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CONFERENCE PROCEEDINGS: ANCIENT LIVES, NEW STORIES: CURRENT RESEARCH ON THE ANCIENT NEAR EAST[2]

Beyond Meaning: Employing an Artefact Approach to Study Figurines as Functional Items. A Case Study from Çatalhöyük (Turkey)

Monique Arntz

Abstract: Even though figurines are a ubiquitous find on many Neolithic sites, some aspects of figurines are still poorly understood. Figurines have been studied as symbolic messages to be decoded, as art, and as ritual/cult objects. The main drawback of these interpretative frameworks is that they fail to analyse figurines as artefacts. Instead, figurines are treated primarily, or even exclusively, as images or texts. In this paper it will be argued that in order to understand figurines we need to engage with their materiality in order to understand how figurines worked in their social setting. Within the framework of craft theory a sensory approach will be applied to the *chaîne opératoire*, and formulate perceptive categories, or those aspects of the material(s) that are recognisable and (possibly) relevant to craftspeople and elements that reflect choices made during the production process. This *chaîne opératoire* is embedded within a larger aim of creating object biographies for figurines where production, use and deposition are analysed holistically.

Introduction

Figurines have a long history in the Near East with the earliest examples dated to the Natufian period (ca. 12,500-9000 BC). Still a rare find at this time, they are mostly carved from soft stones and represent both animals and humans. From the Pre-Pottery Neolithic (PPNA, ca. 10,000-8800 BC) onward clay replaces stone as the

[2] **Ancient Lives, New Stories: Current Research on the Ancient Near East** was a conference held at the British Museum in London between 1st and 2nd December 2018, organised by Xosé L. Hermoso-Buxán and Mathilde Touillon-Ricci. This paper is part of the proceedings of that conference and have been edited by the organisers, with the support of *Papers from the Institute of Archaeology*.

most commonly used material. Figurines become more common throughout the Neolithic with a culmination in the PPNB (ca 8800-6500 BC). Although common, they are by no means ubiquitous and their numbers can vary greatly from site to site. Anthropomorphic figurines become more common than zoomorphic figurines, however at some sites zoomorphic figurines dominate the assemblage (see Rollefson 2008).

It is in the PPNB that we first see seated anthropomorphic figurines, a form that remains in use for an extremely long period (cf. Campbell & Daems 2017; Rollefson 2008; see Fig. 1). These, often 'plump', seated figurines sometimes have breasts, but even when absent their rounded shapes lead them to be identified as female. Much research has focussed on these figurines, in the past often linked to the existence of a prehistoric Mother Goddess cult (see, for example, Cauvin 2000). Apart from the problematic nature of such an interpretation, the focus on this one type of figurine makes it appear they are omni-present. However, this is by no means the case. Furthermore, they exist as one shape in a widely varying range of anthropomorphic figurines that, importantly, often are not clearly gendered.

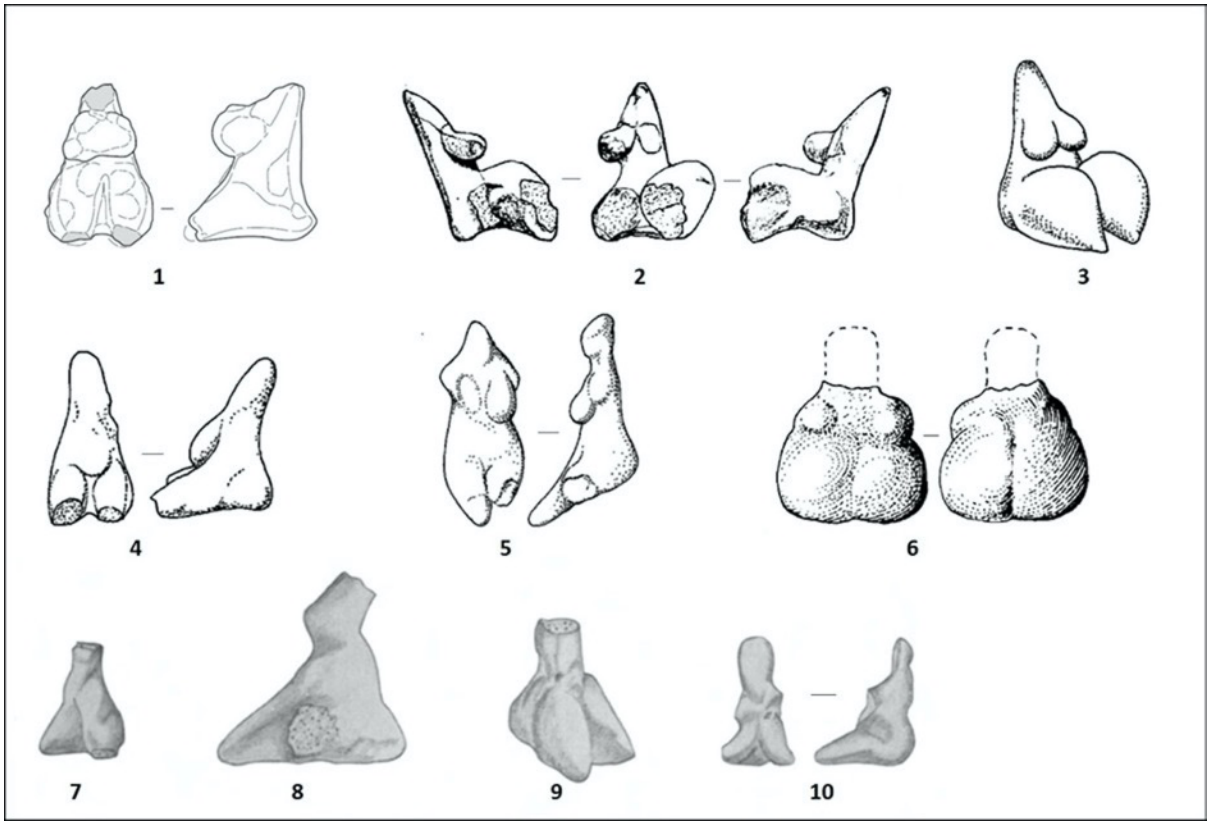

Figure 1: Seated figurines from the PPNB. 1: Tell Seker al-Aheimar (Syria); 2-4: Cayönü (Turkey); 5: Cafer Höyük (Turkey); 6: Beidha (Jordan); 7-10: Jarmo (Iraq). Adapted from Broman-Morales 1983: plate 153 and 1990: plate 23; Cauvin 2000: 90; Kuijt and Chesson 2004: 165 and Nishiaki 2007: 122

New research still focusses on female figurines, be it to give critical reviews of the Mother Goddess phenomenon (see, among others, Bailey 1997; Haaland & Haaland 1995; Meskell 1995; 1998; Tringham & Conkey 1998), argue against the perceived femaleness of many figurines (Meskell 2017), or formulate new interpretations of female figurines (Belcher 2016; Lesure 2002, 2011). Although it is now commonly acknowledged that most prehistoric figurines are in fact not sexed, there are still those that do believe that most anthropomorphic figurines from the Near East mostly depict women and continue in their attempts to explain this phenomenon (cf. Lesure 2002, 2011).

Through methodological frameworks focussing on figurine imagery, past research has tried to analyse the meaning of anthropomorphic figurines. These approaches all have their own difficulties and implications for how figurines have been studied. The main drawback of these interpretative frameworks is that they fail to analyse figurines as artefacts. Instead, figurines are treated primarily, or even exclusively, as images or texts (Weismantel & Meskell 2014: 234). It is not disputed here that figurine imagery can hold symbolic significance. However, one of the main assumptions in this paper is that getting to the symbolic meaning of figurines, especially in prehistoric contexts, is extremely difficult. Furthermore, it is insufficient to research meaning as being solely constituted by what an object represents. Visual studies ignore the importance of the process of making, using and depositing figurines. Disregarding contextual settings, visual approaches have offered overarching interpretations which gloss over variability and the corpus of figurines spanning several millennia, a large geographical area and vastly different social contexts is treated synchronically.

