

# **Integrating the Old World into the New: Investigations of an “Idol from the West Indies”**

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## Introduction

The *cemí* (a representation of a spirit, ancestor or deity) in the collections of the Museo Nazionale Preistorico Etnografico “L. Pigorini” in Rome (henceforth referred to as Pigorini) is a remarkable sculpture attributed to the Caribbean’s early colonial period, its collection history in Europe extending back to at least 1680 (Legati 1680:13)(Figure 1). It is a Janus-headed figure – one side human, the other a bat – incorporating a lavish array of indigenous wealth (e.g. over 20 000 shell beads) and exotic trade items woven into a cotton mesh and supported by a domed wooden base (Ostapkowicz, in press; Biscione 1991; 1997; Roe 1997; Vega 1987). Merging European glass beads and mirrors, and, exceptionally, rhinoceros horn, it has become an icon of the post-colonial Caribbean, embodying the three key foundational strands of modern island culture: indigenous, African and European (Roe 1997:165; Sullivan 2006:40). Given the calibre of artistry and the masterful incorporation of these new materials, the piece has long been attributed to a brief period of Taíno, Spanish and African interaction: AD 1492-1550 (Taíno being an umbrella term for the indigenous people of the Caribbean Greater Antilles; see Curet 2014). Critically, this is prior to the collapse of Taíno traditions in the face of European incursions, slavery, warfare and introduced diseases. It thus encapsulates a fleeting moment in early trans-Atlantic cross-cultural exchange – a meeting of very different worldviews. However, this combination of foreign materials and what has been interpreted as strands of European and African iconography and influence (Roe 1997; Coloni in Biscione 1991:78-9; Sullivan 2006:39-40), together with an obscured early collection history, have suggested that the sculpture itself is potentially suspect (Rouse 1992:159): a pastiche that may have been among the items made in Europe for the princely *kunstammer* (the precursors to modern museums), “not as forgeries, but to create and present even more attractive and wonderful curiosities” (Scalini 2001:129-32).

Many previous studies have proposed a single function for the sculpture – either as a reliquary or as a platform for the hallucinogenic snuff taken in the *cohoba* ceremony (Vega 1987:19-20; Kerchache 1994:162; Roe 1997:164; Montás *et al.*, 2003:47) – although the piece is actually a composite object, with a separate belt beneath the Janus-headed top section, both nailed to a supporting wooden

base (Biscione 1997). This combination of two artefacts, nailed to a static frame, is without precedent in the repertoire of Taíno material culture and practice, and seems more in keeping with their display in a Western context. Questions arise, therefore, concerning the possible histories of intervention of this long-term museum survivor. This paper seeks to clarify some of these issues through an investigation of the diverse materials in the objects' construction, and their varied origins. We also present the first radiocarbon dating of the cotton and wood base, and the taxonomic identification of the wood, to better understand how and when this composite sculpture came together.

In terms of its authenticity, it is important to note that the Pigorini cemí and belt were not the only lavishly beaded artefacts from the Americas in early European collections. Listed in the 1598 inventory of the Munich *Kunstammer* is a large 'Mexican' "...idol, elaborately built up from white and red interlocking rings with big eyes made from blue glass", attributed to the collections of Cardinal Francisco Jiménez de Cisneros, who died in 1517 (Diemer *et al.* 2004:142; Feest 1991:581; Feest 1986). This is too early for Mexican antiquities to have reached Europe; hence its provenance is probably Caribbean (Feest 1986, 1991), especially given strong parallels with the only extant late 19<sup>th</sup> century cotton reliquary recovered from a cave in the Dominican Republic (Ostapkowicz and Newsom 2012) (Figure 2). While the Munich inventory also mentions other possible Caribbean artefacts, including belts, the incorporation of European trade items is not expressly documented (Diemer *et al.* 2004:55). Unfortunately none of these Caribbean artefacts are known to have survived (Feest 1986; Ostapkowicz 2013:295). The only complete belt is in the *Weltmuseum* in Vienna (Figure 3). Its documented history stretches back at least to 1877, but most likely much longer, having been part of the Vienna *Schatzkammer*, which was originally established in 1556. It features a thick layer of indigenous beads, mirror eyes, jet beads and brass pins. It thus shares many similarities with the Pigorini cemí and belt (Ostapkowicz 2013). Despite Spanish admiration for Taíno weaving skills, and examples of their work – from hammocks to belts and cemís – being sent back to Europe, only four cotton pieces attributed to the Taíno survive: the Turin cotton reliquary, the Vienna belt, and the composite Pigorini

cemí and belt (Ostapkowicz and Newsom 2012; Ostapkowicz 2013). Of these, only the Vienna belt and the Pigorini cemí feature European ‘exotics’.

## History

It is not clear when the Pigorini cemí and belt first entered Europe, though there have been speculative links to the court of Carlos V (b. 1500, d. 1558), and some of the most influential houses of 16-17<sup>th</sup> century Europe, including the collections of Ferdinand II, Archduke of Tyrol (b. 1529, d. 1595) and Leopoldo de’ Medici (b. 1617, d. 1675) (Vega 1987:20-22). Unfortunately, these attributions cannot be confirmed given the absence of supporting evidence. Its early history in Europe remains obscure until 1680, when it first appears in the catalogue of the Marchese Ferdinando Cospi’s (b.1606, d.1686) museum. The brief description clearly captures its features: “Idol from the West Indies with two faces, all made of minute worked rings of bone [sic], of various colours” (Legati 1680:13, translation Ostapkowicz). Since an earlier 1677 catalogue makes no mention of the cemí, it most likely entered Cospi’s collection between the years 1677-1680 (Feest 1986:193). It is not yet clear how Cospi came to acquire it – whether through a dealer, a friend, a fellow collector, or a family connection at the Medici court, where his collecting began, and whence he acquired Mexican and other antiquities (Kenseth *et al.* 1991:241; Findlen 1994:328). Further work on the early documentation of these collections and collectors is underway, though the vagaries of the archival records may present an insurmountable obstacle to establishing the cemí’s early European history.

