



Spanish Colonial Polychrome Statuary: Replicating the Lions of San Xavier del Bac

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"Santos de bulto," or wooden saints, filled niches in Baroque colonial altars. The Catholic Church endorsed devotion to the figures as a means of diverting attention from former pagan traditions. (Photo: Arizona Historical Society)



The statues represented Biblical stories in a manner that permitted viewers to "read the walls." The wooden figures were gessoed, painted, and gilded to present a life-like image. (Photo: Gloria Giffords)

Spanish Colonial Polychrome Statuary

Replicating the Lions of San Xavier del Bac

When two lions were stolen from a Franciscan church, a conservator followed the suggestions of a seventeenth century manual to replicate them.

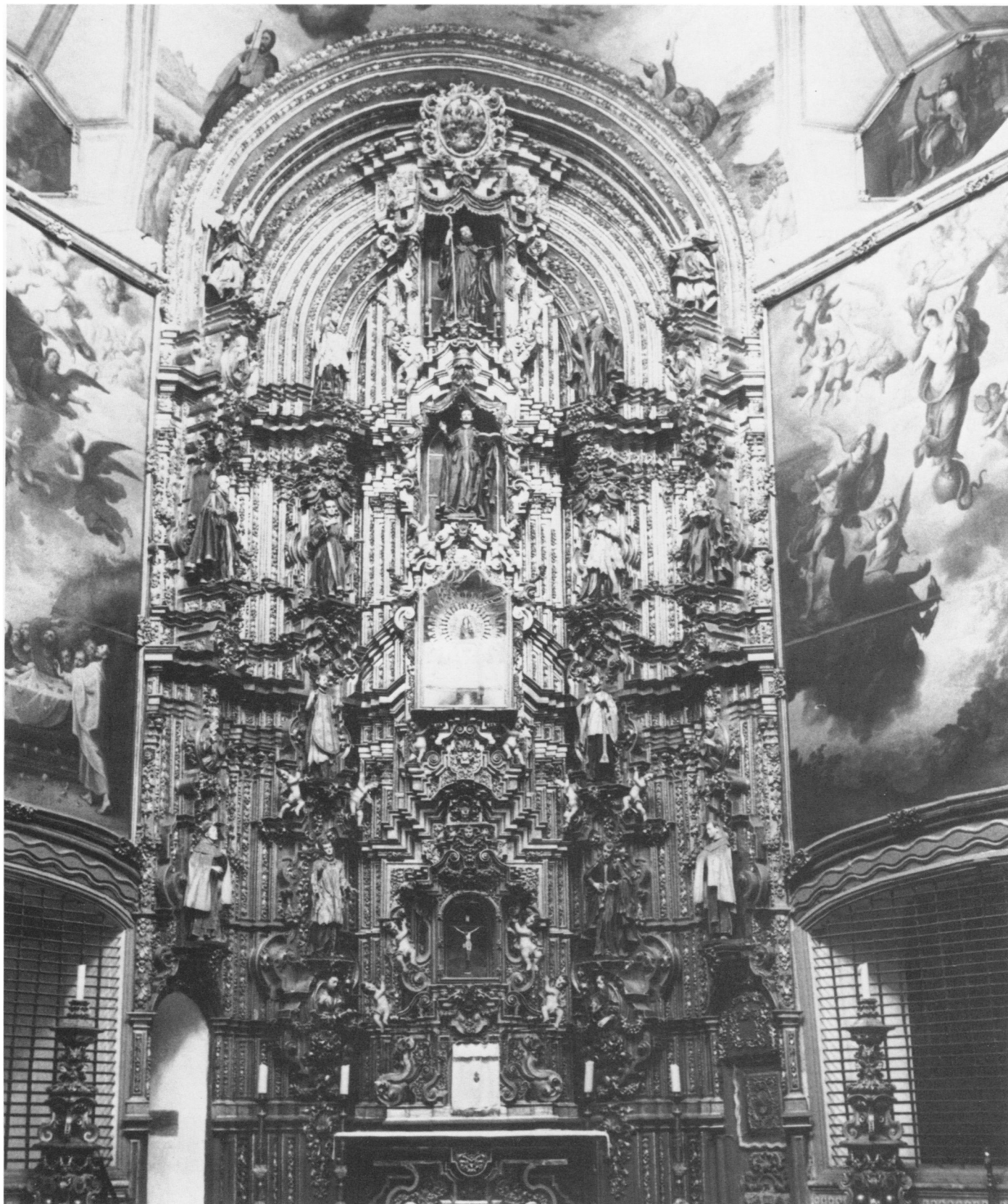
Gloria Fraser Giffords

On August 3, 1982, two wooden lions belonging to the mission church of San Xavier del Bac, near Tucson, Arizona, were stolen. They rested on either side of the sanctuary railing for as long as anyone living

could remember, and their style and method of construction indicated that they were undoubtedly Spanish Colonial, probably from the eighteenth century.¹ It is not known if they were originally made for this Franciscan structure, were moved from an earlier Jesuit church on the same site when it

was dismantled, or brought to San Xavier del Bac later.²

After three years and no clues to their whereabouts, the author requested that Helga Teiwes, Arizona State Museum photographer, provide her with as much photo documentation of the lions as was available