In this paper I hope to demonstrate that we can better understand figurines when they are analysed as a process from production, use, to deposition. And importantly, that one needs to realise that these processes are embedded in a particular social

world (Nakamura and Meskell 2013: 202-3; see also Belcher 2014; Gaydarska *et al.* 2007). The results of a pilot study undertaken as part of a larger PhD project will be presented here. The larger project aims to reconstruct the entire process, or life biography, from production to deposition for the figurines of two sites: Çatalhöyük (Turkey) and Tell Sabi Abyad (Syria). Here the focus will be on an analysis of the production and use of a subset of figurines from Çatalhöyük.

Research Background

The Site

Çatalhöyük is situated on the alluvial Konya plain in South Central Turkey. The Konya plain is a large area of inland drainage at the southern end of the Anatolian Plateau at approximately 1000 metres above sea level. Geologically the south and southwestern end of the site is characterised by large alluvial fans, upon one of which Çatalhöyük is situated (Baird 1996; Doherty 2017). The site name Çatalhöyük, meaning 'fork mound', probably derives from a fork in the path or at its southern end (Hodder *et al.* 2007). The site consists of two distinct mounds (East and West), separated by the relict course of the Çarşamba River (Doherty 2017), which probably formed an ancient focus for the settlement (Fig. 2).

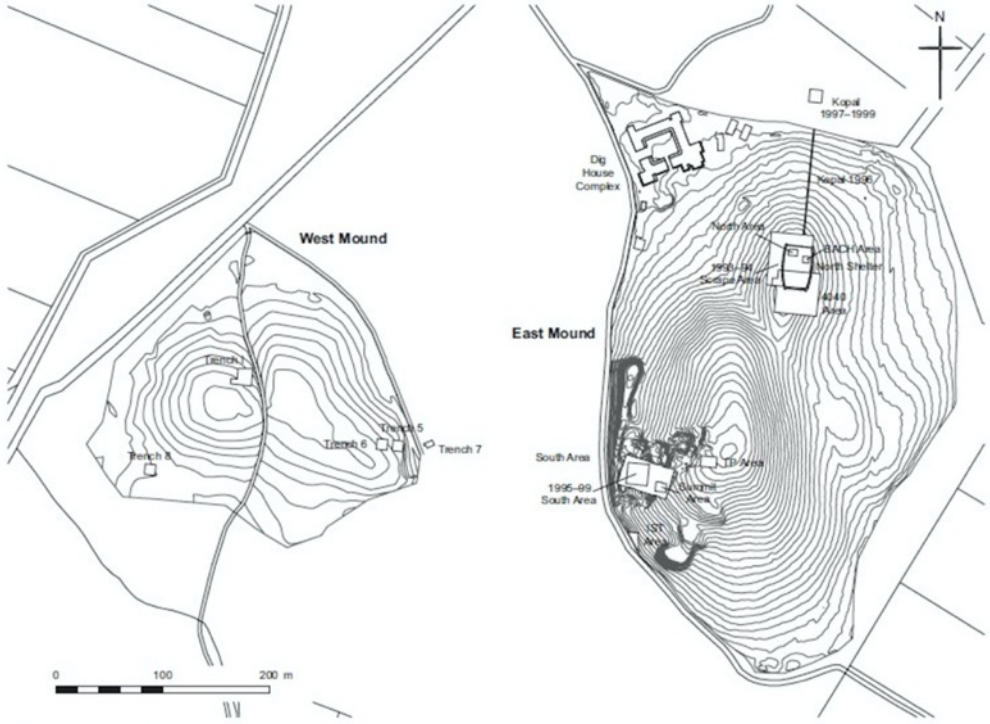

Figure 2: Çatalhöyük, showing the East and West mound and the excavation areas. Map courtesy of the Çatalhöyük Research Project.

First excavated by Mellaart from 1961 to 1965, excavations were resumed under Hodder from 1993 to 2017. Research focused mostly on the so-called North and South areas on the East mound. These North and South Area investigations by Hodder had different research foci. The North Area excavations were aimed at bringing a large area of the settlement into phase, in order to examine a single 'neighbourhood'. Excavations in the South Area were aimed at re-examining the stratigraphic sequence with a view of refining the site's chronology (Bayliss *et al.* 2015). Overarching thematic work at the site focussed on wider questions regarding the social geography of the settlement and the places of property, power, and religion in early settled life (Hodder 2006, 2007, 2010, 2013).

Çatalhöyük has currently been dated to between 7100-5950 Cal BC (Bayliss *et al.* 2015; Orton *et al.* 2018), dating the site to the middle of the PPNB through to the Pottery Neolithic and early Chalcolithic (see Özbaşaran & Buitenhuis 2002; Hodder 2005). This is considerably later than the first sedentary communities in the region.

Earlier sites in the region that predate Çatalhöyük, such as Boncuklu Höyük (ca. 8500 BC) tended to be smaller, up to a maximum of several hundred people, with small, loosely distributed, oval or semi-circular structures (Baird 2006; see Fig. 3).

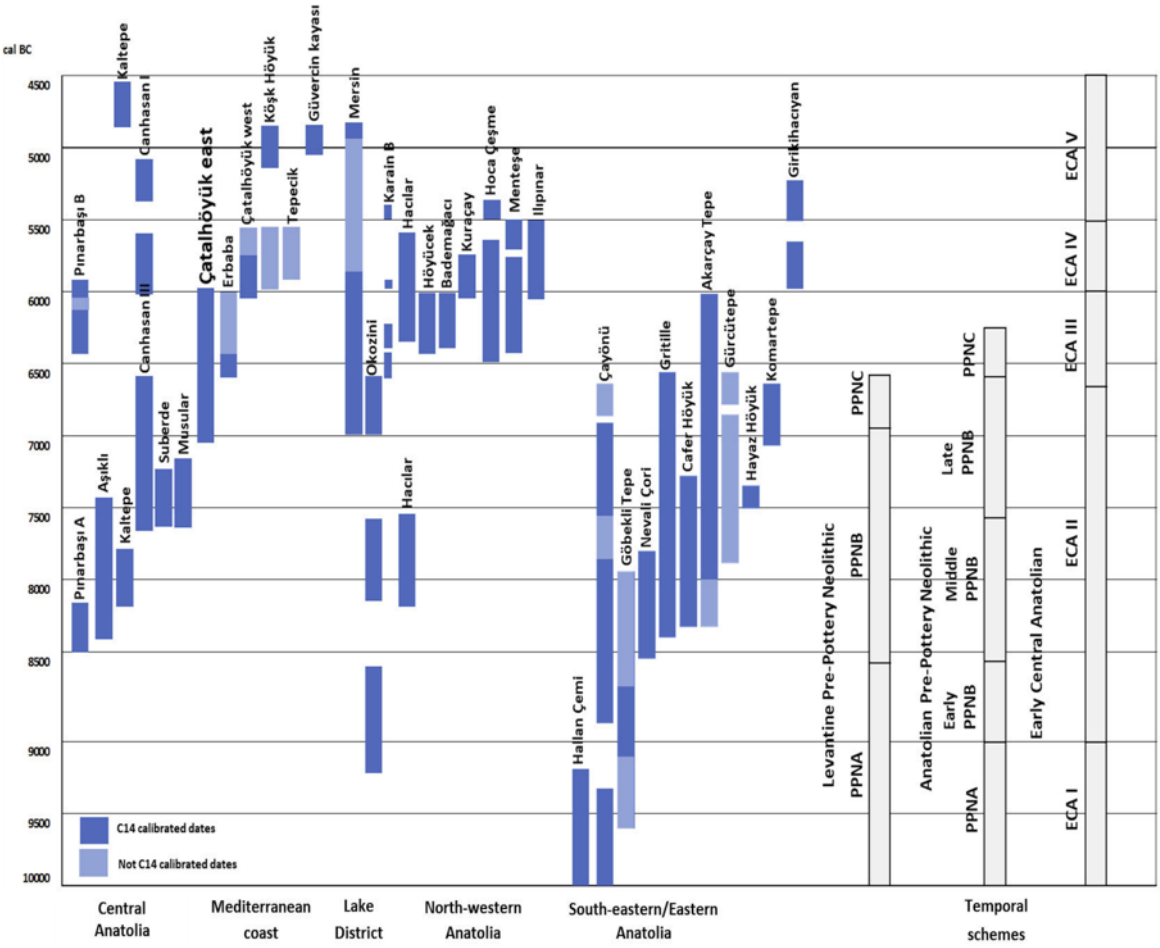

Figure 3: Dated Neolithic sites in Anatolia and the Çatalhöyük occupational sequence. Adapted from Hodder 2005 and partly based upon Thissen 2002.

