De-constructing Terracotta Female Figurines: a Chalcolithic Case-study

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1. Introduction

The aim of this paper is to confirm that non-destructive, advanced CT scanning techniques can be applied to prehistoric terracotta figurines, revealing important details of their inner structure resulting from clay manipulation and forming. Furthermore, we show that such an approach, supported by a more traditional micro-stratigraphical interpretation and by archaeological know-how, may grant a complete three-dimensional rendering of their growing structure. From this we can retrace, step by step (or lump by lump), the sequence of fine, perhaps almost unconscious decisions and corrections (Van der Leeuw 1993) put in play while generating the terracotta images.

Why are terracotta female statuettes and their building processes important? Figural art was a crucial component of prehistoric social structures, and the female life cycle was at the core of the survival and reproduction of the household.

One can hardly doubt of the artifacts’ prominent symbolic values for representing female bodies; and their fashioning sequences may show – by dynamic, three-dimensional maps – some important cognitive implications. Admittedly, to identify the agency of the artists, and to decide on such a line of evidence whether the figurines referred to supernatural, or rather to gender, sexuality and reproduction issues will probably remain beyond our power of definition. However, the old and current studies reviewed in the following section support the idea that by re-enacting the potter’s creative process and by evaluating at the same time the general archaeological context, we can better understand the active roles played by female figurines in past social systems.

2. A short review of previous research

For a long time, clay and terracotta Neolithic/Chalcolithic female statuettes have been generally and generically interpreted as images of goddesses, worshippers or supplicant women (Mellaart 1967; 1975). Since the famous discoveries

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"ABSTRACT"

We report the results of detailed imaging studies of the inner structure of a terracotta female figurine dated to the 6th millennium BC, most probably from the Lakes region of Turkey, now kept at the National Museum of Oriental Art “Giuseppe Tucci”, Rome. The figurine was investigated with advanced CT scanning, recording 966 transversal sections. Each section was stratigraphically interpreted and digitized, reconstructing in three dimensions the form and mode of application of each lump or slab under the potter’s fingers. A review of the available information on the techniques of construction of prehistoric terracotta figurines in Eurasia reveals at least two diverging technical templates, here named core and dual forming processes. The structure of the investigated figurine and its operational sequence reveals a version of the dual technical template, confirming the presence and influence, at a cognitive level, of organic analogies and a possible map of the female body in the modelling process.
at Hacilar (Mellaart 1970, 170), they have also been linked to the popular concept of an archaic Mother Goddess and to conjectural fertility cults by pristine matriarchal societies (Gimbutas 1991, contra Ucko 1968; 1996; Meskell 1995; 1998; Tringham, Conkey 1998; Clark 2007b).

In contrast with generalistic and ideological interpretations, inspired by the paradigm of a presumed (and never ascertained) similarity of these figurines across no less than three or four millennia, new critical approaches have focused on their active roles in the dialectic construction of personhood and social and gender identities through stereotypical body characterizations of the human body.

For example, in Chalcolithic Cyprus a well-preserved ritual hoard suggested that figurines “...were clutched in the hand, probably during childbirth, while the ceramic figurines served a didactic purpose, perhaps as part of puberty rites” (Bolger 1996, 368). The idea is interesting, but impossible to verify. Voigt (2007, 165) states that Hacilar female images might reflect the life cycle of women and their changing social roles through time, from young girls to mature individuals. A similar template was recognized in the Neolithic statuettes’ corpus of Crete and the Aegean (Mina 2008, 123; see also final comments in Nanoglou 2010, 222), while at Chatalhöyük, where “...many of the human figurines are suggestive of aging bodies rather than young and reproductive types” (Nakamura, Meskell 2009, 219), bodily excess and obesity might hint to resource abundance, and metaphorically to mature age, accumulated experience and knowledge, personal success and social respect. In short, female figurines are now reconsidered for studying “women” and their active roles in prehistoric societies (Knapp, Meskell 1997; Lesure 2010), rather than “the woman,” as a more qualified focus of research.

Besides reference to the life cycle of females, some prehistoric figurines were interpreted at the same time as feminine as well as phallomorphs (Lamberg-Karlovsky, Meadow 1970; Bar-Yosef 1980; Özdogan 2003; Clark 2007a, 19; Nakamura, Meskell 2009, 212, 222–223). These speculations emphasize one of the many aspects of gender ambiguity that can be empirically perceived in this intriguing class of artefacts (Kujit, Chesson 2005; see also Nanoglou 2010).