Cospi’s collection was transferred several times in the following centuries, eventually obscuring the cemí’s history and resulting in the loss of the ‘West Indies’ provenance. In 1878, when it was finally transferred to the newly established Museo Nazionale Preistorico ed Etnografico di Roma, the curator, Giuseppe Colini, noted that “it is believed to be from West Africa, due to the geometric designs similar to those featured on Angolan mats or carpets, and due to the same type of head-dress and rhinoceros horn that make up the face” (in Biscione 1997:162). In the Pigorini catalogue, it was identified as a ‘wooden idol covered with bone [sic] and glass beads in various colours; it has

two faces, one of which has four round mirrors, the other two” (in Laurencich-Minelli 1982:200). It was not until 1951 that Schweeger-Hefel (1951) reinstated it as a Caribbean artefact, in a thorough review that noted its parallels to the Vienna belt.

### **Materials and structure: indigenous and foreign**

The cemí is a composite object on a number of levels: in the rich tapestry of materials (including shell and glass beads, rhinoceros horn, mirrors and gold) woven together into the cotton framework, and in its integration of two separate elements (belt and figural top) onto an underlying wooden base. These diverse elements together constitute its current form, at first glance giving the appearance of a single object. Deconstructing the cemí into its individual components raises several questions concerning its integrity, answers to which are critical to engaging with its history.

The wooden base is an important starting point. Kerchache (1994:162), while noting the cemí’s ‘inner core of wood’, nevertheless interpreted the sculpture as a reliquary. This is unlikely, as the base leaves no space for human remains, nor does the woven figural top share any similarities in construction to known cotton reliquaries from the region (Figure 2, Ostapkowicz and Newsom 2012). A brief visual inspection of the base in the 1980s suggested that it was constructed of palm wood, raising the possibility that it was original and integral to the composition (Biscione *pers comm.*, 2005; 2014). However, the wood is lathe-turned on the inside, with knife or adzing marks on its outer surface, and square, hand-cut nails are used to secure the cotton artefacts (Figure 4). This is completely incongruous with indigenous use. Belts, for example, were the prime male body ornament, worn on important occasions or given as gifts to visiting dignitaries in recognition of their rank, and likely stored away safely when not in use (Ostapkowicz 2013). The top may have functioned as an elaborate headpiece; its widest internal circumference is ca. 60cm, which would fit an adult’s head comfortably. Exactly such a cap was documented in the 1589 catalogue of the Munich *kunstammer* (the same collection as that which held the Cisneros cemí discussed above), described as ‘...an Indian man’s hat, covered with bone [shell?] rings in white, red and

black, on top are two devil's faces, on the back a hood hangs down; it looks like this was the hat of a heathen high priest" (Diemer *et al.* 2004:141).

Although no provenance is provided, the description of the bead colours and two faces has striking similarities to the Pigorini cemí, and its identification as a headdress supports the suggestion that the Pigorini cemí was also used in this capacity.

Other aspects of the piece are completely within the indigenous genre: both the belt and the figural top incorporate thousands of shell beads in vibrant geometric designs. Shell beads were an important indigenous valuable in the Caribbean. The labour involved in their manufacture in this quantity would entail months, if not years of work (see Ostapkowicz, in press). Glass beads – despite their foreign source – echoed the qualities of their shell counterparts, but had the further merit of being exotic and relatively scarce during the early years of Spanish-Taíno interactions, thus adding another layer of value. European mirrors also had indigenous precedents, in the form of highly polished sheets of gold or *guanín* (a gold-copper alloy), but again had the additional cachet of being foreign. Inlaid in the cemí's eyes and earflares, the mirrors took the traditional place of gold or shell. Even the green glass beads used to enhance the cemí's bat face echoed the highly valued jadeitite beads used widely in the circum-Caribbean (Ostapkowicz, in press). The incorporation of so much indigenous and foreign wealth reflects the affluence of a high status *cacique* who would have worn or otherwise used these valuables to enforce or enhance his prestige (while female *cacicas* were known, belts appear to have been male accoutrements).

While these foreign glass and mirror components sit comfortably amidst the indigenous materials, in many ways echoing their appearance and meaning, there is another element that is much more difficult to reconcile: the rhinoceros horn, carved as the cemí's human face. It is remarkable (and rather improbable) that such an unusual material made its way to a fledgling Spanish port on Hispaniola, where it eventually entered a cacique's sphere of influence via trade and/or alliance negotiations with the Spanish, and was then carved into the face of a cemí by a local artisan sensitive to its physical

properties. Rhinoceros horn was an extremely desirable commodity in 16<sup>th</sup> century Europe and Asia (Tudela and Gschwend 2001) – by some accounts exceeding even gold in value (Anonymous 2008). As with ivory and other exotics, such as ostrich eggs (Kemp 2001:184), it may have become more accessible to European elites after the Portuguese established trade monopolies with Africa and India in the 15<sup>th</sup> century. In 1515, the diplomatic gift of a live rhinoceros from Sultan Muzaffar II, ruler of Cambay (Gujarat, India), to King Manuel I of Portugal caused a sensation in Europe (Dackerman 2011), undoubtedly further fuelling the market for horn and other exotic materials. The horn's long journey to Hispaniola could have followed the routes of Portuguese/Indian trade via Europe or Spanish slavers along the coast of Africa. But rhinoceros horn is far from an obvious trade item in the Caribbean. In fact, there are no other documented examples (whether raw or manufactured) from early colonial sites in the Americas.