Richly decorated in a Baroque style, the main altar of the church of La Enseñanza in Mexico City illustrates the ornate beauty of Spanish RETABLOS. Retablos were designed to hold finely detailed statues of the saints thematically arranged. (Photo: Gloria Giffords)

from the museum's photo archives. With this in hand and a line drawing done for the Historic American Buildings Survey (HABS) of the main *retablo* which included a profile of one of the figures, the author commissioned Jorge and Hector Ortega, third generation carousel carvers in Puebla, Mexico, to replicate the figures.³

Prior to this, the author had used sections of Francisco Pacheco's early seventeenth century work, *La Arte de la Pintura*, in conjunction with other work on Spanish Colonial polychrome statuary.⁴ She discovered that, while not particularly arcane, some sections describing preparation techniques tended to be vague, either to protect trade secrets or because common shop experience made detailed instructions unnecessary. (A few recipes seemed so unlikely that it made one wonder if Pacheco had ever made or used the formulas himself. His manuscript is peppered with subjective words and expressions such as "strong," "beautiful," "weakness," "as in good painting," and "convenient amount" when describing certain elements of a formula or process.) In general, though, this author found it an extremely important work because it helped explain particular features previously encountered in stabilization and conservation work on polychrome statuary.

The opportunity to replicate an eighteenth century polychrome statue presented a chance to find out if Pacheco's formulas were viable.

In a replication such as this, it is important not only to understand how the figures were constructed, but also to be able to appreciate them within their practical and historical context. Therefore, prior to discussing the replication of the lions of San Xavier del Bac, this article presents an overview of religious statuary.

The Spanish Conquest and the Role of Statuary

The use of religious statues to explain or reinforce religious dogma was extremely important for the Catholic Church, not only during the conversion of the thousands of Indians after the conquest of Mexico in 1521, but for the general populace in the subsequent centuries. The role of statuary was similar to the role it played in Romanesque cathedrals: because worshippers could "read the walls," the statuary became a Bible for illiterates.

Fully aware that the unsophisticated might transfer their affection and ex-

Indian artisans, combining indigenous techniques with European methods, were soon involved with the creation of figures that represented the beliefs of their conquerors.

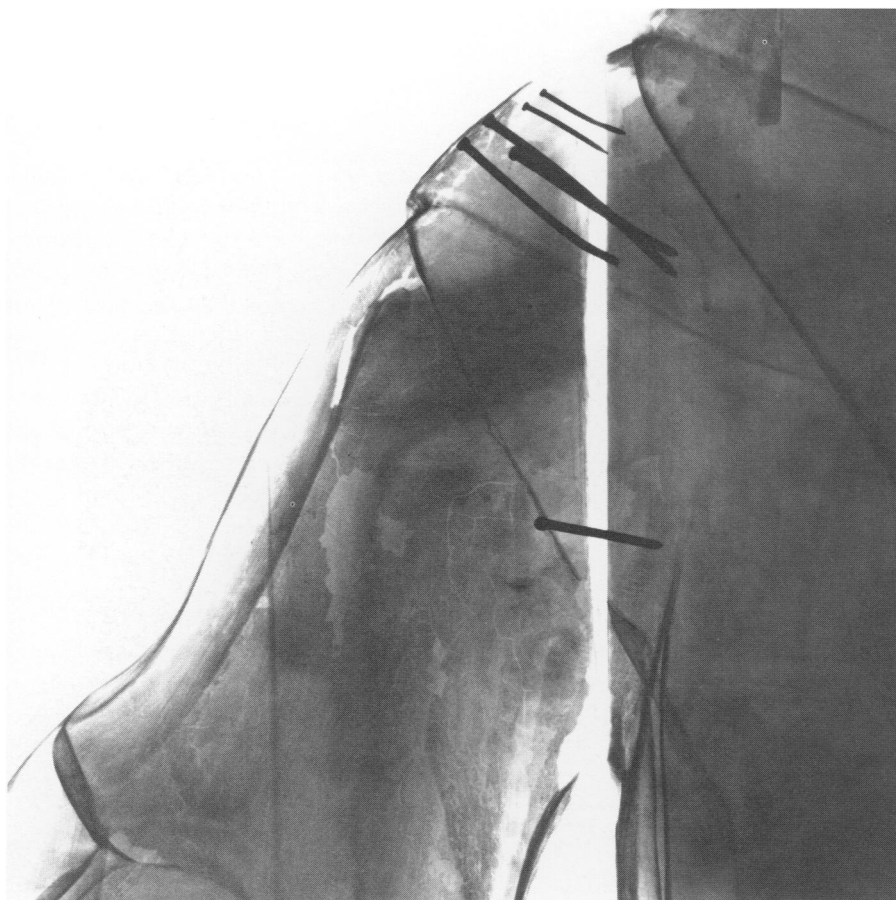
pectations to the figure itself, investing it with all sorts of magical powers, the Catholic Church nevertheless endorsed devotion to the figures as a means of strengthening individual ties to the Church's beliefs and redirecting them away from former pagan traditions. The Counter Reformation provided renewed emphasis upon the use of statues as religious icons as well as promoting certain specific themes.