Çatalhöyük, in contrast, demonstrates many of the characteristics of the later PPNB sites, which tended to be larger and more densely populated than earlier sites. In fact, Çatalhöyük is one of the PPNB 'mega sites' (the term used for sites over 10 hectares) with a capacity to support a population of several thousand people (Kuijt 2000). The population size of the settlement was estimated to be between 3000 to 8000 individuals by Cessford (2005) using a variety of techniques and making a variety of assumptions about how many houses were inhabited at any one time (Hodder 2010: 3). Although it should be noted that the assumed correlation between site size and

population size has been called into question (see, fe. Akkermans 2012; Hole 2000). Furthermore, a continuing programme of Bayesian modelling is changing the notions of Çatalhöyük as a very densely built-up site, as the ever more detailed absolute dating makes it possible to date the occupation of houses with much more accuracy (Plug *et al.* 2021).

The site is broadly comprised of densely clustered groups of mostly rectangular mudbrick structures, interspersed by open external areas. The way in which the structures were generally tightly packed together, abutting their neighbours, means that there is no evidence for conventional windows or doors situated in the external bounding walls. Houses were generally accessed via a ladder, usually situated in the southwest corner, through an opening in the roof. This arrangement persisted until the upper levels when open spaces began to appear, and houses were less densely packed (Marciniak *et al.* 2015).

Despite the overall similarity between most of the structures on the site, there are buildings that have more internal elaboration than others. In the past Mellaart interpreted buildings either as houses or as 'shrines' concentrated in a so-called 'priestly' quarter (Mellaart 1967: 77-78). However, Hodder rightly saw this use of the term shrine, and the explicit ritual/religious overtones it carries as problematic. Moreover, excavations revealed that the activities carried out in these 'shrines' are similar to those in other buildings at the site (Hodder and Pels 2010: 163). To avoid using loaded terminology, Hodder instead based the categorisation of structures upon a more neutral concept of building complexity (Hodder 1996; see also Richie 1996). As such, he refined the interpretation of these more elaborate structures on the site by referring to some structures as 'history houses' (see fe. Hodder & Pels 2010), based upon evidence of history of use, burial and ritual and symbolic elaboration as measured by numbers of platforms, pillars, installations and so on.

The Dataset

The Çatalhöyük figurine corpus has been extensively published in the yearly archive reports[3] and many publications (see, for example, Martin & Meskell 2012; Meskell *et al.* 2008; Weismantel and Meskell 2014) and the research presented here builds upon the earlier work done by the figurine team at the site. Before discussing the figurine dataset analysed here in more detail, a note on the recording system of figurines is in order.

Recording system

The figurines at Çatalhöyük were recorded in a custom-built, comprehensive database (see Meskell & Nakamura 2004; 2006). This project largely follows interpretations and information from the original database has been recorded in a custom database with three tables, recording 1) general information (measurements, typology, contextual data and short description, 2) information on the clay fabric, heat exposure, inclusions and colour, and finally 3) information on markings and any specific remarks relating to production. However, sometimes interpretations have been altered after first-hand inspection at the site or examining photographs. Furthermore, figurine numbers vary slightly from the amount in the original database as there were 'non-diagnostic' (shaped clay that is suggestive of a figurine form) objects which have not been added to the dataset.

Figurines analyses in this paper

It is beyond the scope of this paper to discuss the complete figurine corpus. Instead the focus here in on the subset of figurines that were analysed for this paper. As one of foci of this paper is the materiality of figurines the subset chosen are those figurines analysed by Avies (2010) on a macroscopic and microscopic level to ascertain their clay composition. The sample was selected based on macroscopic observations, looking for different fabrics that would give a representative dataset of the various clay types used to make figurines at the site.

Although the dataset analysed by Avies also included some anthropomorphic figurines, these do not form part of this paper. Most anthropomorphic figurines are

[3] Available online: www.catalhoyuk.com/research/archive_reports

currently held in museum collections and therefore could not be studied. For this reason, only the zoomorphic and abbreviated figurines have been selected. These two types constitute the large majority of the analysed corpus and can be used as a representative sample for the two types in general. As such, the dataset analysed here consists of 305 zoomorphic figurines (of which 117 are leg or horn fragments) and 51 abbreviated figurines. This constitutes 19.4% and 7.5% percent respectively of the total number of these two figurine types (N=1575 and N=681).

Figurine Types

The team at Çatalhöyük have subdivided the figurine assemblage into anthropomorphic, zoomorphic, abbreviated, phallomorphic and indeterminate categories (see Meskell and Nakamura 2004; 2006). Here the focus will be on the types analysed in this paper; namely zoomorphic and abbreviated figurines.

Zoomorphic figurines

Zoomorphic figurines are quite easily recognisable, provided they are not too fragmented. They depict, without exception, quadrupeds. They have bodies which are round to oval in section and the backs are often rounded on top. Backs are often straight, but sometimes more diagonal, sloping from the neck downward. Sometimes there is a difference in length between the front and hind legs, and in other cases the animal seems to be depicted as sitting on its haunches (N=13), or lying down (N=19), but mostly they are standing (N=106). Legs (when present) are often short and rounded, sometimes no more than stumps. In some instances, legs are longer and more pronounced (see Fig. 4).

Figure 4: Examples of zoomorphic figurines. Top row: 3044.H2, 12394.H1, 12652.X9, identified as bovine, deer and possibly fox/reptile. Middle row: 12972.H1, 13103.X11, 19205.X1, identified as equid, boar/pig and equid. Bottom row: 4518.D1, 12593.H1, 4389.X1, more generic, unidentified quadrupeds. Photos by J. Quinlan and author, courtesy of the Çatalhöyük Research Project**.**

Head shapes vary, most often snouts are short and rounded. In some instances, they are thinner and longer. Horns and/or ears are most often only indicated by fractures. Horns are represented far more often than ears and horns are also found frequently as separate pieces. It is sometimes hard to ascertain whether horns or ears were originally present when only fractured surfaces remain. Horn shapes are varied, but

most often they are round in section, curved and ending in a tip. They vary in length, position and orientation on the head. Some horns point forwards, others upwards. There are a few examples when horns are (almost) straight, but these are exceptions. Tails are sometimes depicted; shapes vary from short and stubby tails to upward pointing tails. A few figurines have very large tails in proportion to their bodies.

Quadrupeds show great variation in their rendering and what elements are represented. How these elements are represented and shaped also varies. In the dataset there are some patterns that stand out in the way certain elements are shaped. There are some quadrupeds that have cone-shaped tails that have been applied or pinched out of a flat rear with smoothing – or scraping marks all around the tail. Others have a flat triangular tail that is sometimes pinched out of the body, or applied, and pushed against the rear. This way of shaping tails is distinct and quite uniform in the different examples, otherwise tails come in many shapes and sizes. Likewise, shaping of legs is sometimes done by pinching out the legs individually, or applying them, but this is more difficult to ascertain as they are generally well-smoothed into the main piece. Alternatively, clay was pinched out at the front and back and then slightly incised, or separated at the ends, indicating separate legs.

For the most part, zoomorphic figurines cannot clearly be classified as representing a species of animal, however there are exceptions. Work has been done at Çatalhöyük comparing faunal assemblages with the zoomorphic figurine corpus. Working closely with a zoo-archaeologist, 391 zoomorphic figurines were analysed and, when possible, assigned to a species based on the morphology of the discrete 'body parts' that make up each figurine, such as heads, horns, necks and torsos, legs and tails (Martin & Meskell 2012: 406). There are a few examples were species designation is certain, one of the clearest examples being 2250.X2, a goat with goatee, upright horns and ears clearly modelled (Fig. 5).

Figure 5: 2250.X2, figurine of a goat. Photo by author, courtesy of the Çatalhöyük Research Project.

In some cases, there seems to be a clear intention to model a certain animal whilst in other cases only a 'generic' (to our eyes) quadruped was created. Throughout the corpus there is a focus on horn morphology and placement. For cattle, the shape of the head, placement horns, followed by the bulk of the neck and shoulders were the critical signifiers. The rest of the figural body could be nondescript, the legs non-specific and hoofs never being depicted. For hornless animals, other features can be signifiers, such as the boar's ridge-back, or the long face and defined shape of the equid body. When these characteristic areas are absent in a figurine, classification becomes ambiguous (Martin and Meskell 2012: 417).

