"GODS ... ADORNED WITH THE EMBROIDERER'S NEEDLE": THE MATERIALS, MAKING AND MEANING OF A TAINO COTTON RELIQUARY

Joanna Ostapkowicz and Lee Newsom

A unique cotton Taíno reliquary—the only extant example currently known—provides an unprecedented window onto the complex mortuary and ritual ceremonies of the pre-Hispanic Caribbean. This study explores its cultural context as recorded by the early Spanish and French chroniclers and missionaries who were witness to the use and beliefs surrounding these objects in both the Greater and Lesser Antilles. It provides the first AMS radiocarbon date for the reliquary, placing it within a firmer historical context. It also examines the woven sculpture in some detail, providing a review of the manufacture process and a detailed study of the components—cotton, animal hair, lianas, gourd, resins and shell—that went into its creation. From the wrapping of important cemís *(representations of spirits) in cotton, to the binding of the skeletal remains of venerated ancestors within elaborate weavings, cotton had an intrinsic value as a material that wrapped and bound the ancestors to the living and the living to each other.*

Un exclusivo relicario taíno de algodón—el único ejemplar conocido hasta la fecha—provee una mirada sin precedentes hacia las complejas ceremonias y rituales del Caribe prehispánico. El presente estudio explora el registro cultural asociado al relicario a través de los registros realizados por los primeros cronistas y misioneros españoles y franceses, quienes fueron testigos de los usos y creencias que rodearon a estos objetos tanto en las Antillas Mayores como Menores. Este objeto provee una de las primeras dataciones por radiocarbono (AMS), localizándolo dentro de un claro contexto histórico. Al mismo tiempo, se examina la estructura del tejido en cierto detalle, brindando una revisión del proceso de manufactura y un detallado estudio de los componentes—algodón, pelo animal, lianas, calabaza, resinas y conchas—utilizados para su creación. Desde la envoltura de importantes cemís *en el algodón, hasta la unión de restos de esqueletos provenientes de venerados ancestros dentro de elaborados tejidos, el algodón tuvo un valor intrínseco como material que "envolvió y unió" a los ancestros con los vivos, y a los vivos entre sí.*

> ... and the images of gods which are adorned with the embroiderer's needle represent men who were religious and just and known to have conferred some benefit on the people, and were numbered among their saints by the common beautification of the priests and country. The teeth which protrude from their mouths hang from a human skull, which is hidden beneath the embroidery; these images which represent men who became saints ... used to give public oracles to the people, but fell silent all together at our God's arrival in this country. *—letter from Bishop Alessandro Geraldini (b. 1455, d. 1525) to Pope Leo X, ca. 1519 or 1520 (in Symcox 2002:133).*

To accompany this letter, the first Bishop of Santo Domingo sent several examples of cotton figures, or *cemís* (representations of ancestors, spirits, or deities), as gifts to the Pope, suggesting that they be displayed in the vestibule of St Peter's Basilica. This is not the first mention of such

Editor's Note: For the first time, *Latin American Antiquity* is making color images available as "Supplemental Materials" linked to the online version of this article. The supplemental online images are referenced throughout the article as Supplemental Figure 1, Supplemental Figure 4, and so on, with their numeration corresponding to figures in the print version. Color images are not provided for Figures 2, 3, and 11.

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Latin American Antiquity 23(3), 2012, pp. 300–326

sculptures in documents from the early period of European contact, but it is the most illuminating not only in clearly describing the presence of the skull within the "embroidered" cloth, but also distinguishing these figures from other examples of Taíno *cemís*, which existed in a wide variety of forms. Geraldini clearly identifies these as representing—and holding the remains of—*behiques* (shamans) or men/women of reputation, ancestors who had significant roles in life, and a visible and tangible role after death. These were clearly understood as venerable beings who became intercessors or mediators on behalf of the living—analogous, as Geraldini points out, to saints. The Europeans, with their own deep history of reliquaries, quickly grasped the power behind these cotton figures, and used them as propaganda for the power of the Christian church in "silencing" the beliefs of a newly discovered world (see also Vallejo 1913:45).

For the Taíno, the physical manifestation of the ancestors in this way made the past visible and accessible—consulting them through prescribed ritual ensured that they continued to have impact on the lives of the living. According to Father Ramon Pané (1999:21), the Jeronomite friar who lived among the Taíno ca. 1494–1498, reliquaries were one of the many categories of *cemís*: "All or the majority of the people of the island of Hispaniola have many [*cemís*] of various sorts. Some contain the bones of their father and mother and relatives and ancestors.... [there are] some that speak, and others that cause the things they eat to grow, and others that make it rain, and others that make the winds blow." Las Casas (1967:I:633) noted that certain reliquaries were said to hold the bones of caciques and were named after them. These sculptures appear to be an elaboration of the more common Taíno practice of keeping ancestral remains in baskets or gourds suspended from the rafters of communal houses (Colón 1992:75), and the practice may have emerged as cacical power grew after ca. A.D. 600 (Curet and Oliver 1998; Ostapkowicz et al. 2011). These larger reliquaries were consulted as oracles and kept in isolated places—cacical houses segregated from the village, or in caves; access to them was restricted, although their pronouncements were ostensibly for the benefit of the community. Some *cronistas* (chroniclers) believed that caciques used reliquaries for their own advantage, manipulating their "words" for their own benefit (Las Casas 1967:I:633; Oviedo 1992:I:112). Regardless of the politics that may have underscored their use, they clearly had an important role in maintaining the genealogical histories and connections between the living and their ancestors (Oliver 2009:251). As such, it is unlikely that they were given voluntarily to the Spanish, like many other Taíno valuables during the early exchanges—but rather had inalienable qualities that tied them intimately to their communities.

This paper explores the context and meaning of textile reliquaries through a review of *cronista* documentation and an examination of the only known surviving cotton example, held in the collections of the Museum of Anthropology and Ethnography, Turin, Italy (MAET) (Figure 1, Supplemental Figure 1). The focus is on how the materials used in its construction were brought together to create the final form, and how each offers insights not only into the considerable labor invested in the creation of the *cemí*, but its layering of value and meaning.

Cotton *Cemís: Cronista* Documentation

There are several early accounts that describe cotton reliquaries, including Andrés Bernaldez's brief mention of cotton figures that Columbus himself brought to his rectory in 1496, shortly after his return from the second voyage (Loven 1979:585). Bernaldez noted that "the Admiral brought at that time many things that the Indians used: crowns, masks, belts, collars and many things woven from cotton, the devil figuring in all of them..., some sculptured in wood, some made of the same cotton in bulk and some were jewelry." The repeated references to cotton makes clear the importance of this material as an indigenous valuable woven not only into status items such as belts, but also into sculptures, to which the Spaniards reacted with a mixture of both curiosity and repulsion.

Shortly after the turn of the sixteenth century, Martyr D'Anghera (1970:167) sent four "idols to whom the islanders pay public worship... in the forms of seated figures, out of plaited cotton, tightly stuffed inside" to Cardinal Ludovico D'Aragón. He identified these figures as *cemís* (or zemis/zemes), a term he understood to include different types of representations, and noted that the Taíno "believe the zemes to be intermediaries between them and God....

each cacique has his zemes, which he honours with particular care" (Martyr D'Anghera 1970:167).

The circulation of these figures in Europe was to continue well into the mid-seventeenth century, passing through some of the most influential houses in Europe. Only glimpses of these exchanges remain in surviving archival records. Fr. Francisco Ruiz, one of the first Franciscans sent to Hispaniola, returned to Spain ca. 1501–1502 laden with "curios"—including enough "idols of diverse manner" to fill one or two chests, which he gave to the archbishop of Toledo, Cardinal Francisco Jiménez de Cisneros (d. 1517) (Vallejo 1913:45; see also Alegría 1981:60; Royo Guardia 1947:151). Among these were "frightening forms of malignant spirits, with eyes and teeth made of fish bones and [padded?] bodies of cloth... and feet and ears of cotton, all made by [Native] hands" (Vallejo 1913:45). This collection of idols was reportedly still housed at the University of Alcalá in 1547 (Alegría 1980:434), but sometime after this it was widely dispersed, with at least one piece reaching the famed collections of the Munich Kunstkammer. This collection, largely amassed by Albrecht V, Duke of Bavaria (1550–1579), was inventoried in 1598, listing a cotton *cemí* with "small white and red interlocking rings... [and]... big eyes of blue glass" linked to Cardinal Cisneros' collections (Feest 1991:581). By 1626, the *cemí* was illustrated in Lorenzo Pignoria's *Imagini de gli dei Indiani,* where it was noted to have come with Spanish testimonies to it speaking (Pignoria 1626:563–564; see also Feest 1986:191), echoing Geraldini's description of similar pieces over a century earlier. The use of blue glass demonstrates the early incorporation of European goods in traditional Taíno objects, recalling the blue glass beads woven into the cotton *cemí* currently in the collections of the Pigorini Museum in Rome (Taylor et al. 1997).[1]

The Taíno suffered almost complete cultural dissolution by the mid-sixteenth century due to the spread of epidemic diseases, imposed slavery, warfare and violence resulting from European invasion and colonization of the Greater Antilles, and the manufacture of such figures likely ceased at this time. However, their Carib/Kalinago neighbors in the Lesser Antilles continued their traditional practices largely undisturbed well into the seventeenth century, and these practices included the use of similar cotton figures that were said to "give oracles" (Rochefort 1666:280). Charles de Rochefort (b. 1605, d. 1683) (1666:284) noted that "they expect... the sentence of their life or death from those detestable oracles, which they receive by the means of those puppets of cotton, wherein they wrap up the worm-eaten bones of some wretched carcass taken out of the grave." These oracles were appeased by numerous services: "they not only consecrate to them the first of their fruits, but they also devote to them the most sumptuous tables of their feasts; they cover them with the most delicate of their meats, and the most delicious of their drinks; they consult them in their affairs of greatest importance, and are govern'd by their wicked counsels" (Rochefort 1666:284). The reverence shown to these figures by the Carib/Kalinago and their important roles in everyday life parallel what had been documented for the Taíno over a century earlier. This was foreign to Rochefort and many of his contemporaries, who documented the practices surrounding reliquaries through the prism of Eurocentric bias.