The Retablo. As a gesture of respect, the religious object must be protected and presented in some appropriate and dignified manner—hence its incorporation into an altar or some type of niche and/or base to accompany the

piece. One solution skillfully exploited in Spanish churches and exported to the colonies was the *retablo*. Retablos are large altar screens mounted against the walls. A ubiquitous feature of Mexican colonial churches and almost synonymous with the Baroque in Latin America, they both provide a dramatic backdrop for religious ceremonies and create a means of presenting a number of religious paintings and statues.

The *retablo* developed impressive proportions during the fifteenth and sixteenth centuries in Spain, and then reached fantastic sizes in Mexico from the seventeenth until the latter part of the eighteenth centuries. Although inspired by Spanish influences, the New World examples exude their own national vitality and include unique decorative elements.

These giant architectural confections filled the apse end of the church behind the *retablo mayor* (main altar) and were incorporated in the transepts with secondary altars. They could also be placed in *capillas* (separate chapels), and subsequently, in the late seventeenth and eighteenth centuries spilled out along the walls of the naves for *altares colaterales* (collateral altars). Horizontal and vertical frameworks composed of carved, gessoed, and gilded wooden columns and entablatures first supported paintings on panel or canvas. Beginning around the middle of the seventeenth century, two dimensional imagery gave way to three dimensional representation. *Retablos* held finely detailed and sumptuously painted, inscribed, and gilded, *santos de bultos*, or wooden statues of saints carved in the round. The figures were arranged thematically in a series of *cajas* (niches) in horizontal divisions or stories called *cuerpos*, and they were stacked vertically in *calles*, or bays.



X-ray photography reveals the construction techniques of the artisans. The technical quality of sculptural imagery in colonial times was generally high, but the artistic merit of individual pieces is generally pedestrian, unoriginal, and monotonous due to the tremendous amount of wall space that needed to be covered. (X-ray: Walter Birkby, Department of Anthropology, University of Arizona)

Decorating the Figures. The mood of the Baroque was high drama; its goal was to convince, and its method was startling realism. Special devices were used to heighten the effects: glass eyes, real hair for wigs and eyelashes, jewelry for the Virgin, crystal tears on the face of the *Mater Dolorosa*, and carved bone inserted to simulate teeth.

Specific techniques were employed for painting the garments and flesh of the figures. The robes of the saints were richly decorated with gold and silver leaf, outlined by intense colors, and patterns achieved by pouncing and gouging through the paint and gilding into the gesso. Because of the special treatment of the garments, this type of figure is called *estofado*, a term which describes the technique for gilding and painting the garments. The skin, or *encarnación*, was ivory smooth, and the colors delicately blended.

Although importing religious statuary from Spain was especially

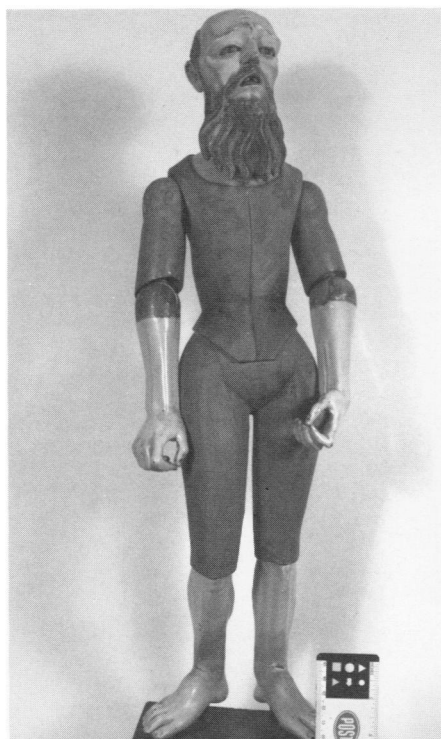
common in the first century after the Conquest, Indian artisans, trained in European methods and in some cases using indigenous techniques, were soon involved with the creation of figures that represented the beliefs of their conquerors. Shortly after the Conquest, attracted by the prospects New Spain offered, artists and craftsmen arrived from Europe. Although mostly Spanish, there were also emigres from Flanders, France, Germany, and Italy.