The assured carving of the horn suggests the work of an artist well versed in working this material. But while the Taíno were adept woodcarvers, using woods such as *Guaiaacum* (its colouring reminiscent of the tones of the rhinoceros horn mask) to create important ritual objects, horn as a carving medium was entirely unknown in the pre-Colombian Caribbean. No large mammals remained on the islands after the Pleistocene (Newsom and Wing 2004). However, this changed dramatically in the early colonial period: the early introduction of cattle by the Spanish was so successful that by 1503 it was no longer necessary to import them (VanderVeen 2006:23). The Taíno appear to have had access to cattle meat within the first few years of the colonial period (VanderVeen 2006; 2007), and so may also have had access to horn, though no indigenous artefacts in this material are known to survive. If a skilled artisan knew how to work horn – whether through independent trial and error, or learning directly from the Spanish or Africans – the challenges of working rhinoceros horn may not have been too dissimilar. African slaves were present on Hispaniola early on, and Spanish records document some of the first *cimarrones* (runaways/fugitives) escaping to remote indigenous communities in 1503; by 1520 they were part of successful indigenous attacks on Spanish settlements (Deagan and Cruxent 2002:210; Landers 1990:317). Within this context of newly introduced goods and

peoples, and of cultural exchanges, perhaps there was scope for relevant new skills to be developed and honed to the degree seen in the Pigorini mask, or *guiaza* (indigenous mask or maskettes usually made of shell and wood; Mol 2007; Oliver 2009). But we come back to the question of how this material come to feature as the *guiaza* and what was its particular significance to the Taíno? Is it indeed African horn as has been assumed (e.g., Rouse 1997; Sullivan 2006:39), or might it have an even more distant source in Asia? Further work is planned to better understand how this material was worked and incorporated into the cemí, including a determination of its source, and what this may indicate concerning the histories of this piece.

Other materials comprise compact bundles of course fibres (previously identified as vegetable fibres) inserted into the domed cotton support positioned between the two heads (Biscione 1991:78; 1997:162). Scanning electron microscopy (SEM) indicates that these include feathers from an as-yet unidentified species (Figure 5, left). This material is in striking contrast to the short, thick bundles on the forehead of the cemí's human face, which SEM imaging indicates are hair (Figure 5, right). Although damaged, their diameter (ca. 100  $\mu\text{m}$ ) and imbricate cuticle pattern appears consistent with human hair (though this is still under investigation). These new findings suggest that these materials were specifically selected to parallel and emphasise the distinctions between – or perhaps the transformative aspects of – the cemí's human and animal faces.

This rich layering of materials and labour expenditure reflects the degree of care and planning invested in the cemí's creation, particularly as the separate cotton attachments (heads, mirror earflares, shoulder epaulets, neck guards) had to be woven into the base structure to secure them. The two heads are positioned back to back, giving the appearance of a combined anthropo-/zoomorphic being when viewed from the side (Figure 6). However, both are movable to a degree (Biscione 1997:162; *pers. comm.*, 2005, 2014), hence separable into their 'divisible' selves. The bat head is attached at the neck in two places, and is woven as one complete strip of cotton merging the face with the flat platform at the top of both heads. This platform folds forward (so



that the bat's chin is resting on its chest) to reveal the richly decorated cap worn by the human head. Although presumably this area would not normally have been visible, it is lavishly covered with indigenous shell beads in the same patterns as seen on the chest and belt, bordered with designs in green glass and white shell beads. The zoomorphic face has a wider forward movement than the human face, which is secured at three points along its neckline (Biscione 1997:162; *pers. comm.*, 2005, 2014). It is clear from this that both heads were woven and decorated separately before being added to the 'body' of the cemí, a technique also seen in the Turin cotton reliquary (Ostapkowicz and Newsom 2012).

### **Chronology and wood identification**

Previous researchers have proposed a 16<sup>th</sup> century date for the cemí, ranging from 1510-15 (Roe 1997:164), 1519-1558 (Vega 1987) to 1520-1600 (Schweeger-Hefel 1952:225-6), based firstly on the incorporation of European trade items, and secondly on an assessment of when Taíno culture 'collapsed'. Roe, for example, argues that the cemí "must have been commissioned by a high ranking cacique favoured by the Spaniards in the period after contact but before Taíno culture and its standards of craftsmanship dissolved" (Roe 1997:164). There remains, however, a disjunct between the internal wooden structure and the woven cotton, secured by hand-cut nails. Furthermore, the combination of style and materials – particularly the rhinoceros horn with the purportedly 'African' facial features of the human mask (the "face is truly negroid and uses West African rather than Amerindian conventions"; Roe 1997:165) – have raised the possibility that it is not solely a product of indigenous hands (Scalini 2001:129-32; 142; see also Rouse 1992:159; Vega 1987; Roe 1997:165). Indeed, Sullivan suggests that West African slaves introduced the Taíno to their designs, to the degree that the cemí is an "adumbration of the cultural and spiritual significance of African forms in the shaping of American art" (Sullivan 2006:40). Notwithstanding the deep African influence on the arts of the Americas, in this particular instance the styles featured on the cemí and belt were not introductions to the islands: there is a long pre-history of such aesthetic conventions and geometric designs within the Caribbean itself (e.g., Kerchache 1994:136; 178; Roe

1997: 167-8; Veloz Maggiolo 1972:140-145)(Figure 7). It is, however, important to engage with the debate concerning the sculpture's cultural and chronological context and the origins of its various materials.