Among others, Lesure (2002, 587) has called for a “...greater level of sophistication to figurine analysis by emphasizing diversity among the images and attempting to elucidate the meanings and uses of figurines in particular times and places." Meaning, however, will remain elusive, as it “...continually arises from acts of engagement and articulation. This relationality is precisely what constitutes the figurine as a process rather than simply a thing...The figurine does not only sustain, but demands multiple viewpoints...it anchors a dynamic network of encounters with and between individuals and coproduces various and often concomitant perceptions, experiences, and knowledges” (Nakamura, Meskell 2009, 210; see also for discussion Clark 2007a, 15).

If Nakamura’s and Meskell’s figurines demand multiple viewpoints, we need to investigate outside as well as inside figurines. Spatial and relational contexts outside the figurines have appeared crucial since Ucko (1968). Many authors, in fact, have stressed the need of moving, beyond iconography and the traditional ways of evaluating symbols, to a holistic hypothesis of figurines in their dynamic, relational framework with the rest of the involved archaeological record. This approach focuses on terracotta female figurines as “social ceramics” (Starnini 2014). While in this light the semeiotics of archaeological meaning becomes a crucial issue, particularly when dealing with old excavations (Louhivouri 2010), a growing concern for contextual evaluation has introduced new spheres of information. These include not only the material terms of site formation processes (e.g. Abay 2003; Perlès 2004, 255–272; Clark 2009, 253–254), but also correlations with pervasive cultural templates (Langin-Hooper 2014). Among these studies, particularly inspiring are those exploring the links of female figurines with Neolithic mortuary practices (Kujit, Chesson 2005, 175–176; Nakamura, Meskell 2009).

In this paper, we rather propose an in-depth, within the figurine investigation, following Nakamura and Meskell’s paradigm of figurines as processes. The artefact itself is viewed in a composite and stratified archaeological context, whose interpretation proceeds (at least in part) independently from the rest of the site.

3. Female figurines as processes: use and construction

Investigating within the figurine means to observe, in greater detail and from new points of view, its materiality. In some rare cases, material modifications of the ceramic bodies provide a direct key to the figurines’ active roles and to social interaction in ancient societies. In northern Baluchistan, for example, female figurines dating from the 7th millennium BC, associated with snakes (painted or modelled), may have had magic functions, as some, while in a plastic state, were pierced with multiple holes (Jarrige 2007–2008). At Malta, a Neolithic clay figure of a pregnant woman contained multiple insertions of shell and bone flakes in particular anatomical parts, and another statuette of a female in the same conditions was found with possible images of fetuses in various stages of development. Both images are interpreted as items of sorcery (Rich 2008). Evident wear patterns on the surface seems to indicate intensive handling (Nishiaki 2007, 121; Bolger 1996, 368). Other forms of manipulation are embedded in the structure of composite figurines. In Neolithic Chatalhöyük, headless figurines with dowel holes for removable heads, including skeletal ones, and a higher number of heads made for attachment were linked to the peculiar post-burial treatment of human remains and to the ritual manipulation of skulls in Neolithic times (Meskell 2008).

This shows how another important processual aspect of figurines, like of many other ceramic artefacts, lies at the root of their “life” cycle, i.e., manufacturing technology. There is little doubt that the cultural roles of anthropomorphic
figurines, like the rest of material culture, should be
described in terms of behavioural chains, activities, material
interactions, technical choices, performance and adaptation
(Lemonnier 1993; Miller 1998; Skibo, Schiffer 2008).
In fact “…stages of manufacture (chaîne opératoire) are
another locus for symbolic discourse and negotiation of
gender identities... Symbolic meaning generated by figurines
may also have been expressed through prohibition on the
involvement of certain gender and age categories in their
production, the pyrotechnological aspects of manufacture
and symbolic associations with fire, ‘hot’ and ‘cold’ activities
and things, and through the parallel treatment of the clay
and physical body as in the application of decoration.” (Mina
2008, 116–117; see also Dobres 2009, 2000; Dobres, Robb
2000). Nonetheless, such important research perspectives
originally belong to the sphere of systemic contexts
and only indirectly to the heuristic and harder realm of
paleotechnological indicators.