Gremios, or guild-like organizations, were established in Mexico City in 1557 for painters and gilders, and in 1568 for sculptors, assemblers, and image-makers in general—all those potentially involved in the creation and assembling of polychrome statuary. Created originally to protect themselves from the Church's interference, *gremios* ostensibly were supposed to protect the public against unfair prices, shoddy workmanship, and in the case of religious imagery (both painting and sculpture), heretical beliefs.⁵

The *technical* quality of religious sculptural imagery in colonial times was generally high. The statuary was predictable in theme and mood, produced in enormous quantities, and overwhelmingly anonymous. Its *artistic* merit, however, was often debatable—the tremendous amount of wall space that needed to be covered in the newly erected convents and churches encouraged the production of art that generally tends to be pedestrian, unoriginal, and monotonous. The Counter Reformation's message was translated into an art that amazed and was spiritually uplifting, but was hardly intellectually profound. Viewers were invited to participate in the ecstasy, but their eyes were not necessarily encouraged to dwell upon any one piece or section too long.

Artisans' Roles. The role of the artist/artisan was that of a member of a team, with the various steps in creating sculptures and assembling a *retablo*

Called *IMAGENES DE VESTIR*, these mannequin-like figures were extremely popular in nineteenth century *RETABLO* statuary. The photo on the left shows the articulated joints which made these figures posable. The right photo shows the fully clothed statue of San Francisco de Paula. (Photos: Gloria Giffords)



divided among specific individuals: thus, the *retablos* and their decorations might be regarded as creating a statement rather than necessarily showcasing any one artist's specific talent. Until the abolishment of the guild system in the early nineteenth century, official ordinances clearly spelled out specific divisions of work and the responsibilities of those individuals performing them. Traditionally, four different craftsmen might have been involved in the manufacture of a *santo de bulto*, each belonging to a separate *gremio*. The *escultor* or *entallador* (sculptor) was responsible for carving and joining the figure. The *imaginero* (painter of the figures, but sometimes a term referring to the sculptor as well) applied the paint for the garment if there was to be no gilding (if there was, the paint was applied after the leaf).

Because the goal was to create a figure as lifelike as possible, the simulation of flesh tones was important. This was done by a specialist, the

encarnador, who meticulously applied and blended oil paint for lips, hair, and modulations of the skin. The fourth component was the *dorador* (gilder) who applied the gesso, bole, and leaf, burnishing it to perfection.⁶ This individual would probably also have done the pouncing and inscribing that added additional richness and interest to the design.

The carved and gilded framework was done by similar specialists: *carpinteros* (carpenters) for the erection of the framework, *entalladores*, and *doradores*. The whole affair would then be pieced, nailed, glued, and doweled together by *ensambladores* (joiners).

This work was performed in workshops which functioned under the direction of a *maestro* (literally "master" but actually an honorific term applied to someone who was a specialist or highly skilled). It was his responsibility to contract the job; do the overall planning on time, material,

and techniques; and supervise. The journeymen and those below them, the apprentices, would do the bulk of the work.⁷ In provincial workshops where there were no guild restrictions, probably far fewer individuals performed these well-defined divisions of work. Although there is a finite number of ways in which wooden polychrome statuary can be made, it is in the provincial work that anomalies occur in techniques, materials, and even iconography. The *santo* and *santero* tradition of the late eighteenth, nineteenth, and early twentieth-century New Mexico falls within this provincial framework.⁸

Categories of Statuary

Religious imagery may be divided into several categories depending upon its construction, material, and purpose. Of the greatest artistic importance were those carved from wood. These figures were then gessoed, painted,

and gilded many times. Four major classes exist: 1) hollow plank construction; 2) solid body; 3) platform or candlestick; and 4) *imagenes de vestir* (images to be dressed).⁹ There are, of course, subdivisions and variations.

Hollow Plank Construction. In this method, the most common for figures approximately 100 centimeters and larger, a rectangular box was constructed by piecing, doweling, and gluing a number of wooden planks together. This would serve as the beginning for the body, from the shoulders down to either the base or the figure's bottom robe edge. The excess could be carved away to create a torso shape (complete with appropriate robes, mantle folds, and so on), and then the arms, hands, and head would be carved separately out of laminated stock and attached.

