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The "princely ivories" project. An English summary[1]

1. The "princely ivories" project

Ivory has been used to produce prestigious objects since Prehistory thanks to its intrinsic qualities: it is at the same time hard and remarkably elastic; it is homogeneous; and, when polished, it acquires a colour and shine that are highly appreciated on the aesthetic level. The material's exotic origin increases its symbolic value.
In the early centuries of the first millennium BC ivory objects were highly sought after by Near Eastern courts, and in fact they are almost always found in the rooms of royal palaces, while in Greece they have been found mostly in sanctuaries, where they were deposited as votive offerings for divinities. In Etruria, on the other hand, we find them predominantly in the grand funerary monuments of the "Orientalizing" period (end of the 8th-7th century BC). For the princely elites buried here these objects, decorated with motifs mostly in the Near Eastern and Greek traditions, were clearly a means of displaying their social status. Distinctive in this context is the Montefortini tumulus, to which a section of this museum is dedicated. It yielded an exceptional quantity of worked ivory items, which once covered the false-dome ceiling of its circular tomb chamber. Unfortunately, they were recovered in thousands of fragments due to the partial collapse of the ceiling.
This volume is dedicated to the restoration and study of these ivory items. It is the fruit of a project led by the *Soprintendenza* of Archaeology, Fine Arts and Landscape for Florence, Pistoia and Prato, and the City of Carmignano, with a contribution from the Swiss Federal Office of Culture.

2. The new restoration

Ten thousand. That is the approximate number of ivory fragments recovered in the Montefortini tumulus. The process of restoring them – carried out by Laura Benassi, Agnese Latorrata and Franco Cecchi – was like a giant puzzle, which began with a long and difficult subdivision by type and decoration, but in fact the main difficulty was matching and joining pieces only a few centimetres long. No single object was fully reconstructed, but nevertheless many figures of notable interest were restored or repaired.
In many cases missing parts were restored with a drawing, such as for six of the identified *pyxides*. The fragments of these small lidded containers were attached to plexiglass cylinders decorated graphically with the identified ornamental bands, thus restoring the form and legibility of the decorations without imposing a rigid reconstruction. The small plaques bearing incised or carved relief decoration were treated the same way.
The restoration of fragments worked in the round revealed various human and animal figures, some particularly impressive. Coloured wax was used in some cases to make the figures more stable, while the tiny heads were attached to plexiglass supports.
A special case was the treatment of a small patch of earth preserved during the excavations due to the perceptible presence of a very small and fragile ivory plaque. Alternating activities of micro-excavation and consolidation resulted in the recovery of a very interesting small plaque depicting three warriors in a row, a motif which harks back to iconography of Near Eastern inspiration.

3. Microscopic observation

The restoration of the ivory artifacts was combined with specific studies of the techniques of their production. Observation with a 3D microscope, led by Simona Arrighi, yielded information about the methods of decoration and finishing, confirming the artisans' skill (for example, only rarely were errors of trajectory or changes of mind identified among the incised decorations) and the likely presence of two different hands in the execution (a situation suggested independently on stylistic grounds). Measurement of the profiles of the incisions moreover revealed the use of a single type of pointed tool. On two fragments of handles the surface was rubbed in such a way as to erase the traces of finishing, probably to be associated with an intense manipulation of the item. This is important information: in certain cases at least, it indicates the deposition of items

1 We propose as an English summary a slightly modified version of the texts of the panels prepared for the exhibition held at the Archaeological Museum of Artimino. Paragraphs 1-4 are by Massimo Tarantini, paragraphs 5-8 by Maria Chiara Bettini. The translation from Italian is by Alberto Prieto.

that were utilised by the deceased in life and not created specifically for the funerary assemblage.
Analyses carried out by Pasquino Pallecchi and Caterina Lupi with a scanning electron microscope (SEM) instead confirmed that the dark material filling several incisions is an organic substance used intentionally to add colour to the decoration. Another issue addressed with the SEM was the presence of fragments of gold leaf among the ivory; these were confirmed to have been the gilding of metal parts, perhaps belonging to containers or furnishings to which the small ivory plaques were attached. The gilding required the insertion of a layer of silver leaf between the metal and the gold leaf.

4. The origin of ivory

The tusks of the elephant, the walrus and the wild boar are made of ivory, as are also the teeth of the walrus, the sperm whale and the killer whale. Which of these sources provided the ivory used in the Montefortini tumulus? Determining the species of origin is not easy if a tusk or tooth has been worked in such a way as to completely alter its natural macro-structure, making it impossible to identify when compared to a collection of samples. In order to identify the species, Jacopo Crezzini observed the structure of the dentine (the major component of ivory), testing new non-invasive investigative methods via the use of a 3D video microscope.
This observation allowed us to attribute all of the examined fragments to the proboscidean order, but for now we are unable to specify the species as the African or the Indian elephant, nor can we exclude an extinct species (such as the mammoth). In order to identify the species we tried using other techniques, such as carbon-14 (14C) dating and (especially) paleogenetic analysis, which was performed at the University of Florence by Alessandra Modi and David Caramelli. The poor preservation of organic material due to post-depositional processes prevented us from obtaining definitive results. But this is no surprise: scientific research progresses by trial, error and acceptance, which are all the more common when addressing a new question. The research continues…