Many horn fragments are recovered as separate pieces, which is to be expected as these small pieces are weak points and easily fractured. There are three main horn shapes: curved horns (sometimes also spiralling), straight horns and flat horns (Fig.

6). Whereas sometimes it is clearly visible that horns were once part of a larger object, other horns seem to have been stand-alone pieces as there are no clear signs of fractures. Horn fragments can be difficult to identify as many are non-descript, thin rolled pieces of clay. It is clear that they have been handled by people, but they are not clearly horn-shaped. Alternatively, these horns were made to be attached to a quadruped figurine but for some reason were never finished. A final separate category consists of objects classified as bucrania (Fig. 7). There are five examples in this dataset. These figurines depict only the heads of animals with horns, and sometimes ears, represented. Often these are interpreted as being bovine with curved horns that are well-modelled.

Figure 6: Examples of horns. Top row: 14186.H1, 15755.H3, 13143.H1. Bottom row: 16113.H2, 15100.H1, 15755.H10. Photos by J. Quinlan and author, courtesy of the Çatalhöyük Research Project.

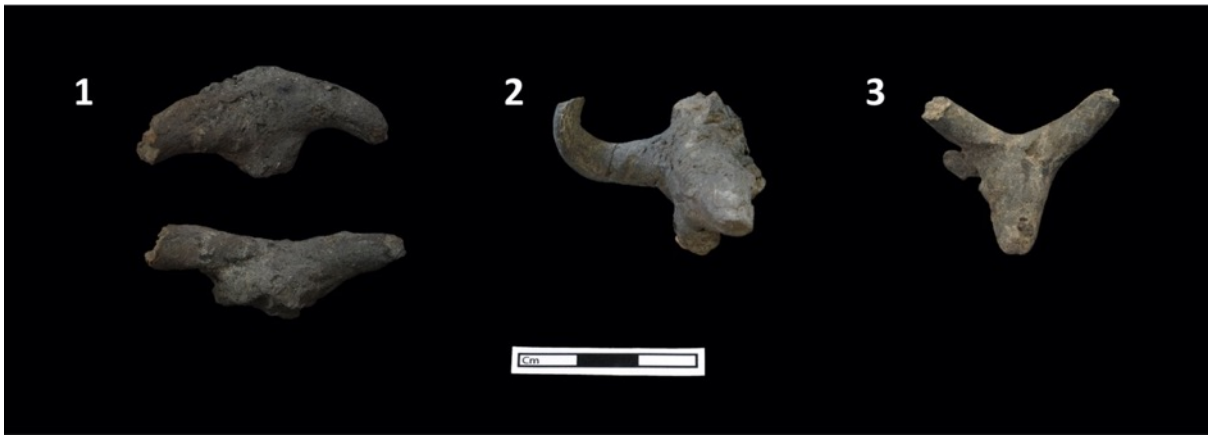

Figure 7: Examples of bucrania. 3502.X1, 6151.X1 and 20467.H2. Photos by J. Quinlan and author, courtesy of the Çatalhöyük Research Project.

Abbreviated figurines

Abbreviated figurines are mostly anthropomorphic, however the term anthropomorphic is reserved here for figurines rendered in a more naturalistic style – detailing elements of the human shape such as arms, legs, buttocks, belly and breasts. Abbreviated figurines, in contrast are 'stylised'. The bodies are pillar or cone-shaped, sometimes legs are indicated. Depending on this last feature, abbreviated shapes are sub-divided into two categories: 'head on base' and 'head on divided base' respectively. Arms are never indicated, nor do they have clearly defined heads. Most often the body ends in a rounded end with a pinched-out nose. In some instances, the top of the head has been pinched and folded back against the head in what is called a 'folded head element'. These are thought to possibly represent head dresses or hair, but this cannot be claimed with certainty (Fig. 8).

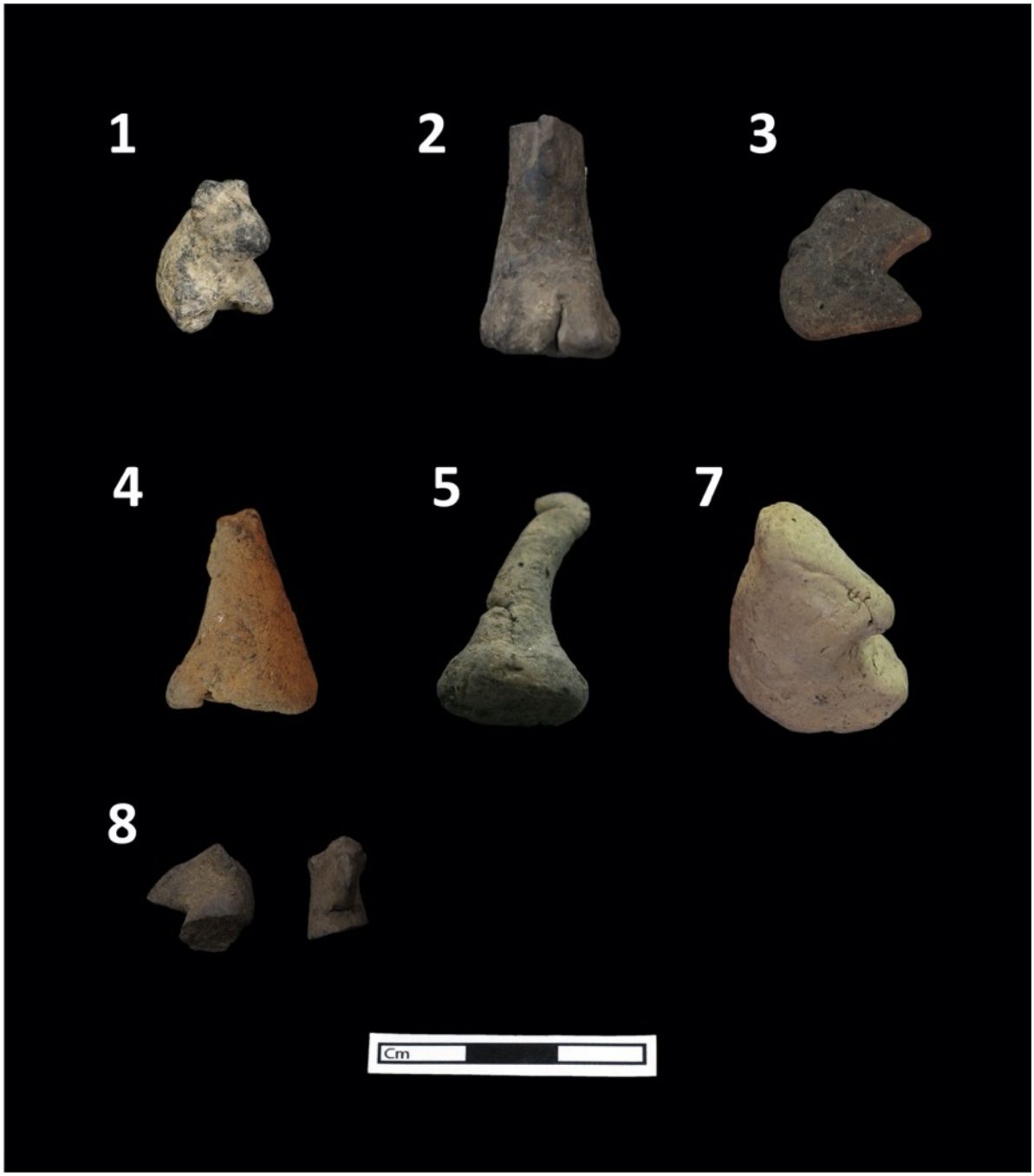

Figure 8: Examples of abbreviated figurines. Top row: 10298.H1, 3021.H1, 12946.H1. Middle row: 16472.X3, 18154.H4, 4102.D2. Bottom row: 16230.H1. Photos by J. Quinlan and author, courtesy of the Çatalhöyük Research Project.