The face was sawn off and cavities for eyes hollowed out from behind. Glass eyes were inserted and then the face was glued back in place. The feet and base were sometimes carved from a solid piece or a solid block made up of pieces and also attached. Dowels were used along with a heavy animal hide glue. Frequently the edges to be attached were struck or gouged to roughen them, and the parts held in place with small wooden pegs until a dowel was tapped in. The piece was smoothed and refined, and seams, knotholes, or areas where the sculptor went too deep and pierced the box were covered with strips of material soaked in glue.

The technique of a hollow body for large figures probably developed out of the necessity to decrease weight. Other figures, never intended to be viewed from behind, were carved three-quarters in the round with the back left open to expose a hollow trough. The laminated construction served to resist warping and to help

create larger pieces of wood free from knots or burls.

Solid Body Construction. This type was usually used for figures smaller than 100 centimeters. These were small enough to be sculpted from a single piece of wood or from a solid laminated block. Even smaller figures carved from single solid pieces have a tendency to split, however. Protruding arms, attributes, and occasionally the head were carved separately and attached as described above.

The role of the artist was that of a team member; thus, the retablos and their decorations might be regarded as creating a thematic statement rather than showcasing a singular artist's specific talent.

A subcategory occurs within these first two types in which figures have garment parts that are created with textiles, then attached, stiffened, and painted.

Platform or Candlestick. The third category concerns figures that have a torso and arms carved in the round, painted, and then attached to a pyramidally shaped support of slats nailed to a platform. The ribs of the support might be exposed, but generally the intention was to cover them with some type of material that would be either gessoed or simply painted. This was because although the figure was supposed to be clothed, the bottom half was never seen. The most common theme is Mary as *Mater*

Dolorosa. The figures are usually life size and were intended as processional figures during the Easter season. There are smaller sizes, though, and figures of other religious personages.

Imagenes de Vestir. These figures were extremely popular during the nineteenth century and can be most easily described as mannequins. They were made in all sizes and frequently had articulated joints which made dressing and posing them easier. The limbs and bodies were carved smoothly, without much attention to anatomy, and painted light blue or brown, giving them the appearance of someone dressed in longjohns. The hands, feet, and faces were carved and painted with great care and detail. Unable to stand by themselves, they usually had holes in their feet for attachment to a base.

The large, articulated figures of Christ constitute a subcategory. Created to be "posed" in a variety of ways during certain times of the year to illustrate his Passion, the figures had wooden joints or leather hinges which were fitted at shoulders, occasionally at wrists, and at hips and knees. The figure could be posed at a column, attached to a cross, and then placed in a sepulcher.

Finishing the Figures. *Estofado*, a technique for gilding and painting the garments, was used only in the first two categories. A Spanish term having no exact English equivalent, it originally described a technique of needlework used in the fifteenth century in which a pattern was created by backstitching.¹⁰ This enriched the surface of the textile, producing a damask-like effect.

This same effect was created upon gessoed wooden surfaces with metal leaf, incisions into the surface, and paint. Several coats of gesso were ap-

St Francis Xavier



plied, with frequently a coarser coat first and then with subsequent thinner, finer layers. This hid minor imperfections in the carving and leveled out the surface. The figure was sanded until completely smooth, and then the painting and gilding could begin.

Replicating the Lions of San Xavier del Bac

To blend in with the surrounding statuary, the lions had to have the same “feel,” as the originals and an appearance appropriate to the context. The new figures had to duplicate the originals—not necessarily their decrepit condition, but they should not appear as brand new objects either. If the lions would be fortunate enough to last for two centuries like their predecessors, they should be relatively intact at the beginning.

The original lions had overall dimensions of approximately 2x4 feet, as determined by the HABS drawing and measurements from the sanctuary railing where the lions had been previously attached. The widths had to be estimated from the photographs. Certain details were missing, such as the correct placement of the lions’ front legs.¹¹ They also appeared to have lost some parts of their anatomy between their hips and hind legs, leaving the flank loosely resting upon the legs.

The lions had a definitely whimsical appearance with their long, lean, greyhound-like bodies and mouths turned up in silly grins. Their faces weren’t the only humanized element; their paws had been carved as hands, clenched, and probably intended originally to hold a banner. At one time they had had glass eyes, but the eyes had been lost, and in one they had been replaced with crude lumps of putty. The seams of their laminated wood construction remained visible, but no one knew whether or not they



One of the sculptors, Hector Ortega, assembles the body parts of one of the two San Xavier lions. The sculptors were to copy the lions as closely as possible, using the hollow plank construction method, but to replace any missing parts, such as the arms and eyes. (Photo: Fernando Gómez de Alvear)

were hollow. It was impossible to estimate the weight of the lions because they had never been removed from the sanctuary railing.