To this end, samples were extracted from the wooden base for radiocarbon dating and wood identification. A small cotton sample was also taken from a damaged area on the right shoulder, from the mesh used to secure the deep blue corner-faceted beads.<sup>1</sup> Critically, the European blue glass beads at the shoulders preceded the incorporation of the white shell beads, which overlap them around the borders, and so could not have been added at some later point in the object's history (Figure 8). Furthermore, the same mesh technique was used to secure both the indigenous and European beads. Dating the cotton from this area was therefore critical in determining when the foreign and indigenous beads were woven together.

The results are summarised in Table 1. It is immediately apparent that the calibrated dates for the cotton and wood base overlap between AD 1447-1627, with the greatest probability in both cases falling within AD 1447-1523 (60-70%). The date can be further constrained to post-1492, given that the European additions are woven directly into the structure (see below). This suggests that the wooden base and cotton objects were assembled within a short span of time, and is consistent with the possibility that the cotton artefacts entered Europe at some point in the early 16<sup>th</sup> century, and were displayed soon thereafter in a private collection as the composite 'sculpture' seen today. The description of the West Indies 'idol' in Legati's catalogue certainly implies that, by 1680, it was

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<sup>1</sup> Both radiocarbon samples were treated following the routine pretreatment protocols for plant material (cotton) and wood, and subsequent dating procedures, at ORAU as described by Brock *et al.* (2010). Although no conservation treatments were recorded or suspected, an additional organic solvent sequence was also undertaken as a precaution. Briefly, samples were treated with acetone (45°C, 90 min), methanol (45°C, 75 min) and chloroform (room temperature, 90 min) before air-drying overnight. The samples then underwent a routine ABA (acid-base-acid) sequence consisting of rinses of hydrochloric acid (1M, 80°C, 20min), sodium hydroxide (0.2M, 80°C, 20min) and hydrochloric acid (1M, 80°C, 1 hour). Both samples were then treated with acidified sodium chlorite solution (2.5% w/v for the cotton sample, 5.0% w/v for the wood, 80°C, 30 min) before thorough rinsing with ultrapure water and freeze-drying. Both samples withstood the pretreatment process well, with yields of 72% and 61% respectively for the cotton and wood samples.

considered a single object. The dates, however, do not in themselves resolve the key question of the integrity of the artefact and its history of intervention.

The anatomical structure of the base clearly shows the wood to be willow (*Salix* sp.) (Figure 9), a north-temperate genus not native to the Caribbean (Mabberley 2014). We could find no citations of botanically collected native *Salix* from the Caribbean, nor does it appear in the region's archaeological record (Lee Newsom, *pers. comm.*, 2016). Given the historical context, a European, rather than North American or Asian, provenance can be inferred. This, together with the fact that it is lathe-turned (a technology unknown in the indigenous Caribbean), suggests that the base is an early European display mount. Furthermore, the outer surface of the bole was shaped to fit both the shape of the cotton top's diameter (ca. 20cm) and the overlapping belt (Figure 4), resulting in the removal of an unknown number of growth rings (assuming the pith is present at the centre of the carved base<sup>2</sup>). Thus, the wood's incorporation must be more recent than indicated by the radiocarbon date, though probably not by more than two decades given the rapid growth rate of *Salix* (e.g. Green 2016). Cotton, of course, is an annual, making it an excellent material for radiocarbon dating. While storage of raw cotton is mentioned by the early *cronistas* (e.g. Keen 1992:70; Las Casas 1951:I:447 1992:70), demand probably kept the turnover high so that it should provide a reliable manufacture date.

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<sup>2</sup> The coarseness of the cut at the base does not permit the definitive identification of the orientation of the growth rings, and given the fact that the wood was turned, the interpretation of the circular markings or character of the wood must be viewed with caution (to further resolve this, a new clean cut would be needed to ensure that what currently appear to be growth rings are not artefacts of cutting or preparing the base). Because of this, we cannot categorically assert that the pith is contained in the base. If the pith is not present, the location of the wood sample taken for radiocarbon dating becomes much more important because the relative position and orientation of the piece within the parent log could influence the date by up to several decades (for detailed discussion of the relevance of sampling position, see Brock *et al.* 2012). There are, however, limited ways in which a large timber would have been cut into workable sections. Cutting the bole vertically through the pith and working the resulting half bole would orient the base either towards the outer rings (consistent with late growth close to the felling time, as discussed above), or towards the pith, which would mean that the radiocarbon result would refer to the first years of the tree's growth, and so be some decades too old. If the pith is indeed not present, the various wood working scenarios would only skew the chronology later into the 16-17<sup>th</sup> centuries, thus supporting a later incorporation of the wooden base.