One of the most detailed accounts comes from Rochefort's contemporary, Jean-Baptiste du Tertre (b. 1610, d. 1687), a missionary who worked in Guadeloupe and Martinique. He noted that "the devils sometimes nest in bones taken from the sepulcher and wrapped in cotton, returning oracles when questioned... it is the heart of death that speaks" (du Tertre 1667:369). These were used in various forms of divination, including one ceremony involving their immersion in water: according to du Tertre (1667:369) they were thrown into the sea and if they sank, it foretold of storms and danger; if they floated, fine weather and auspicious times. Their power could be manipulated against "enemies":

> They use these speaking bones to bewitch those against whom they hold a grudge... [by taking] what is left of the food or drinks of their enemies, or maybe some other effects that belong to him, then they wrap it with these bones and we see that he looses his usual vigor, a slow fever weakens him, takes over him and he dies languishingly, and there is no remedy that would help him recover his health [du Tertre 1667:369].

Du Tertre (1667:369) goes on to recount a specific case from Guadeloupe, where the family of a mur-

dered man sought revenge: "by stain[ing] cotton with the blood of [the victim] and plac[ing] it with these bones of death, and we immediately witnessed [the perpetrator] wasting away, and after languishing for two years, he died."

At some point between 1637 and 1658, du Tertre (1667:369–370) reports that several "cotton idols in human form, having cakes of soap seeds instead of eyes [possibly soapberry seeds, Sapindaceae—Vega 1987:6], and a type of helmet made of cotton on their head" were found in caves on Martinique by two Carib/Kalinago. They believed them to be the "Gods of the *Ygneris,* whom they massacred," and trembled in fear when they approached them. Orders were given to collect the figures, but the Carib/Kalinago refused to enter the cave again—du Tertre (1666:370) notes that this was later accomplished in secret, without their knowledge. The figures were then placed in a crate and sent back to France as a gift for the Duke of Orléans. In a twist of fate, the frigate carrying them was captured by the Spanish, and once the images were found, the captain was charged with idolatry and brought before the Inquisition. Although the captain was acquitted of the charges, it is unlikely that the figures survived.

Turin Cotton *Cemí:* Provenance and History

The cotton *cemís* sent to Europe during the fifteenth to seventeenth centuries eventually deteriorated or were otherwise destroyed, as no further record of them remains. The only extant example of a cotton reliquary currently known is housed in the MAET (Figure 1, Supplemental Figure 1). It is understood to have been found in a cave west of Santo Domingo, Dominican Republic, at some point prior to 1891 (Cronau 1892:I:263; Fewkes 1891:174; Vega 1987:1). Its preservation in a cave for over three centuries initially appears remarkable, but is in keeping with previous accounts of where such objects were found (du Tertre 1666:370), and such desiccating environments are generally conducive to exceptional organic preservation. According to the personal notes of Jesse Walter Fewkes (1903:6:45a), the *cemí* was found by a man hunting wild boar, who was so alarmed by what he saw that he struck out at it with a machete—but later returned with help to remove it from the cave. It eventually came to the collection of Sr. Cambiaso, and it is likely here that Rudolph Cronau sketched it for inclusion in his book *Amerika* (Cronau 1892:I:263) (Figure 2). Captain Nathan Appleton, a well-connected Bostonian, also acquired an illustration of the *cemí* by Sr. A. Rodríguez, sending it to Fewkes at the Smithsonian (Fewkes 1891; see also Seelye 1892:133). By 1903, when Fewkes traveled to Santo Domingo to study the *cemí*, he learned that Cambiaso had sent it to Italy—Genoa, according to the family (Vega 1987:4). In his review of the piece, Fewkes (1907:214) noted: "It is much to be regretted that our knowledge of this figure, which could shed so much light on the mortuary rites and worship of the prehistoric Antilleans, is so imperfect. The author was told that it is now somewhere in Italy, but whether it is lost to science could not be learned."

The *cemí* disappeared from wider knowledge until 1970, when Bernardo Vega discovered an archival photograph of it in the British Museum (Figure 3), and was able to trace the reliquary to the university museum in Turin (Vega 1987:1). This photograph, which appears to date to the early twentieth century, if not slightly earlier, shows the reliquary with the wooden canopied *cemí* also in the MAET, suggesting that the history of the two pieces is to some degree entwined (Fewkes illustrates both in his 1891 publication, as does Seelye [1892:132–133], and Vega [1987:12] suggests that they were probably found together). Curiously, a small tag on the cotton *cemí*'s right hand bears the name "Hamilton Prints, Lot 39[?]2," possibly an auction label (Dan Bruce, personal communication 2009), suggesting a more complex history between private collection and museum acquisition. It is not as yet clear when the sculptures entered the MAET: the earliest record—a *Stampa Sera* newspaper article dated March 2, 1940—indicates that Ernesto Schiaparelli, Director of Turin's Egyptian Museum, donated the cotton *cemí* to Giovanni Marro, the founder and first director of the MAET, at some point prior to 1928 (Rosa Boano, personal communication 2011). The MAET opened in 1926, but the first mention of the cotton *cemí* in the museum records appears to be a catalogue entry tentatively dated to the 1950s, where it is listed under the number 1676 as a " Peruvian [sic] anthropomorphic idol made of interlaced vegetable fiber, encasing a skull and featuring one dark and one light eye" (Masali and Pia 1991:86). There is therefore a gap between

Figure 1. Turin cotton *cemí*. A.D. 1439–1624 (95.4 percent), with the greatest probability (76.7 percent) at A.D. 1439–1522. H: 55 cm (max, on stand), W: 35.5 cm. *Gossypium* sp., anterior human skull (including mandible), internal cane framework for arms and legs with central carved wooden support and stone base, resins, shell, gourd, pigments(?) Part of the stand that supports the cemi is visible on the right image, at the base of the its spine. (Courtesy, The Museum of Anthropology and Ethnography, University of Turin, Italy. See Supplemental Figure 1 for color image.)

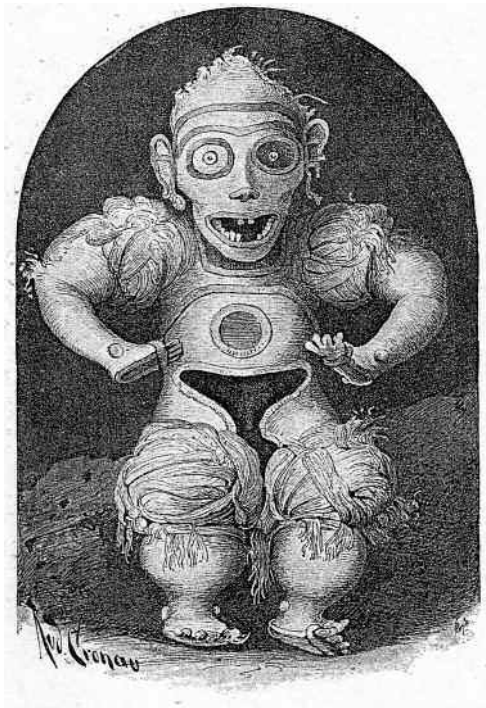

Figure 2. One of the earliest published images of cotton *cemí*, in Rudolph Cronau's *Amerika* (1892:I:263; see also Fewkes 1891; Seelye 1892:133). Note the absence of the strap on the forehead and the loose fibers at the top of the head, suggesting that damage to the back of the *cemí's* head preceeded the publication. The damage is also apparent in the illustration in Fewkes's 1891 publication. (©British Library Board [9551.1.6].)

1903, when Fewkes noted it being sent to Italy, and ca. 1928, when the cotton *cemí* was transferred from Schiaparelli to Marro. Further archival work is needed to clarify its twentieth-century history.

Vega (1987 [1971]) initiated the first major study of the piece and its history, including the first radiographs of its internal structure. These clearly show the human cranium encased in the cotton weave, as well as a bulky, opaque substance at the figure's center, which Vega suggested was stone. His study has been followed by a growing body of research on the *cemí* (AMT ca. 1975; Girotti and Meaglia 2001; Guidi and Appendino 1973; Masali and Pia 1991; Meaglia and Girotti 2001; Ripley 1980), most recently the CT study by Martina et al. (2010), which has brought the internal structure of the *cemí* to light in magnificent detail (Figure 4, Supplemental Figure 4). The work undertaken here, initiated by the first author in 2005, builds on these foundations by focusing on its radiocarbon age, construction materials, and process of manufacture.

Radiocarbon Results

A 75 mg sample of cotton was extracted by MAET conservators from two separate areas of the *cemí*: the left side flap at the back of the *cemí*'s head and the right knee. The former, the larger of the two samples, was submitted for radiocarbon dating, while the smaller sample from the knee area was analyzed by Newsom for material identification. The radiocarbon result of 395 ± 27 B.P. (OxA–15359; $\delta^{13}C = -22.4‰$) calibrates with 95.4 percent confidence to A.D. 1439–1522 (76.7 percent), 1574–1584 (1.6 percent) and 1590–1624 (17.1 percent): of these, the greatest probability lies with the period A.D. 1439–1522. While traditional Taíno lifeways continued for some decades after contact, it is extremely unlikely that this object would have been made as late as 1575–1624: as will be discussed below, such sculptures required an intact indigenous sociopolitical system for their meaning and relevance, and due to population decline and forced acculturation this essential framework disintegrated by the mid–sixteenth century. Moreover, the piece does not feature any post-contact materials, as seen in other large cotton sculptures, such as the blue glass in both the Pigorini and Cisneros *cemís,* the latter in Europe by ca. 1502. This would suggest that the cotton for the *cemí* was collected, and likely spun and woven, some decades prior to, or very shortly after, European contact. Cotton fibers (technically, seed hairs or "lint") are produced by the plant on an annual basis, and so represent one year of growth; they are harvested regularly, and hence are an excellent material for radiocarbon dating, as they are not subject to in-built age. Although both raw and spun cotton were stored in cacical "warehouses," as well as people's homes, it is unlikely that they were stored for long periods of time given the constant demand for cotton products, such as hammocks, *naguas* (skirts), and body ornaments. Hence the date provides a good indication of when the *cemí* was constructed.

Fiber Analysis

The sample from the knee area of the *cemí* consisted of four small segments of cordage (designated TC1 through 4), each analyzed for fiber content. The primary fiber mass is consistent in all four samples, each being predominantly composed

Figure 3. Archival photograph of cotton and wood *cemís* (ca. late nineteenth/early twentieth century). Note that the strap on the cotton *cemí* is now positioned immediately behind the second ridge of the forehead. (By kind permission of the Trustees of the British Museum.)