The original type of wood used for the lions was also not known, although it probably was a fine-grained, hardwood such as cypress (*Taxodium*), as was found in a tree ring study with four other figures from Tumacacori, a former mission church in the same mission chain as San Xavier.¹² The Ortegas, in their work, most often used *abuehuete* wood (*Taxodium mucronatum*), a widely distributed type of Mexican cypress.¹³ Because of their familiarity with this wood and its similarity to the figures mentioned above, it was a desirable material to use in the replication.

The instructions to the Ortegas were to copy the lions as closely as possible, using the hollow plank construction method, but to replace any missing

parts such as the arms and eyes. They were asked to recreate the lions’ manes in wood rather than leaving the neck bare, thereby making it unnecessary later to mold and carve the manes in a thick gesso/plaster the way the originals had been made. The finishing would be done in Tucson; however, a putty was applied to the seams by the Ortegas. Due to the workload in the Ortegas’ studio, the lions were finished 12 months after the order was placed, then crated and air-freighted to Tucson. (Although there is a fundamental similarity between the old and new lions, the original lions had a distinctly more dignified and aloof mood.)

The semi-arid desert of Tucson, with its wide ranges of temperature and humidity during the year, is considerably different from the humid, temperate climate of Puebla. In addition, San Xavier has no heating, cooling, or humidity controls, although its



After applying several coats of hot gesso with a compressed air sprayer, Carmen Erickson lightly sands the lion per Pacheco's instructions. (Photo: Gloria Giffords)

typically Spanish Colonial thick walls and fenestration moderate the temperature somewhat. Because of the difference between the two climates, it was important to allow the pieces to become acclimated, and if necessary, to split, before the application of the gesso, paint, and gold leaf. Therefore, the pieces were left sitting in the Tucson studio for almost two years. During this time a large crack developed in the wood along the flank of one of the lions, and some of the joints between the pieces of wood shrunk slightly, loosening the putty but none of the seams.

Completing the Lions

In November 1987, work began for the lions' completion, closely following Pacheco's manual. From the very beginning, however, compromises had to be made due to the unavailability of equivalent material or the lack of information concerning the actual material

and techniques of the original pieces.

First, all the putty that was cracked or loose was removed and replaced with a stiff mixture of rabbit-skin glue and whiting. To prevent resin from leaking from the wood, Pacheco recommended covering knots with linen and glue, then fine plaster, and *gíscola* (also referred to by Pacheco as "painter's glue"). *Gíscola* was a mutton glue cooked with up to three heads of crushed garlic. This recommendation was followed; however, rabbit-skin glue was substituted for his suggested adhesive *engrudo de retazo* (an equal amount of glue made from mutton ears soaked prior to four or five washings in rain water, then cooked until thick, forming a starchy paste).¹⁴ The method calls for two parts glue to 16 parts distilled water. Next, Pacheco recommends sealing the wood with a bath of *gíscola* and a "bit" of "thick sifted gesso." (See below for types and techniques.) Again, rabbit-skin glue was substituted (one part glue to 16

parts water) with a little whiting.

According to Pacheco, gilders in his time were reluctant to strengthen the cracks and joints of sculpture with strips of linen because it wasn't the gilders' responsibility to prevent the wood from splitting—implying, perhaps, that sculptors should have done their work better. Pacheco preferred plugging big joints and openings with strips of wood and strong glue. For strength, he recommended covering the joints and repairs with linen strips, writing that the first coating of thick gesso brushed on level with the wood would smooth the surrounding areas. We, therefore, plugged the crack along the lion's flank with a strip of wood, fitted and tapped into place with adhesive. The joints and seams were covered with a strong silk and rabbit-skin glue.¹⁵

Application of Gesso. In Pacheco's procedure, after the *gíscola* had dried, five to six coats of thick hot gesso were to be applied—first splashed on and then smoothed with a brush. Pacheco recommended that each coat dry before the next was added. However, this author found that it was better to apply succeeding coats to a slightly damp surface; otherwise the layers would eventually separate. The coats of gesso were applied to the lions when their color had lightened, but when they still felt cool to the touch.

A major deviation from Pacheco's technique was the means of application—a compressed air sprayer. Further, in order to create objects that had an appropriately warm and worn appearance, the gesso was tinted with raw umber, thereby creating a dark undercoat.

After the application of thick gesso, which had been lightly sanded, five or six coats of a moderately hot matte gesso (a much thinner gesso than the first) were to be splashed on and then

rubbed into the thick gesso.¹⁶ But this time, according to Pacheco, it was not important for the coats to be very dry. When the figure was completely dry, the surface was to be sanded with fine sandpaper.

Again, Pacheco's instructions did not completely match evidence from existing work. This author has noticed two, and sometimes three, distinct layers of gesso on both the garment and flesh areas of religious figures, but never this number. Ten to 12 layers of gesso with any thickness would obliterate most of the fine details in a figure. As Pacheco gives us no proportions of gypsum to glue, we can only assume that the hot gesso went on *very* thinly.