So far, in fact, with few exceptions, the manufacturing
technology of Neolithic and Chalcolithic clay female figurines
has received marginal attention. For example, in Neolithic
Greece their manufacturing was described as follows: “…the
different parts of the body were made separately, often around
a clay or stone pellet, and pegged or stuck together without
much care. Consequently, they frequently broke apart. If they
were initially conceived as short-lived artefacts, the high
frequency of ‘split-legs’, for instance, need not be invested
with special social significance” (Perlès 2004, 263).

While the described conditions might fit this and other
particular cases, a preliminary review of the published
information hints at a more complex attention to detail.
Here, we discuss two different technical approaches so far
recognized in the literature on the prehistoric clay female
figurines of Eurasia. These two approaches are respectively
labeled core and dual forming techniques.

4. Constructing figurines: core forming

We recognize two diverging technical and cognitive
approaches in the construction of clay and terracotta
prehistoric figurines, respectively named core forming and
dual forming techniques. In core forming, the sequence
started from an inner core on which other plastic elements
(legs, arms, head) were gradually added. In this process the
basic cognitive model is radial symmetry, the limbs being
applied as radial appendages to the solid core. The Neolithic
Greek figurines mentioned by Perlès were evidently made
in this way.

Similarly, in a Neolithic female figurine from Tell Seker
al-Aheimar, Northeast Syria, about 7000 cal. BC, “…The
broken surface shows that the body was constructed with
different lumps of clay, using a flask-shaped lump as the
core. A few layers of mud plaster are also visible” (Nishiaki
2007, 121). This description hints at a concentric slab-
construction process starting from a simply formed single
core. In another Neolithic fragmentary clay figurine found
in Poland, the stretched legs are described as made of a
single lump (Debiec, Dzbynski 2006). A variant of this core-
concentric building technique was recently identified in a 6th
millennium fragmentary female image of the early Neolithic
Körös culture, Hungary (Kreiter et al. 2014). Some have
argued that core forming techniques in Neolithic and early
Chalcolithic Eurasia might have had important symbolic
implications in terms of creation, as the innermost lump
served as a corpus to which the fleshy skeletal parts were
gradually added (Hourmouziadis 1973, 40; Nanoglou 2008,
318; Clark 2009, 240). They may have even been shaped
as a hidden spiral-like organ – perhaps a womb, recently
interpreted as a symbol of a possible “…transubstantiation
of divinities” (Pavel et al. 2013, 332).

In some cases, the construction technique of the figurines,
in particular those starting from a core, was related to post-
fruition dynamics and to a possible deliberate fragmentation.
In some Vinča Culture sites in Serbia, such as Opovo and
Selevac (Tringham, Conkey 1998), but recently also in Italy
in the early Neolithic site of Favella (Tiné 2009), broken
statuette were found in pit-structures fill along with fired
daub fragments, the only evidence of vanished dwelling
structures. Both at Opovo and Favella each pit contained
a fragment of a statuette, with a systematic redundancy
ascribed to specific ritual performances linked to house
defunctionalization and burning (Tringham 2005). It has been
argued that fragmentation was determined to accompany the
fate of housing structures, with a deliberate process, well-
documented in the Balkans and as early as in the Körös
culture in Hungary, where statuette were built in parts to be
intentionally dismembered (Makkay 1998). In other settings
this model was related to a specific process of fragmentation
and burial of worship objects (Chapman, Gaydarka 2007).
Thus, by applying separate parts to the core, people would
have forecasted an easier (and anatomically correct)
fragmentation and subsequent intra-site dispersal.

5. Dual forming techniques

For dual forming, in contrast, the torso and more generally
the body is made by joining two elongated slabs or limbs
along a central axis of symmetry, while the rest is applied in
bi-lateral or concentric patterns. O. Muscarella (1971: Fig. 5)
observed exactly this process on a fractured Hacilar female
figurine that turned out authentic when tested with thermo-
iumenesence. Its identification, however, has a longer and
geographically widespread history.

In 1959, Bass had described this technique in some
Neolithic fragmentary figurines found at Thespiai, Greece,
based upon a careful scrutiny of the fracture surfaces. The
best preserved specimen was “…formed of long, oval pellets
of clay, pressed together and covered with the thick coating
of clay which forms the surface. Two pellets, side by side,
made up the chest, and four were used in the stomach. Legs,
buttocks, arm and head were made of separate cores and
attached before the final coating. The separate lumps of clay
The fractures of an early Neolithic terracotta figurine from Austria (5650–5100 BC, 14C cal.) similarly revealed that the upper torso was made of two vertically joined slabs, perhaps applied upon a larger cylindrical lower body (Sauter et al. 2002, Figures 1 and 2). A scout view of a CT scanning of a late Neolithic female figurine from Shaar Hagolan (Israel) reveals a torso made precisely in the same way (Applbaum, Applbaum 2005, 240), as do the surface cracks on the late Neolithic clay figurines of Ulucak Höyük (ca. 6000–5700 cal. BC) (Abay 2003, Figure 7, bottom left). The same construction technique was recently identified beyond any possible doubt through the CAT scan of a female figurine of the Chalcolithic Cucuteni culture of Romania (Pavel et al. 2013).