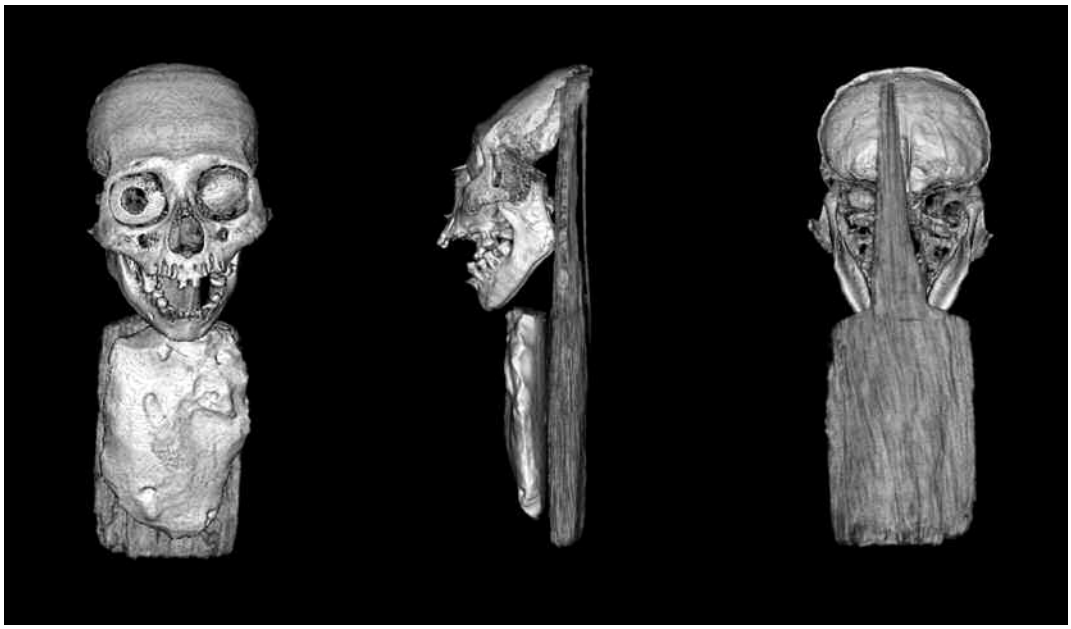

Figure 4. Three CT views of the interior of the *cemí*, showing the shaped stone and wooden base supports. (Courtesy Dr María Cristina Martina, University Institute of Diagnostic and Interventional Radiology [Director Prof. Giovanni Gandini], San Giovanni Battista, Molinette Hospital, University of Turin. Italy; adjusted in Photoshop by Ostapkowicz. See Supplemental Figure 4 for color image.)

of Z-twisted luminescent cotton (*Gossypium* sp., Malvaceae) fibers ca. 20–25 μm diameter with clear cell lumens and walls, acuminate tips, fairly regular to quite regular reversals in direction or twists, and ranging in color from amber to white or pale bluish grey (Figure 5, Supplemental Figure 5). Stellate hairs from the original involucres of the cotton boll are also present. In general, the fiber morphology and color variation, with the notable exception of one stained a deep red, compare well with fiber from uncultivated (naturalized or feral) cotton from the Caribbean and South Florida (Figure 5, Supplemental Figure 5). The original position of the red fiber in the cotton twine is uncertain, having first observed it under high magnification, i.e., after having extracted a mass of fibers from the surface and mounting them on a glass slide for detailed analysis. If not intrusive, the red cotton fiber likely represents deliberate use of natural pigments and dyes as traditionally

Table 1. Animal Hair Associated with the Turin Cotton Cemí Samples.

Type	Sample	Color	Diameter(microns)	Medula	Cuticle	Ends	Assignment
1	TC1	tan	8.5-10	absent	coronal/ petaloid	blunt	bat
2	TC4	bluish-black	10	absent	coronal/ petaloid	blunt	bat
3	TC4	reddish brown	34-35	unicellular, regular; uniserial ladder	imbricate or mosaic	cut	primate (cf.)
4	TC2	brown	24-29	obscure	mosaic-irregular	blunt; frayed	non-human mammal
5	TC3	rose	30-36	obscure	mosaic-irregular	frayed;cut?	non-human mammal
6	TC4	yellowish brown	25-29	obscure	mosaic-irregular	cut	non-human mammal

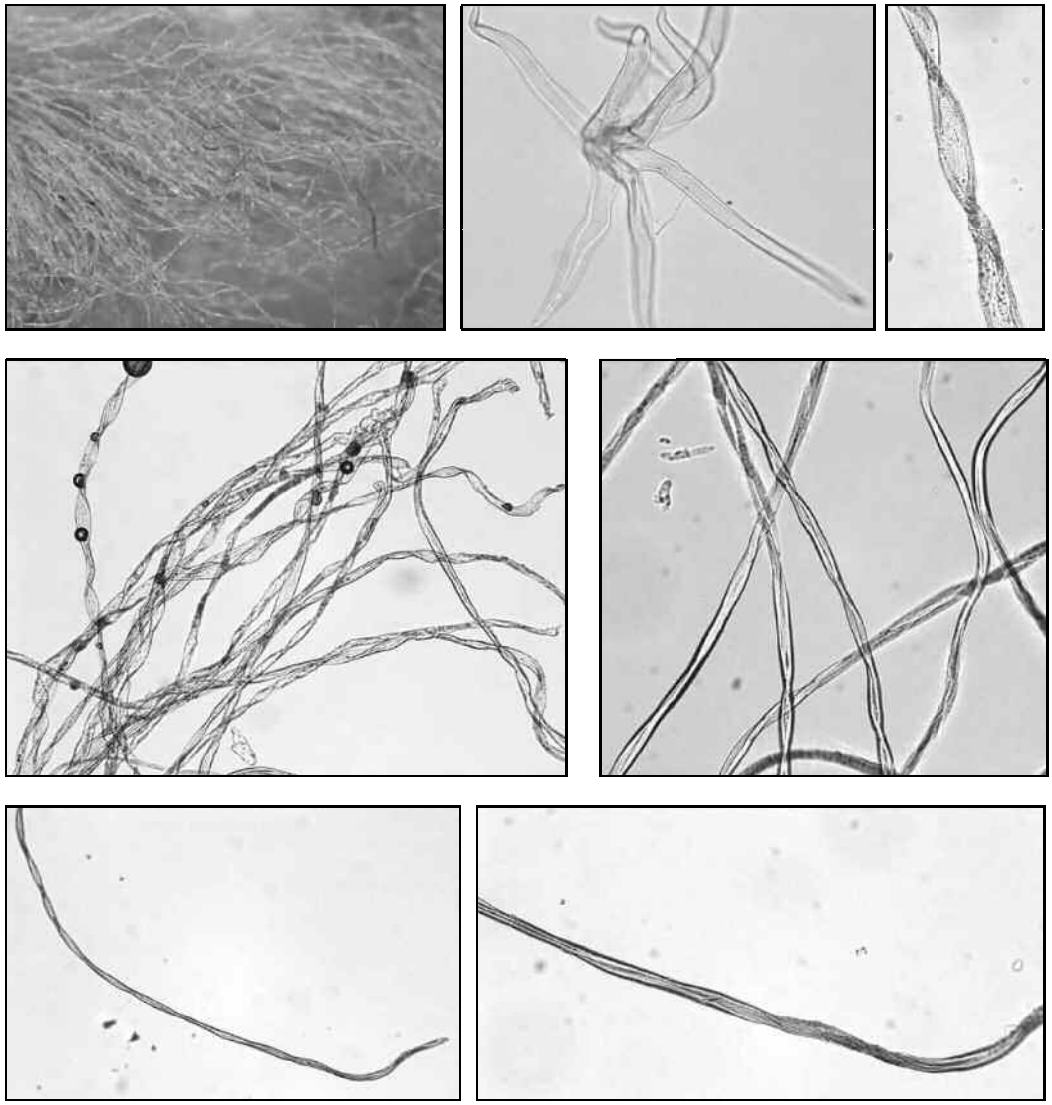

Figure 5. Turin *cemí* cotton fiber. Upper row: left, whole cotton cord (TC2) showing color variation (30x); center, stellate hair (TC2) (400x); right, amber variant showing classic twist, cell walls, and lumen (400x). Center row: left, natural color variation (TC3) (100x); right, natural color variation in modern reference sample from Big Mound Key, Charlotte County, Florida. Bottom row: red-stained cotton fiber (TC2), left (100x), right (200x). (See Supplemental Figure 5 for color image.)

employed in the Caribbean (e.g., achiote, *Bixa orellana*, the putative source of red body paint; [Newsom and Wing 2004].

In addition to the cotton fibers, several types of animal hair were discerned among the cordage samples; essential details are summarized in Table 1. Mammalian hairs are generally of two basic types—underhair and overhair (i.e., "guard hair," the most useful type for taxonomic identification)—the respective anatomical and morphological characteristics for which vary not only down the length of the hair shaft, but also depending on age and other factors (Petraco and Kubic 2004; Teerink 1991). The samples in question, being mainly small fragments of hair shaft, are difficult to classify taxonomically; nevertheless, assignments are made to the extent possible based on the features preserved in each specimen. Caribbean fauna is famously impoverished of mammalian taxa (Hedges 2001), a situation that was somewhat modified by prehis-

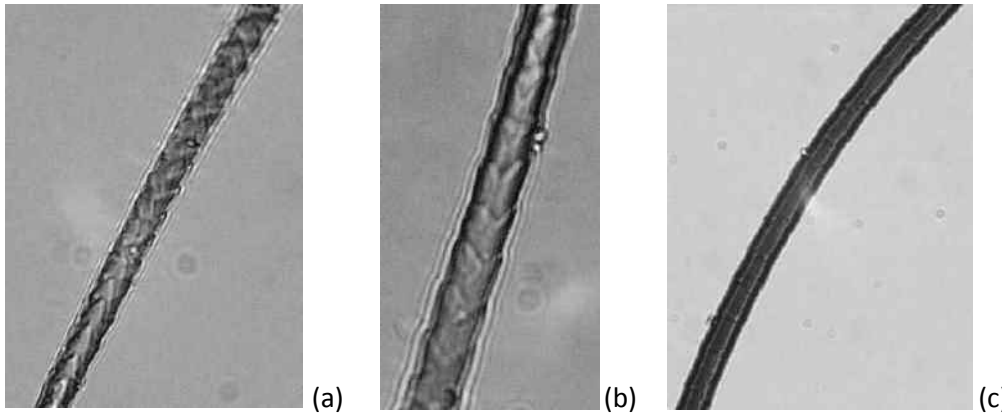

Figure 6. Turin *cemí* bat (Chiroptera) hair Type 1 (a) and (b) (400x, 600x) and (c) Type 2 (600x). (See Supplemental Figure 6 for color image.)

toric human introductions of particular taxa (Wing 2001); thus we are able to examine representative hair from a proportionately large sample of that biodiversity.[2]

Hair types 1 and 2 are bat hair (order Chiroptera; one specimen each) (Figure 6, Supplemental Figure 6). The second was fairly well integrated with surface layers of the cotton cord, but whether either or both were deliberately incorporated is uncertain. They most likely represent naturally shed hairs that incidentally became associated with the *cemí* during its history in the cave, or potentially in the raw cotton when it was stored in houses (including storehouses) where bats may have roosted. But the intriguing possibility that bat hair was intentionally incorporated merits further investigation, especially considering the deep symbolic importance of the bat in Taíno iconography and mythology, including its possible links to death and *opias* (spirits) (García Arévalo 1997). Parallels to its use in textiles exist further afield: bat hair was reportedly incorporated into the finest Peruvian weaves, reserved for Inca elite (Murra 1962:719).

