \$2.50 by mail, or for free on the Internet; also available is a workbook for students and teachers, *Walk Around the Block Curriculum*.

Learning by Design, the Environmental Education Program of The American Institute of Architects; for information, contact The American Architectural Foundation at The American Institute of Architects, 1735 New York Avenue, NW, Washington, DC 20006.

Architecture Internet Links

Architecture and Education

Architecture Can Teach

19th and 20th Century Architecture and Design The Aesthetic Movement

Community Bridge

Frank Lloyd Wright Designs for an American Landscape, from the Library of Congress