In some rare cases, abbreviated shapes appear more zoomorphic than anthropomorphic. In this dataset there are three such examples. Figurine 16230.H1 (Fig. 8, no 8), is interpreted as being as bird-like because of its very pointy profile. The two other examples, 10298.H1 (Fig. 8, no 1) and 18641.X3 have two 'ears'

placed on top of their heads, giving them an animal-like appearance, more so than a human one. There is also a sub-set of abbreviated figurines that are abbreviated to such a degree that they blur the boundary between figurines and geometric objects. They are conical in shape and have, at times, slight indications of possible feet and a nose. These indications can be very underplayed and at times the designation of figural or geometric is hard to make (see 16472.X3, Fig. 8, no 4).

Clays used to make figurines

There has been extensive work done on surveying the environs of Çatalhöyük in particular and the Konya basin in general (see Doherty 2017 and references therein). Within Hodder's excavations at Çatalhöyük clay sourcing has been an ongoing research topic and a coring project was initiated in 2007 in order to build a comprehensive, high resolution picture of the environment and provide information on local soils/sediments in terms of their suitability for construction/fabrication materials, cultivation and other aspects of land use (Doherty *et al.* 2007). Chris Doherty worked on clay sourcing and use at Çatalhöyük since 2007 and has also worked on clay analysis of the figurine corpus, creating an overview of the different types of clay used in figurines production. The description of the different clay types is summarised in table 1 taken from the 2010 Çatalhöyük archive report where Avies (2010) macroscopically and microscopically analysed several hundred of the figurines to analyse their clay composition.

Clay types	***Colour***	***Composition, structure and inclusions***
Upper Alluvial	Reddish brown	Very sandy, silty brown Lacks coarse inclusions Significant amount of sand, some organic inclusions but limited Moderate frequency of inclusions, mainly sandy type and minerals
Upper Lower Alluvial	Light-grey	Very fine, few inclusions High silt/sand content Sporadic colouring
Middle Lower Alluvial	Medium-grey	Usually fine inclusions, some rare finds of marl/plaster Moderate silt/sand, high clay content makes figurines strong and dense Marl/plaster can cause shrinkage and fracturing as well as greenish lime tint on clay Low frequency of inclusions
Low Lower Alluvial	Dark-grey /brown	Fine, silty clay Increase in organic/plant material

		Strong smectite clay allows for high plasticity and elasticity Low frequency of inclusions
Black Organic	Dark-brown /black	High clay content Coarse inclusions, sometimes attributes to shrinkage and fracturing Coarse, crumbling, lumpy clay; lack of sand/silt Not more organic material than Low Lower Alluvial Fairly high frequency of inclusions
Pure Marl	White	No coarse inclusions, very few inclusions; pure source
Sandy Marl	Brownish /reddish white	High frequency of sandy inclusions

Table 1: Clay fabrics summarised. After Avies 2010.

Analysis of the clay revealed that assigning a clay type is not as straightforward as the clear description of the different clay fabrics may suggest. There is a significant range of clays that do not neatly fit into any single category. Clays were mixed as they were sourced and perhaps also intentionally as part of the production process, although this is hard to ascertain with any amount of certainty. Doherty (2017: 52) states that there seem to be no rules when it comes to selecting clay types for figurines and, therefore, the clay itself likely did not confer any special properties. However, as will be demonstrated below, that is not necessarily the case when also considering the use of clay compared to different figurine types as well as different types of use wear.

Methodology and Theoretical Embedding

The theoretical and interpretative framework used to analyse figurines follows from the premise that: 'all activities, from selecting and gathering of raw materials to the making, use and deposition of figurines, represent a set of choices and processes, embedded in a particular social world' (Nakamura & Meskell 2013: 202-203). Figurines are thus analysed as a process and every step in this process is deemed equally important and furthermore these steps are at times hard to disentangle. For example, through use a figurine can be changed (use polish, breaking, exposing to fire) and as such the process of 'making' is continuous.

A second premise is that the making of figurines is a part of any society's technological system and that technological actions are informed by both functional as well as social/cultural considerations. Understanding practical knowledge starts by incorporating the social situatedness of the individual. Furthermore, knowledge systems, at a community level, are shared, manipulated, restricted and reproduced within society (Kohring 2012: 107). The key to understanding choices in production techniques must, therefore, be sought first in the socially learnt knowledge of what makes an efficacious object.

To get to a more emic appreciation of how people understood materials, efficacy and skill craft theory is employed. Through craft theory, we can better understand materials, interaction with materials, and the process of making from the point of view of the people under study. The basis of contemporary craft research is on what Dobres (2010: 109) describes as an '*ontological perspective on ancient technology… [that] specifically highlights the centrality of the (prehistoric) agent's body in all 'things' technical*'.

As an analytical tool, the *chaîne opératoire* approach will be used, first introduced in archaeology to systematically record all the steps in stone tool production (cf. Soressi & Geneste 2011). In the absence of a reductive productive process for figurines (contra stone technologies), the main difference in the figurine's *chaîne opératoire* consists of the markings left on the object through each stage in its life-history. Whilst it is the aim of the *chaîne opératoire* approach to identify the complete sequence of modifications that form a figurine's life-history, we excavate the final stage of the life-history of a figurine – its eventual deposition or discard.

As a complete reconstruction of the *chaîne opératoire* for figurines is not possible, this project follows Kuijpers (2018) by employing a sensory approach to the *chaîne opératoire*. This sensory approach entails formulating perceptive categories, or those aspects of the material(s) that are recognisable and (possibly) relevant to craftspeople and elements that reflect choices made during the production process. In practice this entails differentiating steps in craft work and then try to understand the possible decisions made at each step, and how skill is incorporated into those decisions. This analysis relies on a more emic sensory understanding of how a craftsperson interacts with materials, and how his or her technical decisions were informed by both discursive and non-discursive knowledge (Kuijpers 2014: 28). As an example one

can think of the material properties of the different types of clay used to make figurines. From a technological point of few the more pure, easy-to-work clay types are the 'logical' choice for making figurines. However, there might be other properties that are deemed desirable, such as a certain colour or texture.

Although we, empirically, cannot derive the definite function and meaning or experience material culture as originally intended (Hurcombe 2007: 539), we can still make informed inferences on who engaged with figurines and how. Through a systematic study of different aspects of materiality, it is possible to think through material properties and choices made throughout the life biographies of objects. This evidence is recorded in the figurines in their materiality, production, use wear and how and where they were eventually deposited.

Analysis

In this case study the aspects of the material(s) and elements that reflect choices made during the production process have been identified as:

- clay fabric
- way of shaping, e.g. made from a single piece of clay or with applied elements
- way of shaping, e.g. hand-modelled or were tools used
- level of smoothing
- additional surface treatment (painted or slip layer)
- heat exposure

With these elements, the production process of figurines will be systematically recorded to whatever extent possible with the available information. Because this methodology focuses on how ancient craftspeople understood materials and allows for the incorporation of all the senses, it is well-suited to answer the research questions that focus on processes, socially and technologically embedded knowledge, and intrinsic qualities that make figurines efficacious objects. These elements will be discussed in turn for the zoomorphic and abbreviated figurines.

Clay Fabrics

Most of the figurines are made from three types of clay, namely black organic (N=29), marl (N=84) and, constituting the overwhelming majority, lower alluvial (N=235). The remaining few figurines are made from upper alluvial clay (N=4), brown silt (N=1) and midden clay (N=1) (Fig. 9). Here, midden clay refers to clay likely gathered from middens based on the anthropogenic inclusions such as charcoal.

There are two figurines that are clearly made of a mixture of different types of clay; one is a mix of lower alluvial and black organic clay, the other a mix of lower alluvial and marl. There are likely more figurines that made of a mix of clays. In all instances mixing of clay is most probably incidental, as lower alluvial clays overlay beds of black organic and marl clays. There are, however, seven examples where there seems to be an intentional use of two different types of clay to make a figurine. In all these cases sandy marl was used to create an outer slip layer over a core of lower alluvial clay. In these instances, it was clearly visible that the sandy marl was only present as a thin outer layer, sometimes partly eroded away (Fig. 10). This intentional use of sandy marl as an outer layer provides strong evidence for an intentional selection of clay for some of the figurines. The use of sandy marl likely indicates that this type of clay had properties that were appealing. It is possible the orange to red colour was visually appealing and/or the sandy texture was a desirable tactile quality.

Figure 10: Figurines with sandy marl slip layer. Top row: 15400.X1, 16093.H1, 16534.H2. Middle row: 14997.X1, 15605.H1. Bottom row: 15694.X1, 3098.H1 Photos by L. Meskell and author, courtesy of the Çatalhöyük Research Project.