Four additional types of animal hair were observed in association with the cotton fiber. One of these was deeply integrated into the cotton yarn, which had to be untwisted to remove it for closer scrutiny; both ends appear to have been cut. Another hair is artificially rose-colored, reminiscent of the red-tinted cotton fiber described above. It was first observed loosely curled and wrapped around the cotton cord, extending out from one end. This configuration may suggest a true association, with the hair having become partly dislodged and pulled loose, and indentations along its length (Figure 7, Supplemental Figure 7) suggest incorporation in a 2-ply yarn or plain weave textile. The last two hair types were mostly external to the spun cord, partially integrated with the surface layers of cotton fiber; that both ends of one of these appear cut may suggest deliberate incorporation. The precise taxonomic assignments for these four additional hair types are under further investigation, including aDNA, to clarify their origin(s).

Construction: Preparatory Stages

The *cemí* is a remarkable achievement of a weaver's skill, transforming what is essentially a two-dimensional textile into a three-dimensional object. The effort of bringing the materials together—from the gathering of the cotton bolls to the spinning—was considerable. As Stark et al. (1998:10) point out, "[g]rowing, picking, ginning, carding and spinning cotton represented a substantial part of the labor in cotton textiles... These steps plus dyeing and weaving... form a labor intensive sequence that continually adds value." It is likely that the Taíno harvested free-ranging wild cotton plants (Colón 1992:70; Oviedo 1992:II:14) alongside cultivating cotton among their *conucos* (agricultural fields) and home gardens (Cosa in Olazagasti 1997:136; Newsom 2008; Sauer 1992:56). As such, harvesting was dependent on collecting bolls in different areas, at different times during the growth season, as not all bolls ripen at

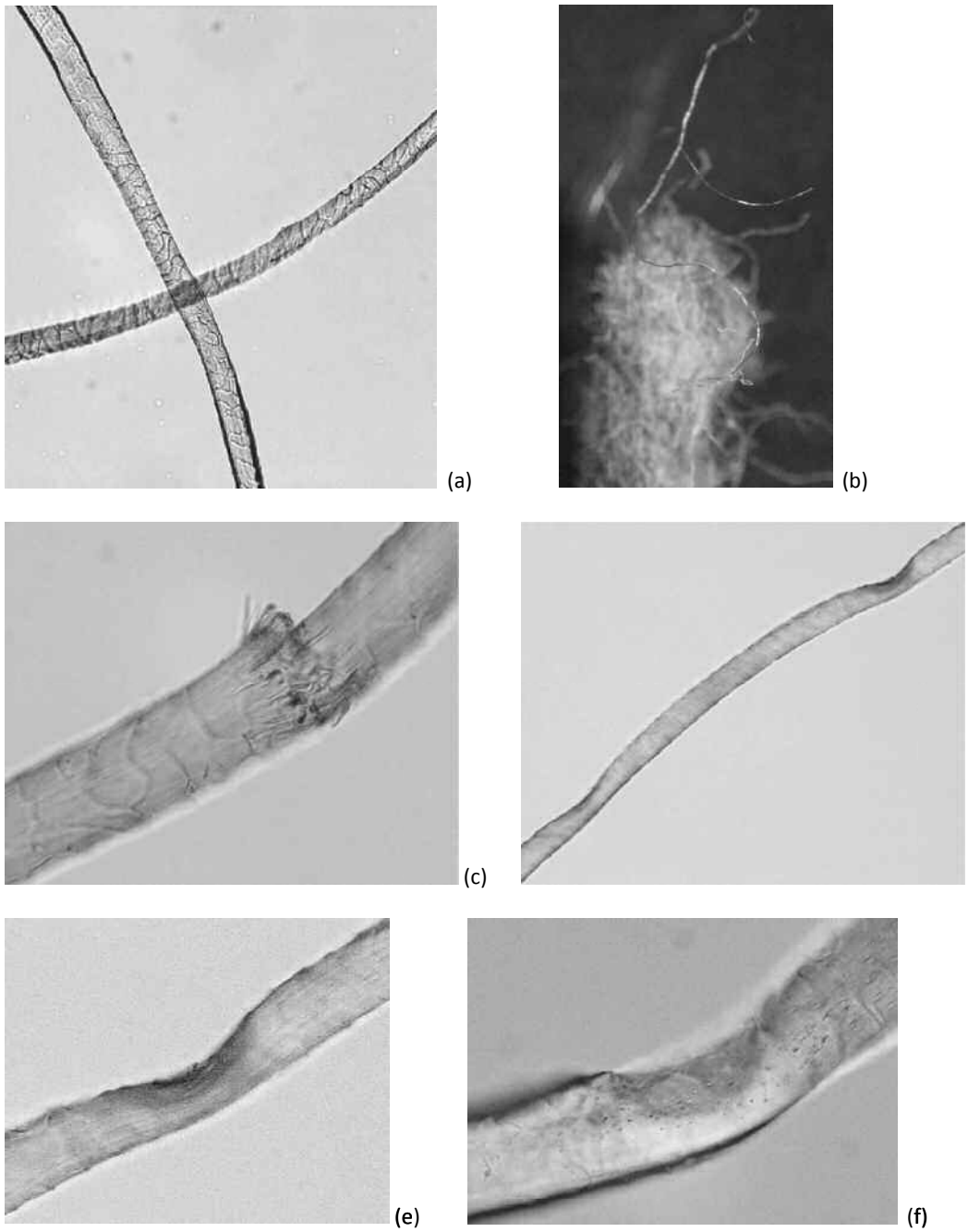

Figure 7. Rose-colored hair (TC3): (a) looped and crossed over itself (200x); (b) in original position (40x); (c) rupture (400x); (d) two indentations (200x) and close-up of one (e); (f) indentation in reference sample of merino wool hair from a textile sample (600x). (See Supplemental Figure 7 for color image.)

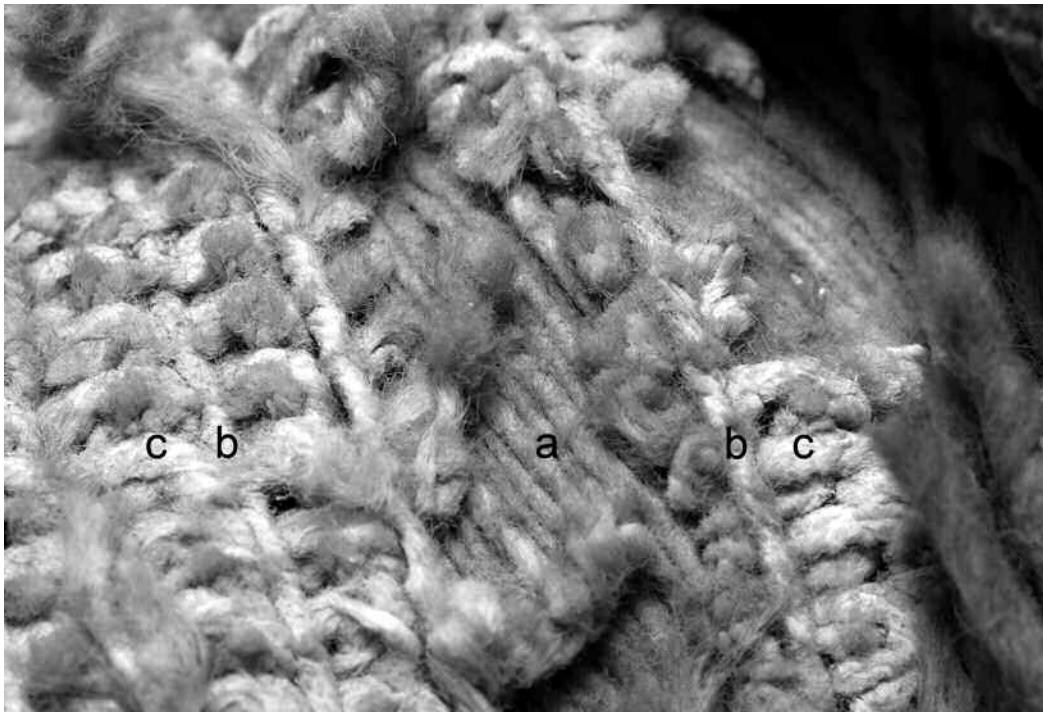

Figure 8. A damaged area at the right shoulder reveals three layers of cotton: the inner-most layer (a), featuring a thick cluster of single, Z-spun strands, is wrapped by evenly spaced two-ply, Z-spun, S-twist yarns (on the vertical) (b), which serve as a warp for the more elaborate "embroidered" weft (on the horizontal) (c), creating the *cemí's* "skin" (See Supplemental Figure 8 for color image.)

the same time (Langer and Hill 1991; Rehm and Espig 1991)—especially those growing as escapees from cultivation. This required knowledge of the growth of cotton in various areas, and an investment of time to visit the plants regularly during the yield season for a good supply of cotton. Once sufficient quantities were gathered, processing would start with cleaning the cotton of leaves and detritus, and extracting the seed from the fiber by hand, a laborious process that had to be done well otherwise it would affect the quality of the yarn: poorly prepared cotton results in lumpy yarn that breaks easily, while spinning rates are partially dependent on fiber quality and the work invested in fiber preparation (Vreeland in Tidemann and Jakes 2006:301–302).