The construction of the Bronze age female figurines of the Indus civilization was judged to be “... very different from that of some ancient Near Eastern figurines in which did not coalesce, accounting for the break down the middle of the torso, which leaves half the pellets and gives a clear cross section of the interior anatomy.” (Bass 1959, 344, Pl. 74, 1).

What is new in terracotta figurine production as a way of self-representation is the striking similarity of construction and appearance of the highest quality examples from different areas. Two Cucuteni figurines from the Excavation (no. 1157 and no. 1238) of the Dârjiu site and a Scythian one from the Excavation 39 of the Pitești site, both from the National Museum of Romanian History in Bucharest, are included as examples of the same dual construction technique. The same technique might also have been applied to the female figurines from the Cușătii de Sus site, which suggests the existence of a common manufacturing tradition in eastern Europe (Bollati et al. 2009).

Thus, in Eurasian protohistory dual techniques may be as old as core-forming ones, and there are no simple geographic boundaries describing their relative spread. Cultural and symbolic implications of the different cognitive approaches are an open line of inquiry. It is worth noting that dual building techniques might be linked to modes of fragmentation enhancing “non-potential breakages” (especially at the middle of the trunk) observed in some Balkan Neolithic contexts (Chapman 2000).
6. The object and methodology of the study

We decided to investigate the manufacturing process of a Chalcolithic terracotta figurine through the CT scanning of its inner structure (Hughes 2011) following an ad hoc pipeline. We searched for evidence of one or the other technical process and for any other possible inner structure that might have revealed specific templates. The solid figurine we analyzed (16 x 7 x 6.5 cm) is a recent acquisition (2007) of the National Museum of Oriental Art, Rome (Figures 1 and 2, inv. 21392/31729). Although its precise origin is unknown, an almost identical figurine, kept at the Burdur Muzesi, Turkey (Inv. Nr. E4999, Badischen Landesmuseum Karlsruhe 2007: 363, Figure 383), places our specimen in the Lakes region and dates it around 5500–5250 BC. The same approximate date is confirmed by two vessels that accompanied the figurine to the Rome Museum (Bollati et al. 2012) and by a third figurine of the same type, now at Florence (Guidotti et al. 2007, 210). From a formal viewpoint, the figurine matches Mellaart’s type B3 (1970: Pl. CLXXB, Figure 245, 1 and 3), or “kneeling female figure.” See critical remarks and analytical data on Hacilar female images in Muscarella (1971).

The figurine leans back at an angle of 70°. The bent legs appear as two egg-shaped, thick elements and the buttocks are well-defined. At the sides of the torso, the arms are represented by two oblique, short cylindrical holes. A central projection stands for the hands. The breasts are small, and the neck and head are not distinguished. When observed from the side, the round bent legs and thinner, elongated body give to the figurine an apparent phallic characteriztion, and thus might fall under the categories of intriguing gender ambiguity previously remarked by several authors, quoted above. We specifically wondered whether the inner structure of the image might have supported or weakened the hypothetical analogy with a phallus. On the face (Figure 2), two obsidian bladelets were inserted in the final stages of polishing, the flat ventral side in sight.

The outer surface is smooth, highly polished and covered with broad, angular motifs traced with a thick red pigment, apparently rich in iron oxides. The figurine is painted with a complex symmetrical motif – concentric angles converging on the chest, while legs are filled equally symmetrically with solid patterns in which S-shaped, angular designs appear in the negative. A solid lozenge appears at the height of the joint hands. In short, the painted figuration follows a bilateral symmetry, but at the same time the lower and upper parts of the body are painted following opposite templates. On the back are visible rows of angular designs and an empty losange is at the base of the spine, ideally opposed to the solid lozenge on the hands in front: again, painted decoration precisely follows a central axis of symmetry and a complex play of graphic oppositions. No evidence of surface wear or substantial manipulation was detected.