Bole. Pacheco felt the preparation of bole required a lot of experience; here, he becomes a bit more specific and distinguishes between the bole of Andalucía and that of Castile. To a cup of the *engrudo*, three cups of "sweet" water were added (four if summer). The mixture was to be made during the day and exposed to the night dew. By the next morning, it would have jelled and could be heated and mixed with the bole. The first coat was put on "rough." If too thin, it would be red, and if "strong" it would appear black, a situation that was remedied by adding water or *cola* (glue, a word used interchangeably with *retazo*). A bit of finely ground pencil lead in water would soften the bole in burnishing, helping the stone to move without scraping. Only a very little lead, however, he cautions; and then he says that if the preparation for the bole has been done well enough, the lead could be omitted as in Castile, where it was not used. As the various layers are added (up to five), more bole is added to cover the surface. A fingernail can be run over it after it has dried to check the smoothness and "quality...of the total preparation."¹⁷

Not having the choices of bole available, "extra-fine rouge" (Lefranc and Bourgeois) was used. First it was allowed to soften in just enough distilled water to cover the chunks; then it was ground with pestle and mortar. It was next mixed about one part bole to two parts of the rabbit-skin glue mixture used previously for the gesso. It was applied while moderately hot by brush to the face, manes, and tails of the lions.¹⁸

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Gilding. Pacheco now instructs that the piece should be absolutely free of dust, and the dry piece should be given a luster with a stiff bristle brush. To do this, the lions' surfaces were gently stroked with well-worn, barely damp, old tee-shirts.

Pacheco then says that "after preparing the gold leaf with clean, sweet water, with a big, soft paint brush wet a sufficient amount of gold and begin gilding."¹⁹ In the summer well water should be used because it "refreshed" the preparation of the piece.

After several spirited attempts by the author and her assistant to apply wet 23-karat gold leaf to the bole in Pacheco's way, the traditional manner was adopted. A gilder's tip was used to apply the leaf to a slightly dampened

surface, then tamped, and then burnished with an agate. For the deep crevices of the mane and tail where the leaf could not be placed or burnished, a water soluble, acrylic yellow ochre paint was brushed in. Although by not covering the bole a darker color appeared at the base of the hair, it was not the appropriate tone and not necessarily in the desired areas.

Color Modulation and Varnishing.

An axiom to bear in mind is that in order to create an "antique," the object must first be made as if new and then rubbed, glazed, and so on, to achieve an aged effect.

Because raw umber had been included in the gesso and had given a deep brown color to the body, no further painting was necessary. The color was modulated, however, to give it depth and contribute to the impression of age. Several shades of grey and brown acrylic paint diluted in water were patted on and rubbed off until the desired effect was achieved. The leafed areas were slightly stroked with soft damp cloths to expose the bole in places, giving them a well-loved appearance.

Pacheco has a number of suggestions for varnishes and is specific about proportions. A common type was linseed oil, cooked with garlic cloves and with powdered *sandaraca* (resin of the juniper) added to it. A finer quality varnish could be obtained by substituting *espliego* or *albucema* (oil of lavender or fragrant lavender) and omitting the garlic. Juniper, pine, and mastic resins were used, powdered and dissolved in lavender oil, brandies, turpentine, linseed, and frog oil.

Although most of the ingredients for these could be obtained, white shellac was used instead. Because none of these varnishes had been previously used by the author, it seemed wiser to



Measuring two feet by four feet, the original lions looked decidedly whimsical with long, lean, greyhound-like bodies and mouths turned up in silly grins. (Photo: Helga Teiwe, Arizona State Museum, University of Arizona)



Unlike the original lions, the manes of the recreated lions were carved in wood rather than molded in gesso/plaster. To create an "antique" from the newly carved wood, the author applied gesso and gilding, adjusting the color and varnish to give them an "older" appearance. (Photo: Gloria Giffords)

use something familiar. After a light coat, some of the browns and greys were brushed onto the gilded areas and mostly wiped off, leaving the visual impression of dirt settled in the crevices.

The Installation

The lions were installed upon the sanctuary railing with a bolting system that would prevent their casual removal and publicly blessed on July 17, 1988. It appears that they have been accepted as replacements by the local Tohono O'odham nation. At Christmas time, when the Feast Committee decorated the church's interior and its statues, they were crowned with bright green holly wreaths.