Additional materials may have been added at this stage, whether to enhance the strength or look of the yarn, or perhaps to enhance its symbolism. In the case of the cotton *cemí*, these appear to have included at least some animal hairs, some of which are dyed. Dyeing fibers or hairs was yet another processing step that required its own sequence of preparation, involved and time consuming in its own right—between the collecting, cleaning, dyeing and drying. There are only brief *cronista* references to dyed materials among the Taíno, such as the use of "canes of different colors interwoven with the most marvelous skill" to cover house beams near Puerto Real, Haiti (Trevisan [1504] in Symcox 2002:90). Many other references pertain to the Lesser Antilles, but are worth including here for comparative purposes. Breton (1997:9) noted a dye being used to color "willow bark" which "they painstakingly and with the greatest skill divide... into extremely narrow bands... then soak... in... red and black [dye], so that they produce a variety of designs..., [weaving] the strips like fabric." Cotton was also dyed: Rochefort (1666:258) notes that men wore necklaces of shell, animal and possibly human bone "fasten'd together with a thread of fine Cotton of a red or violet colour." It is likely that the practice of dyeing cotton and other fibers was also prevalent among the Taíno to some degree,

Figure 9. Vegetable fiber cords used to bind the mandible to the embroidered "skin" and secure the teeth in place (note that modern monofilament is also present from a recent conservation treatment). (See Supplemental Figure 9 for color image.)

Figure 10. The lower left eye socket, with fiber cords just visible in the inner recesses that function to secure the outer embroidery (see arrows). There is a notable gap between the black shell "pupil" and the outer eye frame, suggesting that another shell layer representing the white sclera may have been present. (See Supplemental Figure 10 for color image.)

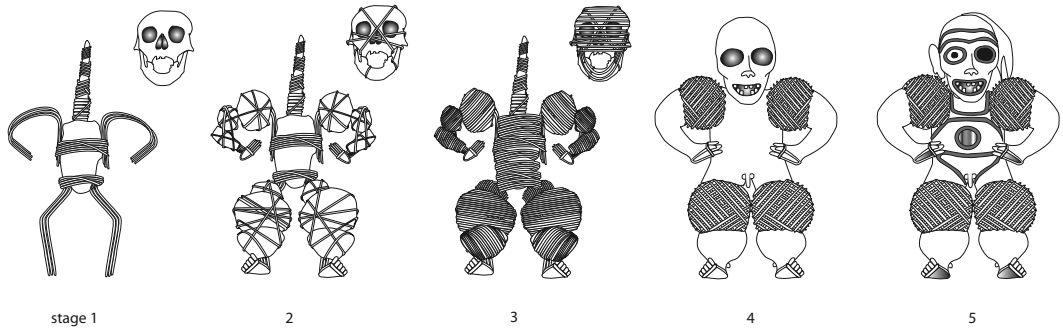

Figure 11. Suggested sequence of construction.

although there appears to be a preference for natural cotton finishes, at least among the elites: in Hispaniola cacique Behecchio's thirty wives wore white, elaborately woven *naguas,* while in Cuba, a group of elite men reportedly wore long, white tunics (Bernaldez 1967:142; Colón 1992:139; Las Casas 1951:I:441; Angelo Trevisan [1504] in Symcox 2002:93).

Once processed, hair or other materials could have been combined with the cotton and beaten together to make the fibers soft and pliable (cf. Mastache 2005:86). Spinning the material into yarn was a critical stage, as quality and strength of the weave are based on the characteristics of the thread (Mastache 2005:86). Spindle whorls were used in this process; many ceramic, and to a lesser degree shell, examples have been found in archaeological sites dating from the late Saladoid period (ca. A.D. 500)—the former often small, biconical, and decorated with red pigments and/or incised designs (Boomert 2000:300; Rouse 1992:129). The size of spindle regulated the thickness of the spun fiber—the smaller the spindle, the finer the yarn. Spinning gave the yarn a characteristic twist (either S or Z-spun): in the case of the cotton *cemí* many of the observed single strand yarns are Z-spun. Single strands are predominantly seen in the padded knee and arm wrappings, where the more decoratively woven surfaces have been lost (Figure 8, Supplemental Figure 8). These range in size from .50 to 2 mm in thickness—suggesting either the use of a variety of spindle sizes, or natural variations within the relatively quick spinning of single strands. These yarns needed to be made in bulk, for not only were they laid down in quantity in areas below the more decorative weaving, but they had to be plied to make stronger yarns that made up the majority of surface weave, including the textured "skin" of the *cemí*, which is constructed of two ply Z-spun, S-twist yarns.

Although cotton made up the *cemí*'s outer surface, a variety of materials went into its internal construction. CT scans of the *cemí* reveal that vegetable fiber cords were used to tightly bind the inner structure together, criss-crossing between the bound canes forming the framework of the legs and arms, creating a solid foundation for the cotton overweave. Fiber cords were also used to secure the woven "skin" to the human skull—as is seen in the binding around the mandible and maxilla and within the eye sockets (Figures 9, 10, and 19 and Supplemental Figures 9, 10, and 19). The fiber cords, which are 2 ply Z-spun and quite fine in thickness (ca. .50 mm), have yet to be identified botanically: although a variety of materials were likely used for cordage, the *cronistas* do note the use of *cabuya* (Oviedo 1992:I:117; *Furcraea* sp.? [Moscoso in Tejera 1977:243] or other plants in the agave family) and "linen-like" grasses that the natives "braid [into] ropes much stronger and tauter than hemp" (Scillacio [1494] in Symcox 2002:45). The strength of the cords was clearly critical in some areas: the mouth was deliberately woven open to reveal the teeth, each of which has been secured with cordage (Figure 9, Supplemental Figure 9), suggesting that the completeness and durability of this area was crucial to the final appearance of the *cemí*, conforming to the cannons of Taíno style, which emphasized the mouth and teeth.

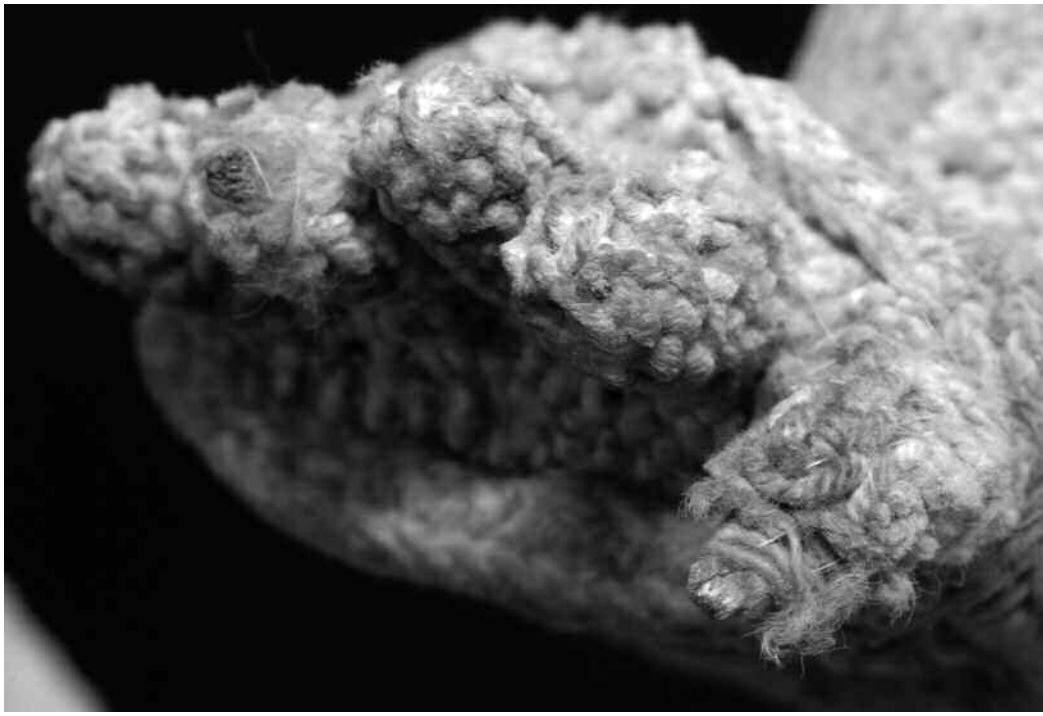

Figure 12. Internal cane supports for the fingers are visible at the tips of the second and fifth digits of the left hand. (See Supplemental Figure 12 for color image.)

The Manufacture Process

Once the various materials had been processed in sufficient quantities, the construction could begin (Figure 11). It is unclear what protocols regulated the creation of these figures—whether the work was done in isolation, through ritually sanctioned ways, and/or only by certain individuals (e.g., *behiques*). However, the skill in bringing these materials together in a construction that withstood centuries, despite being made almost entirely of delicate perishables, would suggest the work of an experienced artisan, well versed both in weaving techniques and sculptural composition. The construction was undoubtedly planned in advance. This is most readily seen in the positioning of "weights" placed within the *cemí*'s body cavity, which CT scans reveal to be two different materials—a large stone positioned at the front (belly and chest) and a paddle-shaped piece of wood placed at the back, its narrowing tip extending into the neck and head (Figure 4, Supplemental Figure 4) (Martina et al. 2010: Figures 4 and 5; Vega 1987). These two elements provide balance and support when the *cemí* is in an upright, seated position: the posture appears perfectly centered when the haunches are raised slightly on a support—this better aligns the body, bringing the head forward and the body upright (in contrast, see Kerchache 1994:160–161, where the *cemí* is positioned on a flat surface, resulting in a precarious, backwards lean). The posture—with bent knees and straight back—combined with the specific orientation of the stone weight suggest that the *cemí*'s upright sitting position was likely intentional, with another object, such as a ceremonial seat or *duho*, supporting it when on display or in "use."

Around this foundation of stone and wood, the armature of the sculpture was built: bundles of long lianas or canes were bound to the sides, becoming the basis of the arms and legs (Figure 11.1). These multiple strands ran the length of the appendages, reinforcing each other but also providing some flexibility. Some canes were separated at the hands and feet to become the foundation for the fingers and toes (Figure 12, Supplemental Figure 12), and CT scans reveal the presence of wooden frameworks at the feet, to provide the flattened shape of the soles (Martina et al. 2010:Figure 7). At various

Figure 13. Two ply Z-spun, S-twist yarns in decorative checked-weaves at the left knee. In the upper left are remnants of a black resinous material that adheres to much of the inner knee areas. (See Supplemental Figure 13 for color image.)