The CT scanning was made by one of the authors (SDP) at the Hospital Regina Margherita, Rome, with a General Electric Bright speeds 16 Turbo Solaris, an advanced facility that created for each section 16 additional micro-layers. Later, DICOM data were obtained as a unique file and treated with software AVIZO7, reading the 966 visible layers, corresponding to 531 sections on the XY axis, 212 for the XZ axis, and 223 for the YZ one.

Figure 3 shows the outer volume of the image as reconstructed. The inner structure was interpreted and reconstructed by emphasizing, section after section, the phase discontinuities among the inner lumps and slabs. When such discontinuities or interfaces became less distinct, we applied a “glow.col” enhancing filter, and through a “segmentation editor” we operated on the three-dimensional volumes of each inner lump or slab (hereafter Technical Episode or

Figure 3. Volumetric rendering of the terracotta figurine by means of CT scanning.
TE). In order to measure each inner TE, we made a cage of six orthogonal planes ("ortho slices") defining a virtual tetrahedron, where couples of parallel slices are placed at the extremities of the TEs.

These eventually were represented as individual three-dimensional elements by different colors for better visualization (Figure 4a–r). They were treated as the main indicators of a plastic addition process, from
the lower limbs to abdomen, torso, head and the applied obsidian inserts, resulting in a final, high resolution rendering of the composite volume of the figurine (Figure 5).

Our first goal was a detailed reconstruction of the operational sequence of the clay modelling in terms of subsequent TEs, formalized as a stratigraphical flow chart. Secondly, we tried to define each TE in terms of geometrical-
topological features (after van der Leeuw 1994, 136–137) and of the partonomy of the sub-sequences of TEs by which the figurine was made, possibly defined by temporary interruptions. This three-level abstraction allowed us to transform a set of pure forms into a hypothesis of technical and cognitive strategy. Having reconstructed in 3D the shape of each lump or slab applied to form the clay sculpture, and thus the sequence of modelling, we then compared this latter to the technical approaches mentioned above. We then searched in the figurine’s hidden structure any possible analogy with the human body and/or its parts. Moreover, we wanted to ascertain whether the inner structure itself had any resemblance to a penis or not.

7. De-construction

The CT sections show, as main phase discontinuities, several light-coloured inclusions (large-sized silicate grains, mostly with angular contours) and linear, curved interfaces, considered the main indicators of the slab/lump construction sequence. The sections show that the surface of the figurine is formed by an outer peel of fine clay a few millimetres thick. In the images and in the reconstructions, this fine “skin”, evidently applied in the final finishing stage, is not emphasized.

Table 1 attempts to define analytically the sequence of TEs we identified, their partonomical pertinence (i.e. their belonging to the base, torso or head, three fundamental moments in the construction of the figurine) and their geometrical-topological features (pellet, lump or slab, anatomical reference; we identified the hand-forming techniques that, on the basis of actualistic considerations, were presumably used in each TE). Table 1 summarizes the 3D map and stratigraphic flow chart of Figure 6.

These analytical results (Figures 5, 6) show that the beginning of the sequence was the inner core of the left leg, from which rose a vertical slab, meant to become part of the figurine’s back (TE1). The forming sequence continued by joining to a shapeless inner piece (or support) a series of hemispherical or cone-shaped forms (TE2–TE5) that gradually reproduced two paired bent legs and buttocks. TE5 was clearly applied on the right as a “knee” for matching symmetrically the shape of the left leg. This sequence, in spite of its formal discontinuity, retained a basic axial symmetry, at least in front and in the final vision.

The vertical extremity of TE1 was planned for better fixing the base to the torso. In the middle body, TE6 and TE7, two slabs joined vertically on the figurine’s axis, confirm the evidently dual organization of the slab construction process. This is further enhanced by the symmetry of TEs 9 and 10 (left and right shoulders), of the applied breasts (TE12), of the two holes at the elbows (TE13) and of two other paired elongated strips that form the neck and the head (TEs 14 and 15); as obviously do the obsidian eyes (TE19). The protuberance of the clutched hands (TE11), the nose (TE18) and the probable headdress on the nape (TEs 16 and 17) are on the central axis of symmetry. If the legs and buttocks were mostly made of hemispherical parts, the torso area was made with flatter slabs and sub-triangular applications (TEs 9, 10, 11). Ultimately such a composite, bi-lateral inner structure points to a map of the female body and rejects the apparent similarity to a male organ, that might have been more simply expressed with a cylindrical shaft and round appendages for the testicles.
Table 1. Partonomy, geometric-topological features and technical performance of the modelling sequence of the Rome figurine (terms after van der Leew 1994) as defined by means of CT and ensuing digital processing. See also Figure 5.