Despite the Pigorini cotton and wood dates being largely indistinguishable, providing a very wide age estimate of AD 1447-1627 (Figure 10a, b), the integration of the European beads into the weave of the sculpture enables us to constrain the probability distribution of the calibrated date for the cotton to post-1492 (using the 'After' function in OxCal 4.2.4; Bronk Ramsey 2013). This has the effect of making the second of the two ranges in the distribution more probable (Figure 10c). Assuming that traditional Taíno artistry effectively ceased by ca. 1550, we can also constrain this end of the distribution (using the 'Before' function, entered as 1550±10 years to reflect the uncertainty in dating the Taíno cultural 'collapse'). This provides a very tight modelled date range of AD 1492-1524, since there is a small trough in the calibration curve at ca. 1530-1560 that greatly reduces the likelihood of the true date falling in those decades (Figure 10d). While broadly concurring with the date ranges proposed by previous researchers, these results are more robust, and, with the exception of Roe's (1997) estimate, better constrained. Nevertheless, it is important to emphasise that, as with all Bayesian modelling exercises, both constraints are dependent on additional contextual information. In this case, for the reasons outlined above, we are confident that both assumptions are valid.

The glass beads featured on the cemí (the Pigorini belt does not show any European additions) may provide additional temporal resolution. There are three distinctive bead types, all of which were in circulation pre-1550: 1) ca. 1200 small, drawn emerald green beads covering the bat face and embellishing the cap of the human head (Figure 11a); 2) ca. 450 deep blue four-sided, cornerless beads at the cemí's shoulders (Figure 11b) and 3) one (of potentially 10) faceted three-layered turquoise bead at the top of the head (Figure 10[11?])c). Green beads were among the first documented in exchanges with the Taíno during Columbus' initial 1492 voyage. They continued to be imported and exchanged during the following decades (Deagan 1987:110, 157); indeed, similar drawn emerald beads have been recovered from early contact sites on San Salvador, Bahamas and Puerto Rico (Méndez Bonilla, 2006:26; Brill *et al.*, 1987; Brill 2012; Ostapkowicz *et al.* 2012:2249). They are considered reliable chronological markers up to 1525 (Smith in Hoffman 1987:242), or more

conservatively, 1550 (Deagan 1987:169). Both the blue and turquoise faceted beads have parallels to Nueva Cadiz beads predominantly known from colonial American sites prior to AD 1560 (Smith and Good 1982:10; Deagan 1987:163; Jeffrey M. Mitchem, *pers. comm.* 2016). Both of the cemí's beads are considerably smaller (ca. 3.5-7mm in length) than typical Nueva Cadiz beads (37-75mm), but this is not incompatible with some corner-faceted examples found in early colonial period sites in Peru, and may reflect an early, poorly documented Nueva Cadiz form (Deagan 1987:163; Karklins, *pers. comm.* 2016).

Further parallels can be drawn with the belt in the Vienna Weltmuseum (AD 1474-1635, at 95.4% confidence) (Figure 3). The two share many structural similarities, from the same materials (red, white and black beads) arranged in geometric designs to the same textile weaves and the use of lianas and wood to create frameworks for the cemís (Ostapkowicz 2013). These layered elements are also seen in the Turin reliquary, radiocarbon dated to AD 1439-1624 with the greatest probability falling at AD 1439-1522 (76.7%) (Figure 2, right). As this sculpture does not feature any European materials, it was most likely constructed prior to 1492. Consequently, it is possible to document continuity in pre-colonial and early colonial weaving traditions, strengthening the argument that the Pigorini and Vienna pieces were most likely constructed while Taíno artistry was still at its apogee, and prior to the dramatic cultural dislocation and population losses that followed European contact. Objects such as the Pigorini cemí make sense only within a context that maintained traditional values of meaning and reciprocity, which were drastically altered with the introduction of the *encomienda* (forced labour) system along with Christianity and European social mores (e.g., Deagan 2004; Guitar 1998). Yet the cemí weaves together traditional aesthetics, values and sources of power with new European wealth and the connections that it implied; in so doing it reflects the region's turbulent and transformative early 16<sup>th</sup> century (e.g. Deagan 2004; Hofman et al. 2014; Valcarcel Rojas 2012; Keehnan 2012).

## Conclusions

Deconstructing an artefact to its basic components to explore material, manufacture and chronology should be the initial step in building firmer

foundations for interpreting the meaning and significance of the whole – even with objects as ostensibly well studied and familiar as the Pigorini cemí. Centuries of curation, display and interpretation have obscured details, with some features hidden in plain sight: two artefacts combined to create one; the presence of a lathe-turned 16<sup>th</sup> century display base, long assumed to be original to the artefact; the incorporation of rhinoceros horn, hair and feathers, previously interpreted as wood and vegetable fibres respectively (Schweeger-Hefel 1952; Vega 1987; Biscione 1991); the supposed ‘African influence’ of the geometric designs and style, despite the long history of such design elements within late pre-Columbian Caribbean artistic traditions. An indigenous source for the materials, aesthetics and purpose of the cemí and belt are far more parsimonious than a European fabrication of various components from disparate sources (though its ‘reinterpretation’ in European hands is clear, given the presence of the display base and nails). Indeed, it is this very combination of exceptional artistry, exotic materials sourced from three continents and long display and documentation history that must be untangled to better understand the physical and interpretive scope of this masterpiece, one that offers a glimpse of an extraordinary few decades that encapsulate the meeting of two worlds on Taíno terms.

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## References

ANONYMOUS. 2008. Horns of plenty. *The Economist* 17 May 2008. Available at: <http://www.economist.com/node/11394575> (accessed 8 February 2017).

BISCIONE, M. 1991. Lo Zemi del Museo Pigorini: problem di interpretazione. *L'Universo supplemento* 1: 77–84.

– 1997. Epilogue: the beaded zemi in the Pigorini Museum: history and problems of interpretation, in F. Brecht, E. Brodsky, J. A. Farmer, and D. Taylor (eds.) *Taíno: pre-Columbian art and culture from the Caribbean*: 158–63. New York: Monacelli.