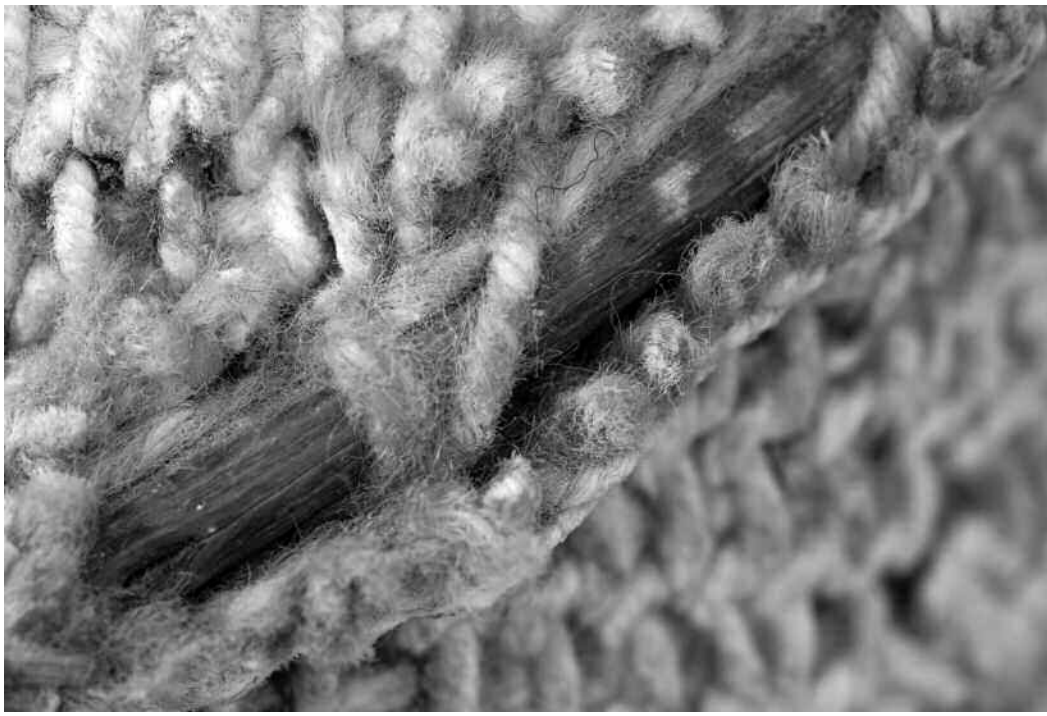

Figure 14. A damaged area at one of the right ribs reveals an internal cane used to create the skeletal imagery on the surface of the *cemí* (e.g., ribs, hips). (See Supplemental Figure 14 for color image.)

Figure 15. Back view of the cemi, where a frayed end seam overlaps the neck, suggesting that the head was woven separately. The strap emerges from between the shoulder blades, its center currently attached to the top of the head, perhaps in efforts to cover and secure the damaged area, which exposes a group of gourd panels. (See Supplemental Figure 15 for color image.)

points along the length of the body, thick vegetable fiber cords bind these elements tightly, creating a solid, internal framework. The body and limbs were then padded with either unprocessed or loosely spun cotton (Figure 11.2), with a heavy single-ply cotton twine, securing the various elements into place as well as serving as the warp for the "embroidered" weave of the *cemí*'s "skin" (Figure 8, Supplemental Figure 8). Cotton strands serving as the weft were then added and the weave tightened considerably (Figure 11.3). It is unclear as yet what tools may have been used in this process, although needles (Allsworth-Jones 2008:182) and awls are known from the archaeological record. As construction progressed, the weave expanded or contracted around the body's curves—analogous to a sprang weaving technique (Collingwood 1974). In keeping with the Taíno tradition of tightly binding the upper arms and knees,[3] these areas were kept quite narrow on the *cemí*'s body, woven with only minimal internal padding, in contrast to the more "fleshy" areas. These constricted areas were then enhanced with additional layers of spun cotton, the under layer consisting of a roughly spun, single-ply cotton, over which were added stronger two-ply yarns in a diamond pattern (Figure 13, Supplemental Figure 13, Figure 11.4). Among the finishing touches, flexible canes were added to the surface to delineate eye sockets, lips, ears, ribs, hip joints, navel and chest, some of which emphasize key skeletal elements that feature strongly in Taíno iconography (Figure 14, Supplemental Figure 14, Figure 11.5).

The frayed seams midway down the back of the neck (Figure 15, Supplemental Figure 15) suggest that the head was most likely woven separately, and added to the body at the final stages of construction. This makes sense given the level of access required to weave the skull in the round. A series of thick cotton cords, now broken, extended from the back of the jaw around the neck to fasten the head more securely to the neck. The reliquary's inner structure can be seen beneath the large woven band at the back of the head, including the parietal

Figure 16. Bundle of cut cotton twine at the right shoulder, covered with black pigment or resin at the front, with white material covering the back (length: 22.45 mm; width: 18.56 mm). (See Supplemental Figure 16 for color image.)

bones and the presence of what appear to be thin panels of gourd (possibly calabash, *Crescentia cujete*) (Figure 15, Supplemental Figure 15). Much of the back of the skull had been removed, apparently being too large and/or deemed unnecessary for the purposes of the sculpture. The inclusion of the gourd fragments may have functioned to help maintain a rounded appearance to the back of the head while perhaps also acting as a symbolic referent to the more common practice of placing skulls in gourds (Colón 1992:75, and 114–116).

The woven band currently attached to the top of the head was originally a loose strap that fell behind the *cemí*, possibly to secure or suspend it, with its terminal ends secured between the shoulder blades (early images—such as Cronau 1892:I:263; Fewkes 1891:Figure 7; and Seelye 1892:133—feature the top of the head free of the band). Its current placement, attached to the top of the head by modern thread, appears to be a recent conservation treatment to safeguard the damaged area exposing the skull and loose gourds. This damage is old, perhaps a result of early attempts (pre-1891; see Fewkes 1891:Figure 7) to see what was inside the figure, and the use of the strap to cover this area has a long history. It first appears low on the forehead in the British Museum's archival photograph (Figure 3), and over the years appears to migrate to different positions on the forehead (e.g., see Vega 1987:Figure A-B, who calls it a "*turbante*").

The entire object may have then been selectively stained to enhance certain features—as there are clearly brighter and darker areas on the surface (Figure 11.5; Ripley 1980:117; Vega 1987:16). For example, some of the multi-strand cotton "bundles" added to the sides of the leg and shoulder bands appear stained dark at the front (possibly with resins), and white at the back (Figure 16, Supplemental Figure 16). There are other color variations visible—from white to a brown-yellow—although it is not clear at this stage whether some are a result of depositional damage (e.g., bat urine and fungal decay can bleach cotton), intentional staining, or indeed, a combination of the two. A yellow ochre stain appears on raised bands at the navel, chest, forehead and ears, possibly a result of specific staining to these areas. Naturally occurring colorants such as red ochre (used in Caribbean bur-

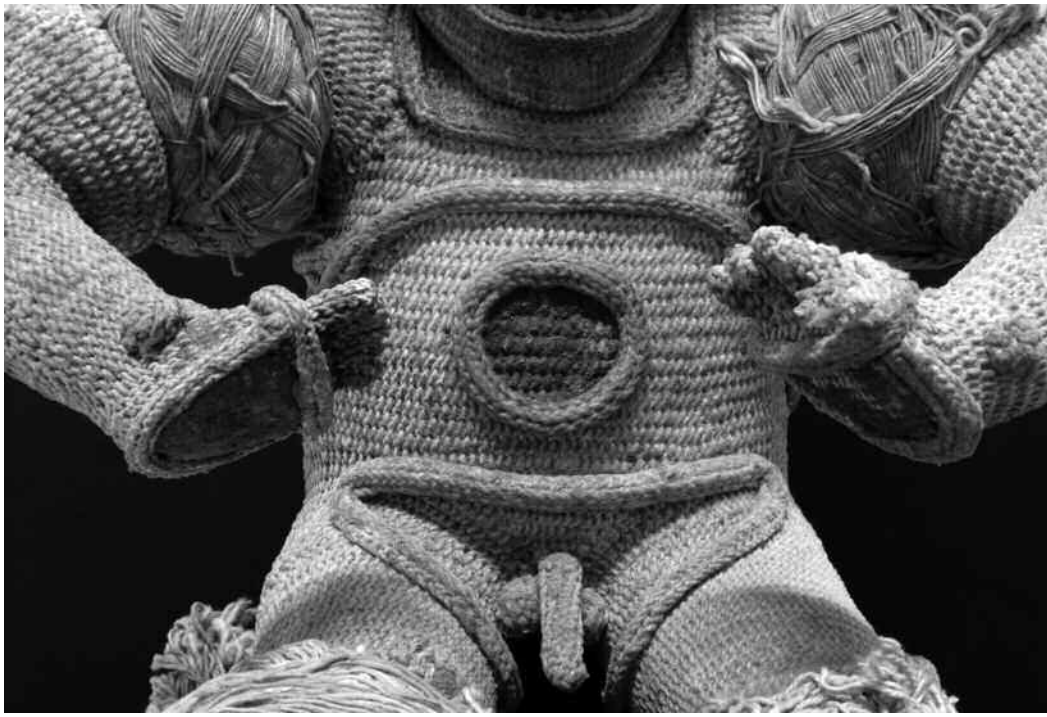

Figure 17. Thick black substance placed within the palm of both hands and the navel, suggesting that these areas may have held inlay. (See Supplemental Figure 17 for color image.)

ial contexts since the Archaic—e.g., Schaffer et al. 2010) and the seeds of *Bixa orellena*, mentioned above, yield a vibrant red pigment that can tinge yellowish-brown over time (Yde 1965:64). Future analysis will hopefully shed light on this issue.