Besides these few instances of intentional selection the use of clay seems otherwise quite unrestricted. There are no clear patterns discernible. Types of clay do not seem to link to figurine types, although we can note that black organic clay is used more in zoomorphic figurines, specifically quadrupeds, than in horn fragments and abbreviated forms. This is perhaps due to the rather lumpy texture of the clay which makes any detailed shaping rather difficult. Looking at the textures of the fabrics, most often the fabrics are fine to medium. The coarser fabrics are found mostly in the black organic clays and the lower alluvial clays and these clays also have more organic inclusions as well as an increased amount of inclusions. Most of the coarser fabrics in this dataset are used for quadrupeds.

The focus here is on those inclusions visible to the naked eye – as these are also the inclusions visible to the people making figurines. The data on inclusions has been recorded by the Çatalhöyük team and supplemented by the author during the two site visits. The inclusions have been recorded as an amount (rare to common), size (small to large). Classification is not an exact science and dependent on the various recorders' own interpretation and experience. However, this systematic recording of these clay characteristics does give a good indication of general patterns.

There is a large variety of inclusions; all clay fabrics have visible inclusions, only lower alluvial and marl show no inclusions in a few examples. For all types of clay, inclusions are mostly small to medium. Even the black organic clay never contains very large inclusions, although, together with lower alluvial clay, it does have more inclusions in the medium/large range. Marl clays only have fine inclusions. Similarly, the amount of inclusions increases in these two types of clay, while in marl more often they are quite rare. The types of inclusions are most varied in the black organic and lower alluvial clays again. Marl clays, the sandy marls in particular, have inclusions of minerals, sand, gypsum and pebbles. Organic material is found in marl clays, perhaps from mixing with lower alluvial or black organic clays. Likewise, there is some mixing of lower alluvial clays with marl, evidenced by the frequent presence of marl inclusions in lower alluvial clays.

If we look at the types of inclusions compared to figurine types, quadruped figurines show a wider range of inclusions and tend to have more and larger inclusions. Horns are made of fine clays with fewer and smaller inclusions and the same applies to abbreviated figurines. It is possible that the small(er) size of these figurines and elements of figurines necessitated the use of finer textured clays which was intentionally chosen by figurine makers (see also findings made by Meskell and Nakamura 2005; Nakamura and Meskell 2013).

It is unlikely that people added inclusions to the clays as a form of temper. The inclusions are all naturally occurring – except for bone and plaster that seem to indicate some mixing with midden materials perhaps, or post-depositional additions to the outer fabric from being in middens. Similarly, there is no evidence that people removed inclusions from the clay. It is possible that large inclusions were picked out, but the fabrics show the presence of pebbles and the impressions of organic material

on the outer surface of figurines indicating that there are instances where people likely saw the inclusions but did not consider it relevant to remove them.

Ways of Shaping

When considering shaping techniques of figurines, the focus is on two aspects. First, whether figurines are composite pieces or made from a single piece of clay. Second, whether tools were used to make figurines. Assessing these two elements of the *chaîne opératoire* is not straightforward. In part, identification depends on the level of smoothing which can remove evidence of the shaping method. Therefore, one can positively identify applied pieces, but lack of evidence does not necessarily mean elements were not applied separately. Applied pieces can be identified by looking for seams at the ends of these applied elements where the elements have not been properly smoothed into the main piece. When fractured, the fractured areas of applied elements are usually telling. They are slightly concave and very smooth, sometimes with a lip of clay around the edge from where the applied element was smoothed into the larger piece.

Tool use is defined as any tool used to create the shape of the figurine or used to create the surface finish. This requires drawing a, perhaps artificial, boundary between production and use and categorising performed actions as either one or the other. Here the use of an implement to create a dowel hole or punctured/incised eyes, for example, is recorded as tool use. In contrast the use of an implement used to gouge or puncture the object is considered as a type of use wear. Although, as stated earlier, the distinction between production and use is at times difficult to make.

In this dataset zoomorphic figurines are the only type that are sometimes composite pieces, applied elements being legs, horns, ears and tails. Ears are the elements that are most easily identified as being applied elements. They are pressed against the sides of the head or horns and are often only roughly smoothed into the main piece. Likely the small size of ears makes it more difficult to pinch them out from the main piece and likewise makes it difficult to smooth them properly into the main piece. Alternatively, the goal might have been simply to attach them, while smoothing was not a concern. With larger pieces such as horns and legs, smoothing is more

important to fully integrate them into the figurine body and in order to properly secure them.

Horns, and legs are less frequently applied, although it is also more difficult to ascertain whether they were or not. There is only one instance where it could be confidently ascertained that a leg has been applied; 12971.H7. The right rear leg appears to have been a separate piece of clay rolled and modelled onto the main body and folded inside with a few bits of clay applied to the surface perhaps to further secure it. In twelve other cases, the fractured area for a leg is concave and smooth, sometimes with a small lip of clay around it, which could possibly mean a leg was attached. In most cases, however, legs seem to be moulded/pinched out of the main body. Tails are sometimes applied elements but are generally quite well integrated into the body. Folded triangular tails are sometimes applied or pinched out of the back of the figurine, sometimes some clay is scraped from under the tail and then used to make the tail. Cone-shapes tails are sometimes placed onto a flat bottom and clay smoothed and scraped all around it.

Tool use is recorded in both quadrupeds and abbreviated forms. The percentage is low, 12% and 10% respectively. Tool use is mostly related to shaping and smoothing. At times, some sort of comb-like implement was used to scrape clay, creating markings with parallel striations. Sometimes a flat instrument was used to smooth clay creating facets with clear and sharp lines which distinguishes this tool use from smoothing/shaping with fingers. Burnishing is recorded on two figurines, 16247.H1 (Fig. 11, no 4), a zoomorphic head and 15437.X2 (Fig. 11, no 9), an abbreviated head on divided base.

Figure 11: Figurines showing (possible tool use) Top row: 13188.X11 (incised checkerboard pattern), 1000.H1 (flat implement seen pressed into object), 12946.H12 (scraping/smoothing around tail), 16247.H1 (burnish). Bottom row: 19205.X1 (muzzle shaped on round implement), 3740.X3 (scrape mark on belly), 999999.H229 (incised mouth), 999999.H269 (scraping/shaping snout, note attached ear) and 15437.X2 (burnish). Photographs by author, courtesy of the Çatalhöyük Research Project.

Sometimes body parts and facial features were delineated by incising with a thin implement. In one instance, 13188.X11, the flank of a quadruped was incised with a checkerboard pattern (Fig. 11 no 1). Arguably this could be classified as use-related wear traces as well. Use wear on zoomorphic figurines (see below) quite often involves puncturing, gouging and incising. In this way this incising might be seen as being a related activity. However, these actions on figurines appear more random and certainly not as precise as the incising of this checkerboard pattern. Thus, the choice was made to classify it as part of the production of the figurine.

Level of Smoothing

Most of the figurines have been smoothed to some level by hand. The level of smoothing has been recorded on a scale ranging from rough to polished/burnished and the term 'unfinished' is used for figurines that seem to have been abandoned somewhere in the production process. The level of smoothing is assessed by how well unevenness in the clay surface has been smoothed away along with any seams

and moulding marks related to the shaping process. As established, a tool was sometimes used, but most figurines were smoothed by hand.

Smoothing can be used as a proxy to assess how much effort and time was taken to make a figurine; however, the level of smoothing is in part also related to the clay used. The upper alluvial clays and marl, with high clay content and low frequency of inclusions, lend themselves to be easily smoothed as opposed to the low lower alluvial clays and black organic clays (cf. Meskell and Nakamura 2013). This fact is reflected in this dataset where the coarser black organic clay figurines where 62% are rough and roughly smoothed versus 38% which are smoothed and well smoothed (N=18/11). In contrast, for lower alluvial clay this is 32% which are rough and roughly smoothed versus 68% which are smoothed to well smoothed. Marl figurines are even more frequently well smoothed: 24% versus 75%.

Overall abbreviated figurines and horn fragments are proportionally better smoothed, however there is variability within all figurine types (Fig. 12).