<table>
<thead>
<tr>
<th>TE</th>
<th>Partonomy</th>
<th>Geometrical-topological features, metadata</th>
<th>Modelling (actualistic hypothesis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE1</td>
<td>base, legs, abdomen</td>
<td>vertical elongated lump, core of left leg</td>
<td>pinching or palm-forming, joining, rounding</td>
</tr>
<tr>
<td>TE2</td>
<td>base, legs, abdomen</td>
<td>hemisphere, front of right leg</td>
<td>pinching or palm-forming, joining, rounding</td>
</tr>
<tr>
<td>TE3</td>
<td>base, legs, abdomen</td>
<td>hemisphere, right buttock</td>
<td>pinching or palm-forming, joining, rounding</td>
</tr>
<tr>
<td>TE4</td>
<td>base, legs, abdomen</td>
<td>egg-shaped lump, left leg and buttock</td>
<td>palm-forming, joining</td>
</tr>
<tr>
<td>TE5</td>
<td>base, legs, abdomen</td>
<td>cone/hemisphere, right knee</td>
<td>pinching or palm-forming, joining, rounding</td>
</tr>
<tr>
<td>TE6</td>
<td>middle body, torso</td>
<td>elongated slab, up to left side and left arm</td>
<td>pinching, joining, forming</td>
</tr>
<tr>
<td>TE7</td>
<td>middle body, torso</td>
<td>flat slab, right side of the back and right arm</td>
<td>pinching, flattening, joining, forming</td>
</tr>
<tr>
<td>TE8</td>
<td>middle body, torso</td>
<td>filling of a triangular gap in the belly</td>
<td>pelleting forming, infilling</td>
</tr>
<tr>
<td>TE9</td>
<td>middle body, torso</td>
<td>flat triangle, right shoulder, elbow and forearm</td>
<td>pinching, joining, forming</td>
</tr>
<tr>
<td>TE10</td>
<td>middle body, torso</td>
<td>flat triangle, left shoulder and left upper chest</td>
<td>pinching, joining, forming</td>
</tr>
<tr>
<td>TE11</td>
<td>middle body, torso</td>
<td>horizontal flat triangle, hands clutched in front</td>
<td>pinching, flattening, joining, forming</td>
</tr>
<tr>
<td>TE12</td>
<td>middle body, torso</td>
<td>two paired cones as the breasts</td>
<td>pinching, joining</td>
</tr>
<tr>
<td>TE13</td>
<td>middle body, torso</td>
<td>negative interfaces, holes at inner elbows</td>
<td>impressing a cone-pointed tool</td>
</tr>
<tr>
<td>TE14</td>
<td>top, head</td>
<td>elongated semi-cylinder, right side of head</td>
<td>rolling, joining, forming</td>
</tr>
<tr>
<td>TE15</td>
<td>top, head</td>
<td>elongated semi-cylinder, left side of head</td>
<td>rolling, joining, forming</td>
</tr>
<tr>
<td>TE16</td>
<td>top, head</td>
<td>hemisphere, headdress(?) on nape</td>
<td>pelleting forming, flattening, joining</td>
</tr>
<tr>
<td>TE17</td>
<td>top, head</td>
<td>hemisphere, headdress(?) on nape</td>
<td>pelleting forming, flattening, joining</td>
</tr>
<tr>
<td>TE18</td>
<td>top, head</td>
<td>flat triangular pellet</td>
<td>pinching, joining</td>
</tr>
<tr>
<td>TE19</td>
<td>top, head</td>
<td>Obsidian bladelets, ventral side, eyes</td>
<td>inserting, tucking-in of clay along edges</td>
</tr>
</tbody>
</table>

8. Discussion and conclusions

Our review of the published literature on the manufacture of female figurines challenged implicit and simplistic assumptions, revealing at least two alternative choices (core vs. dual forming techniques). Obviously enough, we cannot expect that the two technical templates will resolve all issues. Other forming processes need to be considered along the approaches of dual and core-forming techniques.

With CT scanning, we demonstrated the actual possibility of reconstructing the modelling sequence of a prehistoric terracotta figurine with a detailed step-by-step model, without...
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