The *cemí* features areas covered with a thick, dark substance, notably around the inner legs, navel, palms, and, to a lesser degree, on certain parts of the upper body, although it is not clear as yet whether these are all the same material. A thick layer within the navel and palms suggests that it may have functioned to adhere inlays (Figure 17, Supplemental Figure 17). A small amount of this dark material (1.2 mg) was noted on the cotton sample from the knee and was separated for analysis, revealing a lipid composition together with *Protium* or *Bursera* genus triterpenoid resin (Erika Ribechini, personal communication 2010), adhesives also found in other Taíno sculptures (Ostapkowicz et al. 2012:2245). In the Caribbean, *Bursera* resin has been used for a wide variety of purposes, ranging from medicine to glue (Gibney and White in Nicholls 2006:17; Little and Wadsworth 1964:236; Timyan 1996:210). There appear to be other, lighter colored substances—perhaps also resinous—lodged in the deeper crevices of the sculpture, although these still require identification.

Resins are also present in the eyes and mouth. The right eye consists of a large perforated white shell held in place by amber-like resin granules (Figure 18, Supplemental Figure 18), a treatment that appears in striking contrast to the left eye, made of a large black unperforated shell lodged within dark resins. There has been much speculation regarding the meaning behind such a juxtaposition of light and dark materials (e.g., see Royo Guardia 1947:150, who suggests it was symbolic of the *cemí*'s diurnal/nocturnal vision). But there are grounds to suggest that there has been some damage to the left eye, in the form of a gap between the woven framework and the black shell, as if another layer may have been present (see Figure 10, Supplemental Figure 10). There are also small resinous granules adhering to the black shell's surface, but absent from its raised, pupil-like center. Together, this suggests that there may have been a layering of materials in the eye, with a soft resin first placed in the cavity to infill the area and to adhere the dark

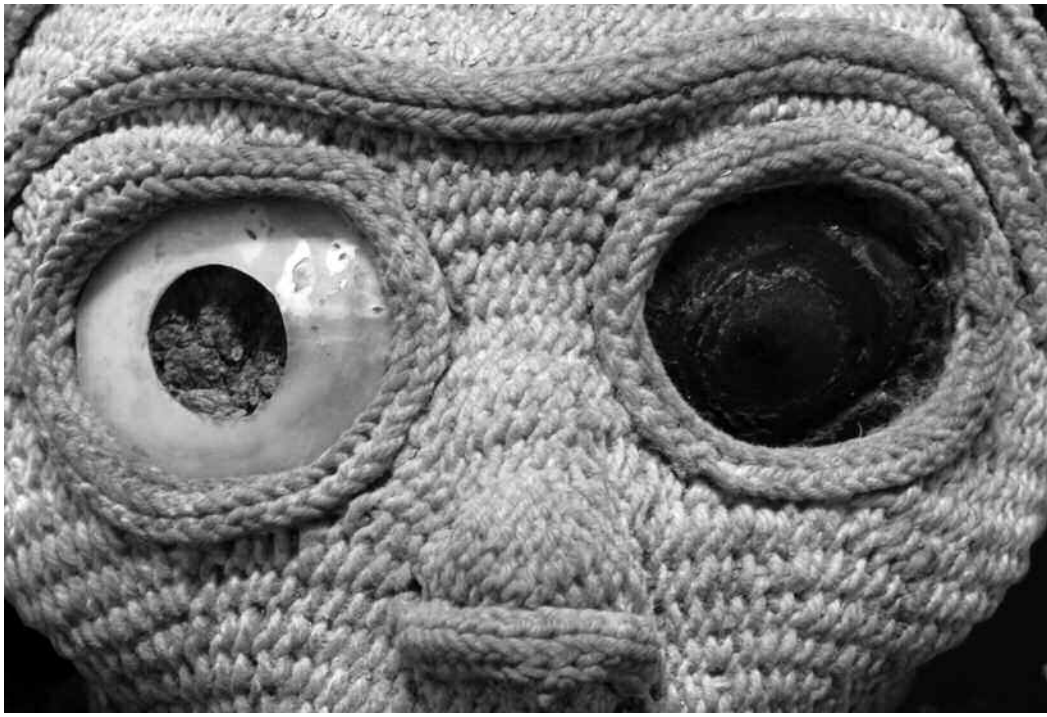

Figure 18. The cemí's right eye (seen here on the left) features granules of amber resin (likely a result of deterioration), covered by a white perforated shell, while the black shell in the left eye (seen here on the right) is held in place by dark resins, its outer surface also covered by resinous adhesions, suggest that another layer—now lost—may have been added. (See Supplemental Figure 18 for color image.)

shell, to which a drilled white shell was attached with further resin, so that each eye would have a dark pupil and white sclera. On the other hand, there is no such black shell in the right eye, if indeed it was ever present. Thus, the original appearance of the eyes remains unclear. A dark resin-like coating also covers the upper palate (Figure 19, Supplemental Figure 19), suggesting that the inner mouth was intended to recede from view, enhancing the whiteness of the teeth.

The above additions to the *cemí*'s surface—pigments, resins, shell—are all that remains of what was originally an object adorned with materials of contrasting colors and textures against its freshly woven cotton "skin." The ear lobes, for example, were woven as loops (now broken) to hold earspools of carved wood, stone, shell, or feather bundles. A large shell or perhaps *guanin* (a gold-copper alloy) may have been featured in the navel, while the unusual placement of resins in the palms suggests that these areas were also highlighted with inlays, marking them as visually and symbolically important. Both the navel and hands were focal areas within Taíno sculpture: raised palms reoccur in ceremonial objects, including cohoba stands (e.g., wooden sculpture in Figure 3) and vomiting spatulas, and their position likely had a ritual significance. The navel is an important feature in anthropomorphic carvings, often enlarged for effect. According to Pané (1999:18–19) it indicated that the individual was alive, in contrast to the dead (*operito*), who had no navels. Its presence on a sculpture encasing the bones of an ancestor may have served to underline their still vital involvement with the world of the living.

Discussion: Creating an Ancestor

This sequence of production—from gathering cotton to adding the last inlay—is seemingly straightforward; but this is no simple object. The materials combine to create a remarkable "being"—a physical representation of an ancestor. The cotton weave becomes a metaphor for his skin; the stone weight, his viscera; the lianas, the bones and sinews of his arms and legs; the wood, his backbone. The human

Figure 19. Interior view of the mouth showing black resinous material covering the upper palate and fiber cords holding the teeth in place. (See Supplemental Figure 19 for color image.)

form is reconstituted, made complete again in the hands of the weaver who him/herself becomes during this process a "creator" of sorts, with the power to bring together inanimate matter that becomes embodied and animated by an ancestral force. If the weaver was female—and given the *cronistas*' accounts of women weaving, this is possible (Las Casas in Báez Díaz 1977:12; Oviedo 1992:I:117; for Lesser Antilles see Rochefort 1666:295; for general discussion see Sued-Badilllo 1993:36–39; Ostapkowicz 1998:527–533)—this further builds on the reproductive symbolism of this act: of a symbolic gestation and rebirth into the ancestral realm. The physical process of creation, of building and adorning the body, must have had significance now difficult to assess. This appears, at least superficially, to be different from the carving of a wooden *cemí*, which is a subtractive process that is understood to release—or "realize"—the numinous force inherent in the material (Pané 1999:25–26). In contrast, creating a cotton reliquary was an "additive" task, essentially building on a foundation of bone and other materials—to bind the forces within. It may have involved a deeper significance given that the work was based—literarily and metaphorically—on the physical remains of a known individual. The remains were worked into something that transcended the familiar to become a direct link to the numinous. When and how did this transition take place? Were ceremonies performed to "invest" the *cemí*—as they were for wooden *cemís* (Pané 1999:25–26), or was this numinous essence already inherent in the remains? At what point in the processes does the *cemí* become "cemífied'? We can now only tentatively glimpse the undoubtedly rich meanings behind such a creation—and engage with the nature of what it may have meant to "create," or bring into physical being, an ancestor.

At a basic level, there are numerous references in the early *cronistas* to suggest that wrapping and binding with textiles was culturally significant, separating and protecting the individual or object. Pané, for example, notes that stone *cemís* were wrapped in cotton: "they take good care of them, wrapping them in cotton, placing them in small baskets, and putting food before them; they do the same with the *cemís* they have in their houses" (in Colón 1992:160; see Walker 1993:47–48). Larger *cemís* would have been wrapped in various ways—

including cotton ornaments suspended from their perforated ears, and wrapped around their arms and legs. Other substances, such as *guanin*, were also wrapped in cotton—as in the case of a large disc covered with four layers of cloth excavated from the site of El Chorro de Maíta, Cuba (Guarch Delmonte in Oliver 2000:201). Wrapping these important cemís/objects in protective material functioned to separate them, marking them as precious. But it was not just objects that were covered in cotton: Oviedo (1992:I:119) mentions a burial involving very long cotton bandages that were wrapped tightly around the deceased prior to his interment. There is ample archaeological evidence for the practice of wrapping human remains, spanning much of the Caribbean region—from the Saladoid site of Punta Candelero, Puerto Rico, where 80 percent of burials were reportedly bound with vegetable fibers or hammocks and interred in squatting positions (Rodríguez 1997:82) to Taíno satellite sites such as Kelby's Ridge, Saba, where cremations were suggested to have been interred wrapped in cloth (Hoogland and Hofman 1993:170). There may have been a range of practices, from elite burials featuring a wealth of cotton goods, to more modest burials for commoners, where individuals were accompanied by only their cotton arm or leg bands. Thus, cotton appears much more than a commodity, adorning both the living and the dead. It may well have been, in specific contexts, a transformative material, marking life transitions. Gifts of cotton cloth may have been given during the most important stages of life: birth, initiation and marriage, as well as forming the final parting gift to the dead (cf. Murra 1962).

And who was the individual bound in the cotton "skin" of the Turin *cemí*? The skull is probably that of an adult male, based on the morphology of the supraorbital ridge and the mandible (Martina et al. 2010:1994). The teeth are minimally worn with the only visible spots of dentine present on the first mandibular molar; the third molars are missing congenitally, as shown in a CT scan (Martina et al. 2010:Figure 2a). While two maxillary teeth, the first left molar and the second right premolar, were lost ante-mortem, the overall impression is that of a young adult (Rick Schulting, personal communication 2007), particularly as precolonial Caribbean populations experienced fairly heavy dental wear due to sand and other abrasives present in the diet (Crespo-Torres 2010:202). The skull exhibits evidence for cranial modification, which would have been done during the individual's infancy (Martina et al. 2010:1995, 1998). Cranial modification among the Taíno appears to have been a fairly common practice, and may have been a marker of group identity rather than social status (Crespo-Torres 2010:206), although these distinctions are still poorly understood.