BRILL, R.H. 2012. San Salvador and related glasses (Puerto Rico), in R.H. Brill & C.P. Stapleton (ed.) *Chemical analyses of early glasses* (volume 3): 544–48. New York: The Corning Museum of Glass.

BRILL, R.H., I.L. BARNES, S.C. TONG, E.C. JOEL & M.J. MURTAUGH. 1987. Laboratory Studies of Some European Artifacts Excavated on San Salvador Island. In *Columbus and his World: Proceedings of the First San Salvador Conference*, pp., 247-292. Gerace Research Centre, The Station, Ft Lauderdale.

BROCK, F., T. HIGHAM, P. DITCHFIELD & C. BRONK RAMSEY. 2010. Current pretreatment methods for AMS radiocarbon dating at the Oxford Radiocarbon Accelerator Unit (ORAU). *Radiocarbon* 52: 103–12.

BROCK, F., J. OSTAPKOWICZ, C. BRONK RAMSEY, A. WIEDENHOEFT & C. CARTWRIGHT. 2012. Paired dating of pith and outer edge (terminus) samples from Pre-Hispanic Caribbean wooden sculptures, *Radiocarbon* 54(3–4): 677–88.

BRONK RAMSEY, C. 2013. OxCal 4.2. Available at: <https://c14.arch.ox.ac.uk/>

CURET, A. 2014. The Taíno: phenomena, concepts and terms. *Ethnohistory* 61: 467–95.



- DACKERMAN, S. 2011. Dürer's indexical fantasy: the rhinoceros and printmaking, in S. Dackerman (ed.) *Prints and the pursuit of knowledge in early modern Europe*: 164–82. New Haven: Yale University Press.
- DEAGAN, K. 1987. *Artefacts of the Spanish colonies of Florida and the Caribbean, 1500–1800: volume I: ceramics, glassware and beads*. Washington, D.C. Smithsonian Institution Press.
- 2002. *Artefacts of the Spanish colonies of Florida and the Caribbean, 1500–1800: volume II: portable personal possessions*. Washington, D.C. Smithsonian Institution Press.
- 2004. Reconsidering Taíno social dynamics after conquest: gender and class in culture contact studies. *American Antiquity* 69: 597–626.
- DEAGAN, K. & J.M. CRUXENT. 2002. *Columbus's outpost among the Taínos: Spain and America at La Isabela, 1493–1498*. New Haven: Yale University Press.
- DIEMER, P. VON, B. ELKE & D. DOROTHEA. 2004. Johann Baptist Fickler: Das Inventar de Munchner herzoglichen Kunstkammer von 1598. Munich: Verlag der Bayerischen Akademie der Wissenschaften.
- FEEST, C.F. 1986. Zemes Idolum Diabolicum. Surprise and Success in Ethnographic Kunstkammer Research. *Archiv für Völkerkunde* 40: 181–98.
- 1991. Beaded belt, in J.A. Levenson (ed.) *Circa 1492: art in the age of exploration*: 580–51. Washington, D.C.: National Gallery of Art.
- FINDLEN, P. 1994. *Possessing nature: museums, collecting and scientific culture in early modern Italy*. Berkeley: University of California Press.
- GREENE, P.F. 2016. Weeping willow growth rates compare with *Salix babylonica* re-rooted branch cuttings. *Research & Reviews: Journal of Botanical Sciences* 5: 20–23.

GUIAR, L.A. 1998. Cultural genesis: relationships among Indians, Africans and Spaniards in rural Hispaniola, first half of the sixteenth century, PhD. Thesis Vanderbilt University, Ann Arbor, Michigan.

HOFMAN, C.L. A. MOL, M.L.P. HOOGLAND & R. VALCARCEL ROJAS. 2014. Stage of encounters: migration, mobility and interaction in the pre-colonial and early colonial Caribbean, *World Archaeology* 46: 590–609.

KEEHNEN, F.W.M. 2012. Trinkets (f)or Treasure: the role of European material culture in intercultural contacts in Hispaniola during early colonial times, MA dissertation, University of Leiden.

KEEN, B. (ed.). 1992. *The life of the Admiral Christopher Columbus by his son Ferdinand*. New York: Rutgers.

KEMP, M. 1995. 'Wrought by no artist's hand': the natural, the artificial, the exotic, and the scientific in some artifacts from the Renaissance, in C. Farago (ed.) *Reframing the Renaissance: visual culture in Europe and Latin America, 1450–1650*: 176–96. New Haven: Yale University Press.

KENSETH, J. 1991. A world of wonders in one closet shut, in J. Kenseth (ed.) *The age of the marvellous*: 81101, Hood Museum of Art, Hanover.

KERCHACHE, J. 1994. *L'art des sculpteurs Taïnos: Chefs-d'œuvre des Grandes Antilles précolombiennes*. Paris: Musée du Petit Palais.

LANDERS, J. 1990. African Presence in Early Spanish Colonization of the Caribbean and the Southeastern Borderlands, in D. Hurst Thomas (ed.), *Columbian Consequences: Archaeological and Historical Perspectives on the Spanish Borderlands East*, Volume 2: 315-327; Washington: Smithsonian Institution Press.

LAS CASAS, B DE. 1951. *Historia de las Indias* (Biblioteca Americana Mexica, Serie de cronistas de Indias 15–17). Mexico: Fondo de Cultura Económica.