Figure 12: Zoomorphic figurines made of black organic (top row, 14186.H3 and 14183.H5), marl (middle row, 1346.X1 and 5575.H3) and lower alluvial clay (bottom row, 14183.X13 and 19205.X1), showing different levels of smoothing. Photos by L. Meskell and author, courtesy of the Çatalhöyük Research Project.

Additional Surface Treatment

Additional surface treatment is defined as adding slip and/or paint to the surface of figurines. As established in the section on clay fabrics there are examples of a (sandy) marl slip being applied in seven cases. There are an additional five figurines that possibly have paint or slip. Two quadrupeds have possible paint, 13103.X11 was

potentially treated with red pigment and 14183.H8 possibly has black paint/pigment along its spine (Fig. 13, nos 1 and 2). A straight horn fragment tentatively has slip applied as part of it is covered in a whitish layer.

Figure 13: Figurines with possible slip and/or paint. Top row: 14183.H8 and 13103.X11. Bottom row: 16756.H2. Photos by L. Meskell and author, courtesy of the Çatalhöyük Research Project.

Two abbreviated forms have additional surface treatment in the form of paint, 18641.X3 has traces of red pigment (not included in Fig. 13 as no good photograph was available). Finally, 16756.H2 (Fig. 13, no 3), a head on divided base, seems to have a slip layer with additional red pigment on its base. The difficulty with securely identifying intentional paint on figurines lies in the post-depositional staining that can occur. There are examples in the larger Çatalhöyük dataset that can securely said to be painted with patterns of dots and lines. These four examples have no such clear patterns and therefore it is not certain they are painted or stained after deposition.

Heat Exposure

The final element discussed in the *chaîne opératoire* related to production is heat exposure. Heat exposure has been recorded as unbaked, baked, burnt and indeterminate. A further distinction can be made between even and uneven heat exposure. Heat exposure is difficult to assess due to post-depositional staining and discolouring of clay after deposition and therefore the firing of many of the figurines is noted as indeterminate (Avies 2010; see also Meskell & Nakamura 2013).

It is clear, however, that the figurines were not fired at pottery-making temperatures and seem to have been either sun-baked, or lightly baked from heat exposure from hearths or ovens or by burning in middens (Meskell *et al.* 2008: 141). Heat exposure, so far, has been interpreted as being largely unintentional and secondary. Part of the aim of the larger research project is to establish whether this interpretation holds when looking at the entire corpus by trying to find patterns in heat exposure as being either part of the production process, or perhaps part of the use of figurines – in short, to find intentionality behind exposing figurines to fire. One interesting avenue of research when looking at fire exposure is the change in colour fire exposure can effect in figurines. Especially marls and sandy marls can turn quite pink or orange/red through firing creating a striking colour (Fig. 14). Whilst not discussed in depth here, colour is an interesting, yet under-studied aspect in figurine studies.

Figure 14: Above: figurines with reddish hue due to heat exposure; Top row: 8877.X1, 14719.X1, 16039.H2. Bottom row: 14191.H2, 999999.H252, 15400.H1. Below: range of quadrupeds showing different clay colours. Photos by J. Quinlan, L. Meskell and author, courtesy of the Çatalhöyük Research Project.

The corpus analysed in this case study conforms to observations made by Meskell *et al.* (2008). Many figurines showing signs of being lightly baked and sometimes burnt. However, there do not seem to be any clear patterns either when correlating fire exposure to clay type or figurine types (Table 2).

Clay type/ heat exposure	***Unbaked***		***Baked***		***Burnt***		***Indeterminate***		***Unknown***	
Black organic	1	3.4%	13	44.8%	3	10.3%	12	41.4%		
Lower alluvial	22	9.4%	108	46%	21	8.9%	82	34.9%	2	0.8%
Marl	4	4.8%	46	54.8%	5	6%	28	33.3%	1	1.2%
Mixture			1	50%			1	50%		
Upper alluvial	1	25%	1	25%			1	50%		
Brown silt			1	100%						
Midden clay			1	100%						

Zoomorphic type/heat exposure	***Unbaked***		***Baked***		***Burnt***		***Indeterminate***		***Unknown***	
Zoomorphic	22	7.2%	147	48.2%	25	8.2%	108	35.4%	3	1%
Quadruped	17	9.4%	83	46%	16	8.8%	63	34.8%	2	1.1%
Bucranium			4	66.7%	1	17%	1	16.7%		
Leg			4	26.7%	2	13.3%	9	60%		
Horn/leg			3	42.9%			4	57.1%		
Horn	5	5.3%	52	55%	6	6.3%	31	32.6%	1	1.1%
Ear			1	100%						

Abbreviated type/heat exposure	***Unbaked***		***Baked***		***Burnt***		***Indeterminate***		***Unknown***	
Abbreviated	6	11.8%	24	47.1%	4	7.8%	17	33.3%		
Head on base			7	58.3%			5	42%		
Divided base	3	9.7%	14	45.2%	3	9.7%	11	35.5%		
Conical	3	60%	2	40%						
Head fragment			1	33.3%	1	33.3%	1	33.3%		

Table 2: Figurines and exposure to fire

Use Wear Traces

Use wear is analysed by examining markings on figurines that are not related to the shaping process. These wear traces were made through macroscopic observations either by the author or as recorded in the database by other members of the

Çatalhöyük figurine team. Making the distinction between traces related to the shaping process and those created through use is not always straightforward. With this consideration in mind this section deals with a selection of the wear patterns found on figurines. Here the focus is on those types of use wear that are securely identifiable as not being part of the actual shaping process. These traces are gouge marks, puncture marks, and intentional breakage/deforming.

Puncture and gouge marks and intentional breakage/deformation

Puncture marks are recorded a total of 54 times, almost exclusively on zoomorphic figurines (N=54) and twice on abbreviated figurines, both 'head on divided base' type. On the zoomorphic figurines the punctures are mostly located on quadruped body and/or head fragments (N=50). The amount as well as the placing of punctures vary, ranging from one puncture mark to 21 one a single figurine. This high number is an outlier however and most figurines have an average of one to four puncture marks. They are located mostly on the neck and flanks of the animal (Fig. 15). Interestingly, where there was not much correlation seen in clay types and the different steps in the production process, there is a strong correlation between clay types and the presence of puncture marks.