The fact that this individual's skull had been incorporated into so elaborate a *cemí* suggests that he had attained some standing in the community. Caciques were thought to have been the main recipients of such treatment (Las Casas 1997:176; Loven 1979:586; Vega 1987:13). As the Geraldini quote that opened this paper makes clear, only those that were "religious and just and ... conferred some benefit on the people" were so honored. In contrast, there was a wide diversity of burial styles in the Caribbean, including secondary internments where various skeletal elements were re-buried. Burials were opened, and skeletal elements—often the skull, but sometimes a femur or other long bones—were removed; this practice is known archaeologically across much of the Caribbean, from Trinidad and Tobago (Boomert 2000:398–400) to Eleuthera, Bahamas (Schaffer et al. 2010), and mentioned with some frequency in *cronistas*' accounts from Cuba to Guadeloupe (Colón 1992:75, 114–116; Las Casas 1967:I:246). In some instances skull fragments and long bones were carved with images and made into pectorals or ornaments, although it is still unclear whether this treatment was reserved for the remains of enemies or ancestors (Roe 1989). At the site of Paso del Indio, Puerto Rico, where 138 interments were found, many primary burials were directly associated with secondary burials (Walker 2005:73). Three of these particularly stand out: each contains a primary burial of an adult male holding a secondary skull of another male in his arms. The intimate nature of their position—with the skulls cradled closely against their bodies—suggests to Walker (2005:74) that they were "treasured and dear": perhaps ancestral remains, rather than trophies from slain adversaries (see also Oliver 2009:146–147).

The cotton *cemí* offers a rare window onto another funerary practice: the elaborate nature of the figure implies that it was made to be visible—whether to a restricted audience or the whole

community—and given its sturdy construction, it was meant to have a long "life." The work involved in its creation went far beyond the wrapping of bones in a piece of cotton cloth—manifesting instead an entire body that could sit upright, with limbs that were, to some limited degree, movable. The ancestor was thus "reconstituted"—created anew through layers of materials. This tangible form kept the history of a specific individual's deeds alive in the minds of the living, reinforced through oral accounts passed down generations. Through their previous actions and their transcendance into a liminal state—of the spirit world but also reconstituted in an earthly guise—these venerable beings had amassed the knowledge to guide actions. Ethnographic accounts make clear that these figures were oracles, offering advice and counsel—perhaps in this sense we can begin to understand why the figure's mouth was paid such special attention, and was woven open, as if speaking. And it is this effort of harnessing the numinous—of seeking assistance and guidance or tapping into the potent powers of those whose deeds were legendary—that underscores the *cemís*' purpose. They were viewed as active agents with the power to affect events—agents that undoubtedly needed to be appeased in efforts to assure their goodwill. Such forces were treated with great respect, their names and actions recounted, their presence central to certain ceremonies, likely symbolically "fed" and otherwise taken care of—to maintain the beneficial flow of things. This in essence made them central to events and involved in the lives of their descendants and community members. Their "death" may simply have been viewed "as another rite of passage into the next stage of the life/death/rebirth cycle. Such ancestors remain[ed] relevant to and concerned with, or protective of, the living among whom they [were] passed down as inheritable relics" (Roe 1989:859). Using such intermediaries appears a universal practice, both in traditional cultures and inherent in many of today's major religions. As Holsbeke (1996:15) points out:

> By giving intangible beings a material shape, their supernatural power is localized, the better to control it. At the same time the believer can tap the spiritual energy of the statue, which brings him into direct visual and tactile contact with the being represented. It functions as a bridge to the supernatural, and as a window through which the believer can look at the other world, while at the same time being seen from the other side.

And the critical connection between the ancestral *cemís* and descendants made them unique among the multitude of other Taíno *cemís*. According to Pané (1999), other *cemís* were active agents, animating wood and stone at whim, apparently without any direct connection to their eventual custodian. They were capricious forces, some choosing to escape servitude to those who could not appease or placate them (Pané 1999:25–26). In contrast, reliquaries and cotton *cemís* were connected to a place and community via their descendants. These not only linked with the living, but also to other deceased relatives that had been *cemí*-fied, all connected "in a web of kinship and descent"—as opposed to a trustee relationship that existed with other forms of *cemí* "ownership" (Oliver 2009:62). As Oliver (2009:141) notes, the cotton *cemí*, "as a *cemí*fied ancestor, defines the relationships (duties, obligations, modes of social conduct) among the surviving, living descendants. . . . [and] has the potency to affect the production and reproduction of the descendants, and the wider community." With such intimate links between the ancestors and the living, these *cemís*, unlike others, would not circulate in exchanges, but likely remained within the descent group (Oliver 2009:250).

As carefully curated and safeguarded lineage "treasures," accruing greater potency with each beneficial "act," such *cemís* would be expected to have a long life of involvement and ceremonial activity. The older they became, the greater their potency, and by association, the greater the prestige of the descendants. It is quite possible that the belief in their efficacy may have spanned generations. When not brought out for rituals and consultation, which likely included the use of cohoba (the ingestion of hallucinogenic drugs), they would have been safeguarded in a cacical caney or other secure locations, such as caves. As such, their histories and reputations could have been built over centuries. The date of A.D. 1439–1522 for the Turin *cemí*, however, would suggest that its "afterlife" was cut short by the arrival of the Spanish.

Summary and Conclusions

The cotton *cemí* was an investment on many levels: of time, effort, artistry, knowledge, and belief. It embodied these aspects through a fusion of the now indefinable (ritual, ceremony) with the tangible: the layering of materials, from wood, stone, lianas, vegetable fibers, cotton in quantity, animal hair, gourd, resins, inlays and pigments, and, at its core, the human skull. The creative vision and skills of the artist/weaver are evident in each phase of construction—from the foundation balanced by weights and supports to the rich finishes (texture, color, inlays) covering the surface. The elaboration of the woven body, juxtaposing a life-affirming physicality (fleshed body, enlarged navel, genitals) with both skull and skeletal imagery (rib cage, hip bones), functioned to bring the forces of life and death clearly and eloquently into view. This creative and technical investment ultimately reflects the *cemí*'s deep social and cultural value: one based on the belief of an unbroken link between the living and the dead. The integration of ancestral remains and relics into both ritual and the everyday functioned on a variety of levels: from linking descendants with powerful predecessors and so establishing and reinforcing status and ancestral legacies, to harnessing these ancestral/*cemí* forces as intermediaries for the benefit of the community. In this sense and many others, this figure was—and remains—a bridge between the living and those who have gone before.

Acknowledgments. The study of the Turin *cemí* was made possible through the support of the Leverhulme Trust and the Getty Foundation, with NERC/ORADS supporting the radiocarbon dating. We are grateful for the generous assistance of Prof. Emma Rabino Massa, Director, and Dr. Rosa Boano, Assistant Director, MAET, during Ostapkowicz's visits to the collections in 2005 and 2007. Our thanks to Rick Schulting for his observations on the visible skeletal remains, and comments on previous versions of this paper; Candace McCaffery, Florida Museum of Natural History, for facilitating loans of animal hair samples from the museum's collections; Fiona Brock and Tom Higham from the Oxford Radiocarbon Laboratory for Archaeology and the History of Art; Erika Ribechini, University of Pisa, for the GC/MS resin analysis results; Sarah Mallet for assistance with the translation of du Tertre's text on vengeance killings (other translations by Ostapkowicz); Francisca Santana Sagredo for translation of the abstract into Spanish; Donatella Minaldi and Raphfaella Bianucci for their previous assistance; Dr. María Cristina Martina for permissions to reproduce Figure 4 and for discussions on CT images of the infraorbital foramen; Colin McEwan for permission to use Figure 3 and Dan Bruce and Lynda Miller for their assistance with, and insights of, this archival photograph; José Oliver and two anonymous reviewers for their comments. Unless otherwise noted, all photographs and illustrations are by Ostapkowicz, and are courtesy of the Museum of Anthropology and Ethnography, Turin.

Supplemental Materials. Supplemental materials are linked to the online version of the paper, which is accessible via the SAA member logon at http://saa.org/Home/tabid/36/Default.aspx.

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Notes

1. Kerchache (1994:162) considered the elaborately beaded cotton *cemí* in the collections of the Pigorini Museum, Rome (accession number 4190) a reliquary, but there is no evidence to suggest that it was used in this way: it does not contain any human remains, nor is its construction suggestive of an artifact specifically made to encase bones, as is the case in the Turin *cemí*. Instead, the Pigorini *cemí* consists of two separate cotton elements—a full sized belt at the base (Biscione 1997:158), and beaded *cemí* sculpture at the top, both nailed to a turned wooden base (the latter likely a historic display support).

2. Animal hair assignments were made using published data and comparative specimens obtained on loan from the Florida Museum of Natural History collections, including primate (*Saimuri sciureus*, UF#398), felid (*Felis wiedii*, UF#6789; *Lynx rufus,* UF#24401), hutia (*Capromys pilorides*, UF#26758; *Geocapromys brownii*, UF#15249; *Plagiodontia aedium*, UF#22399), agouti (*Dasyprocta aguti*, UF#13304), guinea pig (*Cavia porcellus*, UF#9170; *Cavia* sp., UF#9172), and bat (*Artibeus jamaicensis*, UF#2165; *Brachyphylla nana*, UF#20704; *Eptesicus fuscus*, UF#20706; *Molossus major*, UF#6549; *Monophyllus redmani*, UF#31422; *Mormoops blainvillei*, UF#13683; *Noctilio leporinus*, UF#630; *Pteronotus quadridens*, UF#13687; *Tadarida brasiliensis*, UF#19185). Additional comparative samples utilized in this analysis and curated in Newsom's lab include domestic dog (*Canis familiaris*), domestic cat (*Felis catus*), domestic sheep (*Ovis aries*), white-tailed deer (*Odocoileus virginianus*), cottontail rabbit (*Sylvilagus* sp.).

3. "The women bandage their legs from the calf to the knee with woven cotton to make them look thicker; they call this adornment *coiro* and think it very elegant; they make the bandage so tight that if it is loosened for any reason the leg looks very thin. The Jamaicans, both men and women, also have this custom and even bandage their arms up to the armpit so that they look as if they wear armlets such as were once used among us" (Colón 1992:170).

Submitted: April 11, 2011; Revised: January 15, 2012; Accepted: July 10, 2012.