Notes

1. Lions appear in Christian iconography as well as being guardians to non-Christian thrones and temples. One medieval Christian belief was that lion cubs were born dead and remained that way for three days until their father licked them to life, making them appropriate symbols for the Resurrection.
2. The 1797 report by the Franciscan Visitor-General Francisco Iturralde gives a detailed description of the just-completed church and its decoration, but does not mention the lions: "Visita de las Misiones de la Pimaria, Septiembre 5-Octubre 30, 1797," Archivo del Colegio de la Santa Cruz de Querétaro, Celaya, Guanajuato, México.
3. For three years previous to this commission, the author had been observing their methods and techniques and was impressed with the similarities in material and construction between their work and what she had observed during the repair of religious polychrome figures.
4. Francisco Pacheco, *La Arte de la Pintura*, facsimile edition, intro. and notes F.J. Sánchez Cantón, trans. Jorge Olvera, 2 vols. (Madrid, Spain: Instituto de Valencia de Don Juan, 1956), vol. 2, chapter 6, pp. 99-112, and chapter 7, pp. 113-121. The issue of the correct placement of figures as well as the correctness of their costume, attributes, colors, etc., seemed to have been greatly stimulated by the Counter Reformation. Francisco Pacheco, father-in-law to Velasquez, had been commissioned by the 25th

Council of Trent to assist them in determining the appropriate manner in which religious images should appear. His manuscript, finished in 1638, includes a wide range of artistic interests and was the artist's *vade mecum* for more than a century.

5. Manuel Toussaint, *Colonial Art in Mexico*, trans. Elizabeth Wilder Weismann (Austin, TX: University of Texas Press, 1967), p. 235.
6. Pál Kelemen, *Baroque and Rococo in Latin America*, 2 vols., 2nd ed. (New York: Dover Publications, 1967), pp. 105-107.
7. Manuel Carrera Stampa, *Los Gremios Mexicanos: La Organización General en Nueva España 1521-1861* (México: Ibero Americana de Publicaciones, 1954); and Silvio Zavala, *Ordananzas del Trabajo, Siglos XVI, XVII, y XVIII* (México: Editorial: "Elede," 1947).
8. William Wroth, *Christian Images in Hispanic New Mexico* (Colorado Springs, CO: The Taylor Museum of the Colorado Springs Fine Arts Center, 1982).
9. Kelemen, *Baroque*, and Richard E. Alborn, *Saints of San Xavier* (Tucson, AZ: Southwest Mission Research Center, 1974), pp. 20-30.
10. Ruth Matilda Anderson, *Hispanic Costume, 1480-1530* (New York: The Hispanic Society of America, 1979), p. 55.
11. A poor circa 1940 photograph of the apse and main *retablo* showed the lion on the epistle side (pre-Vatican II) still with two arms, but by the 1950s one of these had disappeared, leaving the lions with one arm among the two of them. However, the Ortegas apparently did not or could not see this detail of the hands placed above each other, and using a more recent photograph showing only one arm, they carved theirs with arm and hands placed side by side.
12. Gloria Fraser Giffords, "Conservation and stabilization of five polychrome statues for Tumacacori National Monument," unpublished report, 1976.
13. *Atlas Cultural de Mexico, Flora* (México, D.F.: Instituto Nacional de Antropología y Historia, 1987), p. 146.
14. *Engrudo* as understood today is an adhesive paste composed of carbohydrates, sometimes containing a thin glue or painter's size, some turpentine and a bactericide or preservative. While a starch paste does not seem to be impractical here, below in the instructions for bole it appears to mean some other type of glue.
15. The author has observed in Mexican colonial *santos* that the seam-hiding textiles can be anything and of any thickness. One piece, in fact, had three types: a thin calico, and two different thicknesses of linen. The material and thickness appeared random, and it might be assumed that the *imagenero* felt any scrap lying around the studio would suffice.

16. Pacheco states that his recipe for matte gesso can't be made in less than 100-pound batches, or one load, yet he gives no specific figures. Here "crystallized gesso of leafy structure" is ground, sifted, and then ladled into a large jar half full of sweet water while another person vigorously stirs. Extra water is kept on hand in case the mixture thickens. For the next 10 to 15 days, it is to be stirred twice a day, with the water that rises to the top being removed and clean water added. (The bane of gilders on gesso are pits in the surface created by air bubbles. Pacheco must either be depending upon the bubbles to work out during the resting process or the bole to fill in the spaces.) He doesn't recommend the practice of adding a pint of cooking oil to "clean" it or make it smooth. After the prescribed time, the water is removed and chunks of gesso are put in the sun to dry for many days.

17. Pacheco, *La Arte*, pp. 118-119.

18. The original lions were so worn and darkened that their exact original colors could not be determined from color photographs. However, the author from previous examinations recalled that their bodies were brown and that there were traces of gold leaf on the manes. After consultation with the friars at San Xavier, it was agreed to paint the lions brown and to gold leaf their entire face, mane, and fringe on their tails.

19. Pacheco, *La Arte*, pp. 119-120.

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