LAURENCICH-MINELLI, L. 1982. Dispersione e recupero della collezione Cospi. *Deputazione di Storia Patria della Provincia di Romagna* 32: 185–202.

LEGATI, L. 1680. *Inventario semplice di tutte le materie esattamente descritte che si trovano nel museo Cospiano: non solo le notate nel libro già stampato e composto dal sig. Lorenzo Legati, ma ancora le aggiunte in copia dopo la fabbrica, Giacomo Monti, Bologna.*

MABBERLEY, D.J. (ed.). 2014. *Mabberley's plant-book. A portable dictionary of plants, their classifications and uses* (3<sup>rd</sup> edition). New York: Cambridge University Press

MÉNDEZ BONILLA, I.F. 2006. *Culturas Indígenas de Puerto Rico*. Museo de Historia, Antropología y Arte, Universidad de Puerto Rico, San Juan.

MOL A.A.A. 2007. *Costly giving, giving Guaízas: Towards an organic model of the exchange of social valuables in the Late Ceramic Age Caribbean*. Leiden: Sidestone Press.

MONTAS, O., P.J. BORELL & F. MOYA PONS. 2003. *Art Taíno*. Santo Domingo: Banco Central de la República Dominicana.

NEWSOM, L.A. & E. WING. 2004. *On land and sea: Native American uses of biological resources in the West Indies*. Tuscaloosa: The University of Alabama Press.

OLIVER, J.R. 2009. *Caciques and Cemí Idols: the web spun by Taíno rulers between Hispaniola and Puerto Rico*. Tuscaloosa: University of Alabama Press.

OSTAPKOWICZ, J. 2013. 'Made ... with admirable artistry': the context, manufacture and history of a Taíno bel. *The Antiquaries Journal* 93: 287–317.

– In press. New wealth from an old world: glass, jet and mirrors in the late 15<sup>th</sup>- to early 16<sup>th</sup>-century indigenous Caribbean, in Dirk Brandherm, Elon Heymans, Daniela Hofmann & Nicholas Wells (ed.) *Gifts, goods and money: comparing currency and circulation systems in past societies*. Oxford: Archaeopress.

OSTAPKOWICZ, J. & L.A. NEWSOM. 2012. 'Gods adorned with the embroiderers' needle': the materials, making and meaning of a Taíno cotton reliquary. *Latin American Antiquity* 23: 300–26.

OSTAPKOWICZ, J., C. BRONK RAMSEY, F. BROCK, T. HIGHAM, A.C. WIEDENHOEFT, E. RIBECHINI, J.J. LUCEIJKO & S. WILSON. 2012. Chronologies in wood and resin: AMS 14C dating of pre-Hispanic Caribbean wood sculpture. *Journal of Archaeological Science* 39: 2238–51.

PIGNORIA, L. 1626. Seconda parte delle Imagini de gli dei Indiani, in Vincenzo Cartari *Seconda Novissima Editione delle Imagini de gli dei delli Antichi*. Padova: Pietro Paol Tozzi.

ROE, P. 1997. Epilogue: the beaded zemi in the Pigorini Museum, in F. Brecht, E. Brodsky, J. A. Farmer, and D. Taylor (eds.) *Taíno: pre-Columbian art and culture from the Caribbean*: 164–69. New York: Monacelli.

ROUSE, I. 1992. *The Taínos: rise and decline of the people who greeted Columbus*. New Haven (CT): Yale University Press.

SCALINI, M. 2001. Exotica in der mediceischen Kunstkammer: Bemerkungen zur Herkunftsfrage und zu ihrer einstigen Präsentation, in H. von Trnek & S. Hagg, *Exotica: Portugals Entdeckungen im Spiegel fürstlicher Kunst und Wunderkammern de Renaissance*: 128–43. Mainz: Zabern.

SCHWEEGER-HEFEL, A. 1952. Ein rätselhaftes Stück aus der alten Ambraser Sammlung, *Archiv für Völkerkunde* (6–7): 209–28.

SMITH, M.T. & M.E. GOOD. 1982. *Early sixteenth-century glass beads in the Spanish colonial trade*. Greenwood (OK): Cottonlandia Museum Publications.

SULLIVAN, E. 2006. The Black Hand: notes on the African Presence in the visual arts of Brazil and the Caribbean, in J.J. Rischel & S. Stratton-Pruitt (ed.) *The arts in Latin America, 1492–1820*: 39–55. New Haven (CT): Yale University Press.

TUDELA, A.P. & A.J. GSCHWEND. 2001. Luxury goods for royal collectors: exotica, princely gifts and rare animals exchanged between the Iberian courts and Central Europe in the Renaissance (1560–1612), in H. von Tronek & S. Haag (ed.) *Exotica: Portugals Entdeckungen im Spiegel fürstlicher Kunst und Wunderkammern der Renaissance*: 1–127. Zabern: Mainz.

VALCÁRCEL, R.R. 2012. Interacción colonial en un pueblo de indios encomendados: El Chorro de Maíta, Cuba. PhD dissertation, Leiden University.

VANDERVEEN, J. M., 2006. Subsistence patterns as markers of cultural exchange: European and Taíno interactions in the Dominican Republic. unpublished PhD dissertation, Indian University.

VANDERVEEN, J. M., 2007. Subsistence changes at La Isabela in the late 15<sup>th</sup> century, *Boletín Museo del Hombre Dominicano*, 41: 111-124.

VELOZ MAGGIOLO, M., 1972. *Arqueología prehistórica de Santo Domingo*, McGraw-Hill, Singapore.