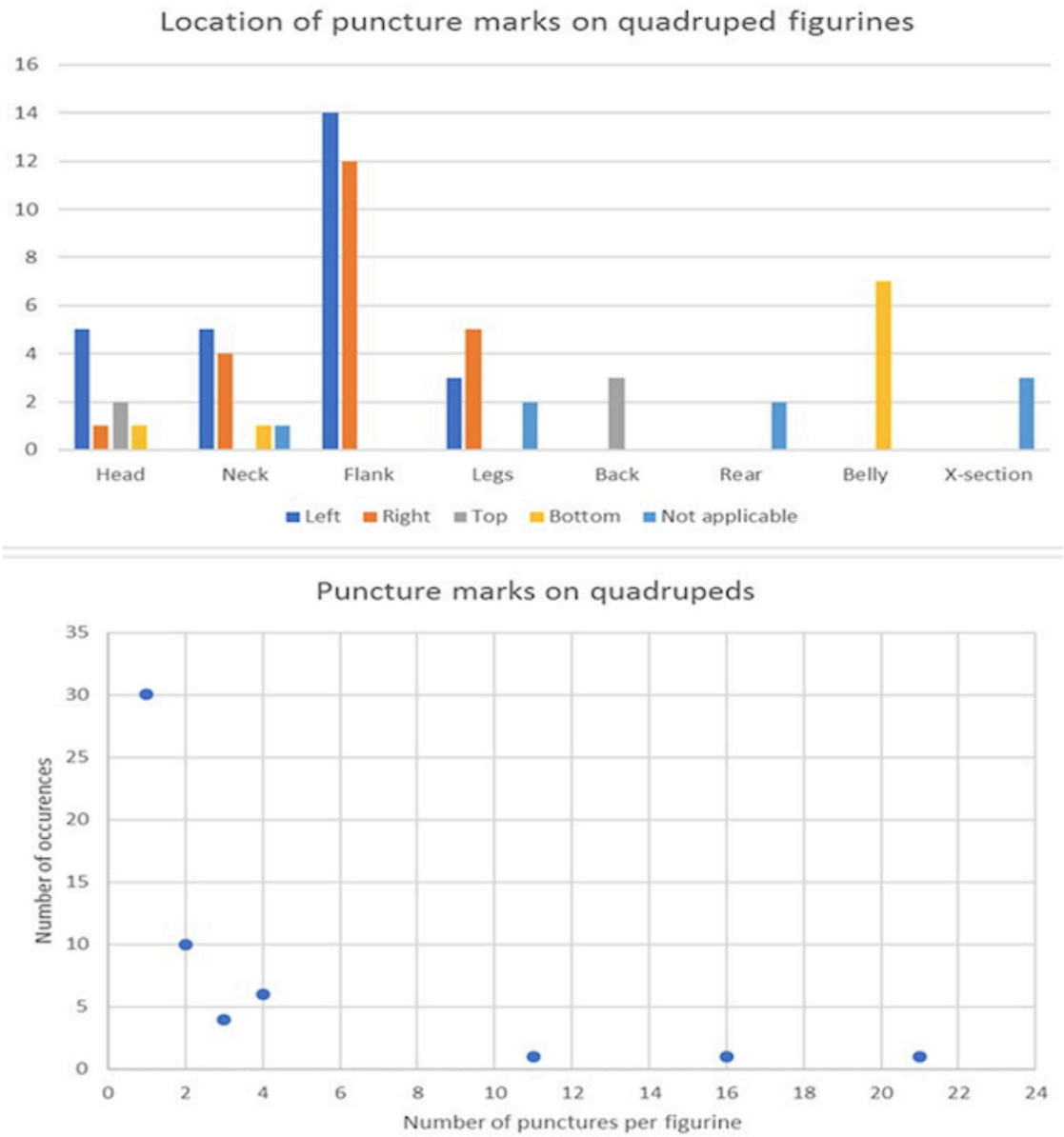

Figure 15: Puncture marks on zoomorphic figurines

It has to be noted that the punctures, gouges and also pulling apart of figurines often seem to have taken place not long after making the figurines as the clay was still very plastic and malleable (cf. Meskell & Nakamura 2013).

Focussing on the quadrupeds, over half of the figurines made of black organic clay has puncture marks. For lower alluvial and marl clays the percentage is considerably lower. Puncture marks are sometimes related to the presence of gouge marks (N=13 and N=1 for the quadrupeds and head on divided base respectively). Gouge marks

occur 35 times, all but one (head on divided base) occurrences are on quadruped figurines. Gouge marks are deep grooves in the clay and they sometimes appear to have been made with the intent of breaking, or pulling apart, elements of a figurine. The number of gouges per figurine are low, one to three gouges only on a single figurine, and they occur often on the neck area. In nine instances they are visible in the fractured x-section of necks, legs and bodies. This 'damaging' of figurines is only observed in quadrupeds, the one head on divided base figurine is a complete outlier in this respect. This one example has a puncture on its back, and a gouge mark at its head, which likely caused the head to break.

Unlike puncture marks, gouges do not correlate as strongly to clay types. Sometimes intentional damage is not related to any clear markings; clay can be seen to have been pinched and pulled or figurines look like they were flattened and deformed. There are 27 clear instances of quadrupeds being intentionally broken or deformed, 16 of these coincide with the presence of gouge marks. Intentional breakage most often involves removing the head (N=6), but also breaking the body in half (N=5). Flattening and deforming (N=13) is the most common where a figurine seems to have been pushed onto a flat surface (or hand) leaving one side completely flat, or parts of the figurines – legs, horns- have been deformed. This intentional damaging of figurines, again, seems to correlate with clay type quite closely, with 38% of black organic figurines (N=8) showing evidence for this, much higher than for the other clay types.

Conclusions

In the introduction it was argued that, in order to understand figurines, we need to analyse figurines as a process, where production, use and deposition are all integral parts in figurine practices which are embedded in a particular social world (cf. Nakamura and Meskell 2013).

The analysis focussed on the material properties, choices made in the production process and a selection of use wear. The different choices in the production process were discussed and patterns within and between figurine types were revealed. Here

the analysis will be used to reflect on what new insights a focus on figurines as a process can offer.

Initial observations reveal that visual typology is not necessarily significant when looking at the production process, more particularly to choosing a type of clay or level of smoothing. There seems to be a lot of variation within types. However, the way abbreviated figurines are made does seem to be more standardised. They are simpler shapes with a small number of elements making up a shape, whilst zoomorphic figurines are made up of a larger range of elements, even more so when the 'optional' elements are represented (e.g. tail, ears, horns). Because of this zoomorphic figurines are more complex objects to make and therefore they are often composite pieces and tools needed to be employed in helping shape and smooth pieces into a whole.

Where the variation becomes very apparent, is in the way figurines are subsequently used or treated. The use wear analysed in this case study, punctures, gouges and intentional deformation are all (almost) exclusively related to quadruped figurines. Now, this intentional damaging of zoomorphic figurines has been observed at other sites and indeed earlier work at Çatalhöyük mentions it as well (cf. Freikman & Garfinkel 2009; Meskell & Nakamura 2013; Orelle & Kolska; Horwitz 2018), so it might not seem a novel or surprising observation.

However, there also seems to be a link between black organic clay and these markings. Whilst black organic clay is not necessarily linked to making quadrupeds, the choice for this clay seems to have a connection to how a figurine is subsequently treated. It will be interesting to see if this trend continues when all the figurines from the site are analysed and if other patterns between clay fabric and particular types of treatment become apparent. Of course, in the larger project more types of figurines will be analysed, and contextual information will be included to complete the life biographies, and patterns might be found there as well.

It is very interesting to note that there might already be evidence that certain types of clay are intentionally selected as we see with the black organic clay figurines and the examples with a sandy marl slip layer. When there is a range of clays available and there is a choice to use clay that is less suitable – that is, from a techno-functional

point of view – than there might be qualities of the material that are deemed suitable for other reasons and social factors may have been the main drivers.

Furthermore, although a range of clays is used with different properties, all the clays tend towards having finer inclusions even though the low lower alluvial clays and black organic clays in general have more and coarser inclusions. In the figurines analysed, these types of clay do not seem to show this and perhaps some treatment was performed on the clays, even if just picking out larger inclusions by hand. As there is information about inclusions for most of the figurines from Çatalhöyük this assumption can be quite securely assessed for a large sample of the dataset.

From these observations I would offer three preliminary conclusions. Firstly, there are no clear patterns that point to a generalised way to make a figurine, there is much variation. We might explore this variety as individualism expressed in figurine making (following Meskell and Nakamura 2013) and perhaps a certain way of making them that is learned and handed down, as for example the way certain elements are made (tails and legs in particular). There seems to be a communal repertoire within which there seems to have been room for individual expression. Alternatively (or complementary), we might also explore figurines as situational items; with a figurine made in a certain way depending on the needs in a certain situation. As a consequence, qualities that were deemed to be important could vary, perhaps based on what type of engagement one was intending to have with a figurine. In all cases however, the properties of clay are important. More than just being readily available and easy to shape, figurines were often acted upon and manipulated upon in a way that was afforded *only* by the properties of clay.

Secondly, I posit here that from this initial study there is enough evidence to claim that in some cases we need to reconceptualise figurine categories. As this case study demonstrated, the ways people engaged with zoomorphic figurines varied greatly. When looking at the more generic zoomorphic figurines – often made of black organic clay – we observe that figurines were shaped then immediately, or shortly after punctured and deformed (and possibly discarded thereafter). This is in sharp contrast to the engagement with other zoomorphic figurines that were made with more time investment, where they used tools and carefully smoothed the figurine.

To the people engaging with these figurines, they might well have represented very different categories of objects.

Thirdly, and finally, all the observations offered in this paper highlight the importance of analysing figurines as a process to better understand figurines as socially efficacious items. One cannot engage with 'meaning' without understanding the full life biography of figurines. Furthermore, the evidence presented here shows the importance of making and acting upon figurines and the different 'steps' in life biographies are often difficult to disentangle and therefore the only way to interpret figurines is by analysing them as a process.

As stated earlier, getting to any original 'meaning' or experiencing material culture as it was in the past is extremely difficult – if not impossible. However, by a systematic analysis of life biographies, patterns can be observed and informed arguments can be made. Furthermore, by employing such an analysis on complete datasets from various sites we can start to truly understand and appreciate the complex and varied nature of figurine processes which have been attested at so many sites throughout the Neolithic Near East.

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