5. The small relief plaques / 1 – The armed men frieze

The new restorations significantly fill in the part of the assemblage already displayed on the lower floor of the museum with the reconstruction of other carved plaques that once covered a sumptuous piece of furniture: a chest or a throne or the headboard of a bed, or even – less likely – a cart. A decorative band, perhaps the upper one, contained a frieze depicting a procession of armed men and dignitaries subdivided in formations with differing characteristics, as well as three other individuals, one of whom is already in the cart (as suggested by the preserved part of his checkered tunic), another is about to board it and the third follows behind it. The frieze must have represented a celebratory moment for the *princeps* (leader of the community) and the aristocracy, but we do not know if it was supposed to evoke deeds already accomplished or to represent solemn events in the life of the *gens* (clan); we can be sure that it alluded to their power and to the troops of a clan-based army. The overall conception of the frieze and the ideology supporting it, the representation of the military parade and several specific features of the iconography constitute a significant precedent for several notable bronze *situlae* (pails) produced in the area of Bologna and the Venetian plain, and they confirm the influence exerted by the Orientalizing northern Etruscan artistic culture on the contemporary culture of the Po River valley. The costume worn by the individual mounting the cart – pleated skirt, checkered bodice, belt and baldric slung across the trunk – has parallels in the Zannoni Slab at Bologna dated to the first decades of the 7th century BC, with iconographic precedents in Assyrian reliefs. It also confirms the circulation of models, items and ideologies across the two sides of the Apennine Mountains.

6. The small relief plaques / 2

The most extraordinary result of the new restorations is the recovery of three small plaques that are still attached to each other by iron pins. They are decorated with three figures of armed men whose features have never been encountered anywhere in the Etruscan world: helmets made of superimposed bands, long hair and even physical traits that seem to characterise the figures as mythical or heroic in nature. These elements refer to far-off lands, which are also evoked by the palmette motifs in the background, in particular the Near East (Neo-Assyrian Empire?) or the Greece and Crete of mycenaean tradition, whence they perhaps reached Etruria via the Levant.
To the same piece of furniture belonged the real and fantastic animals (griffins, winged lions) and the lion-headed monsters holding a deer in their right hands; these were probably part of the lower frieze, reserved for the world of wild nature. The iconographic precedents for these items are to be identified in reliefs from Neo-Hittite and Aramaic centres, which were revised according to western traditions.
The plaque with a griffin and a human figure moving backwards perhaps was attached to the central bands of this

sumptuous furnishing, while the friezes with mythical episodes (the saga of Herakles and perhaps Achilles) depicted on the plaques displayed on the lower floor of this museum presumably occupied the second band from the top. The ideal reconstruction of this highly prestigious object, of which only a few pieces have survived (and exceptional ones at that), is a work in progress.

7. The *pyxides*

Sphinxes, lions, griffins and winged horses, as well as a Siren, a winged ram, a lion with parts of animals in its jaws, a feline sinking its teeth into the back of a hoofed animal and a hybrid demon (part human and part fish): the Orientalizing imagination populated by animals both fantastic and real reigns supreme on the *pyxides* or small lidded containers (at least eight in number, of which six are displayed here), the small incised plaques and an exceptional pitcher. One particularly well-made *pyxis* adds a significant and rare testimony of the saga of Odysseus, which must have been circulating even in Etruria already in the 7th century BC. From under the muzzle of a ram emerges the head of a male figure who is tied under the animal or clings to its pelt, while the rear-facing horn of another ram is gripped by a companion of Odysseus, as they flee the cave of the Cyclops Polyphemos. The iconography corresponds to that of a Protoattic pitcher by the "Painter of the Ram Pitcher," an object which bears the oldest known depiction of this episode (675-650 BC). Furthermore, a male figure (whose hair is preserved) with one arm raised and bent at the elbow holds a thin pole horizontally above his shoulder, with the hand of another figure behind him. The scene appears to depict the blinding of Polyphemos in a format recalling the earliest Greek ceramic vessels on which this episode was recounted.
Another incised *pyxis*, notable for the presence of the Hydra, a Siren, one or perhaps two ships between ranks of monstrous animals and a male figure holding a fish, is open to varying interpretations tied to the dangers of the voyage towards the Underworld or mythological tales.

8. Small heads and statuettes in the round

Among the nearly fifty small human heads attributable to statuettes depicting both male and female figures, such as warriors and offering-bearers, as well as mythical figures like Sphinxes, one solemn and oval face stands out. It was selected for the logo of the exhibition due to its extraordinary volumetric sensibility and the powerful Near Eastern influence evident in it.
Also of great interest is the group of four female figures who hold a deer in each hand, following an iconographic convention related to the *potnia therōn* (mistress of the animals). Their general configuration finds parallels in the small-scale Orientalizing devotional ceramics from the sanctuary of Artemis Orthia at Sparta and from Crete. The handle featuring a large winged figure also fits into this convention.
Overall, the hairstyles of the small sculptures from the Montefortini tumulus demonstrate notable care and variety. The variations include the hair organised in a large braid or left loose at the back (brushed flat or subdivided into braids); the Syrian-Phoenician style with a curl at the neck, common on Sphinxes; two braids that descend from the sides of the face and terminate in curls, as in depictions of the Egyptian goddess Hathor; locks that start at the sides of the central parting of the hair and fall like a mop on the neck, for male figures either loose or tied at the nape, while in the female version the soft mass of hair is rounded at the base above the shoulders; braids arranged horizontally on the forehead, following Cycladic and Cretan models; braids that start at the forehead and are arranged in parallel lines along the skull; and the bun or knot characteristic of Near Eastern male hairstyles.