VEGA, B. 1987. Un cinturón tejido y una careta de Madera de Santo Domingo, del período de transculturación Taíno-español', in B. Vega (ed.) *Santos, Shamanes y Zemíes*: 17–29. Santo Domingo: Fundación Cultural Dominicana.

## Figure captions

Figure 1. Three views of the Pigorini cemí/belt, featuring a human mask of rhinoceros horn (right), and a bat face of green glass beads (left). Cotton, shell and glass beads, mirrors, gold, vegetable fibre, feathers(?), resin, pigment, lianas, wood; AD 1444-1632 (95.4%, wood and cotton dates; modelled: AD 1492-1524); Hispaniola. H: 315mm; Diam: 205mm (max). Photograph: Ostapkowicz; courtesy Polo Museale del Lazio – Museo Nazionale Preistorico Etnografico L. Pigorini, su concessione del Mibact, 4190.

Figure 2. Left: the Munich *kunstkammer* cemi, originally part of the Cardinal Cisneros collection (pre-1517). Image courtesy of Bodleian Libraries, University of Oxford, BL720.C27 CAR 1626:563-4. Right: The Turin cemí, AD 1439-1522 (76.7%). H: 550mm (max, aligned on stand), W: 355mm. *Gossypium* sp., anterior human skull (including mandible), wood, cane, stone, resin, shell gourd, pigments (?). Photograph: Ostapkowicz, Courtesy, The Museum of Anthropology and Ethnography, University of Turin, Italy.

Figure 3. Cotton belt with indigenous shell beads and European jet, brass and mirror additions, featuring a central zoomorphic cemí with upturned hands, AD 1475-1635 (95.4% probability). Full length, with straps, 1,165mm (beaded strap only, 855mm), height 70mm. Photograph: Ostapkowicz; courtesy of the KHM-Museumsverband, Weltmuseum Wien, inv. no. 10.443.

Figure 4. Left: the cemí's lathe-turned wooden base, <sup>14</sup>C sample was taken from outermost growth rings bottom right. Right: hand cut nail securing the cotton artefacts to the wooden base.

Figure 5. Left: bundles of organic materials, potentially including feathers, tightly bound within the cotton dome supporting both heads. Left inset: SEM image of sample from bundle, x180. Right: bundles of short, straight hair framing the cemí's human face. Right inset: SEM image of 'hair' sample, x750.

Figure 6. Profile view of the head. The flat overhang over the cemí's human

face is an extension of the bat head's base. This can be pulled forward to expose the fully decorated cap of the human head. Immediately behind the bat head is the domed base featuring the vegetable fibre (and possibly feather) bundles, as seen in Fig 5.

Figure 7. Left: Ceramic figure wearing a belt decorated with geometric designs similar to those featured on the Pigorini cemí and belt. Right: detail, showing the belt's cemí positioned at the base of the figure's spine – its design and features recalling those of the Vienna belt. Chican Ostionoid ceramic style (ca. AD 1200-1500); Andres, Dominican Republic. H: 410mm; W: 210mm. Photograph: Ostapkowicz, courtesy, National Museum of the American Indian, 053753.

Figure 8. The framework of white shell beads overlaps the layer of blue glass beads, which are integrated directly into the weave structure.

Figure 9. Transmitted light micrographs of the wood anatomy of the wooden base. Unless otherwise noted, all scale bars are 200  $\mu$ m. Top left, transverse section showing diffuse-porous wood, abundant vessels solitary and in multiples of 2-3 and apparently narrow rays. Top middle, radial section showing simple perforation plates (arrows) and larger-than ray-vessel pitting (arrowheads). Top right, tangential section showing uniseriate rays and alternate, medium-sized intervessel pits (arrow). Bottom left, radial section showing clear distinction between procumbent cells and upright cells, including disparate ray-vessel pitting (100  $\mu$ m). Bottom center, radial section showing marginal upright cells (arrowheads), distinguishing between *Salix* and *Populus* (50  $\mu$ m). Bottom right, tangential section clearly showing uniseriate rays and alternate intervessel pits (100  $\mu$ m). Images: Wiedenhoef.

Figure 10. Radiocarbon dates on the cotton (a) and wood (b), constrained to post AD 1492 (c), due to the presence of the foreign imports featured, and modelled on the assumption that traditional Taíno 'high arts' ceased by AD 1550 (d).

Figure 11. a. Emerald green wire-wound beads; diam: ca. 3.5mm. b. Deep blue cornerless cube style bead; L: 3.5-6.5mm; diam: 4.5mm. c. Faceted three-zone turquoise Nueva-Cadiz style bead; L: 7mm; diam: 7.6mm.



**Table 1. Radiocarbon dates for the Pigorini cemí/belt (OxCal 4.2.4).**

<i>Lab no.</i>	<i><sup>14</sup>C BP</i>	<i>±</i>	<i>Cal AD (95.4%)</i>	<i>δ<sup>13</sup>C</i>	<i>Material</i>
OxA-32988	375	27	AD 1447-1524 (60.2%) AD 1558-1632 (35.2%)	-25.80	Cotton
OxA-32989	385	26	AD 1444-1523 (70.0%) AD 1574-1627 (25.4%)	-26.66	Wood
<i>Bayesian model 1, date constrained to post-AD 1492</i>					
OxA-32988	375	27	AD 1492-1525 (34.1%) AD 1556-1632 (61.3%)	-25.80	Cotton
<i>Bayesian model 2, date constrained to post-AD 1492, pre-AD 1550 collapse</i>					
OxA-32988	375	27	AD 1492-1524 (95.4%)	-25.80	Cotton