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Doğu Çatalhöyük”teki Kil Objeler

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Çatalhöyük 2016 Archive Report

by members of the Çatalhöyük Research Project





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(Cover image by Jason Quinlan)
(Red hand logo designed by Ian Kirkpatrick)

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Chapter 16

Geometric Clay Objects

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Introduction

Small, geometric-shaped “clay objects”

Artifacts studied under the umbrella of “geometric clay objects” include two of Çatalhöyük’s small find artifact classifications: small, geometric-shaped clay objects, henceforth “clay objects” (Bennison-Chapman 2013, 2015) and the larger, more homogenous large clay balls (previously interpreted as cooking balls: Atalay 1999, 2000, 2001, 2005, 2009, 2012, 2013; Atalay and Hastorf 2006), henceforth “clay balls”. Çatalhöyük’s small, geometric-shaped clay objects (often referred to as “tokens”) have been extensively studied as part of ongoing research into their role, distribution and function within Neolithic West Asia (Fig. 1). Clay objects as an artifact category, defined and described extensively elsewhere (Bennison-Chapman 2013, 2014), consists of intentionally crafted clay (and comparable stone examples) artifacts measuring an average of 2cm maximum dimension, overwhelmingly weighing less than 6g; present in a range of three-dimensional shapes such as spheres, discs, cones and cylinders. Çatalhöyük’s clay artifacts and clay materials have been thoroughly surveyed, with almost all known examples of clay objects from the site extensively studied from 2009 onwards. At the end of 2016 season, a total of 1,360 small, geometric clay objects have been individually studied and recorded from Çatalhöyük East (Bennison-Chapman 2013, 2014).



Figure 1. Example of small, geometric “Clay Objects” recovered from Çatalhöyük East (studied in 2015).

Large “clay balls”

Çatalhöyük’s clay balls were the subject of a research project by Ass. Prof. Sonya Atalay (University of Massachusetts Amherst), completed in 2009. A new phase of clay ball study commenced last year, with objects excavated from 2015 onwards subject to renewed detailed recording and study. In 2015, a total of 381 large clay balls (or fragments thereof) were studied.

During the 2016 season, clay balls, as an artifact category were the focus of research. Clay balls are far more homogenous than the smaller clay objects. Though largely present as fragments, they are immediately recognizable due to their large size, which tends to range from 7.00cm-10.00cm diameter. Çatalhöyük’s clay balls are crafted from a fine, highly compacted clay, with few visible inclusions. They have an extremely smooth outer surface, which often exhibits shallow fingertip depressions from manufacture, and can appear burnished in appearance. In weight, they are dense, with a small fragment weighting significantly more than a small geometric clay object or clay figurine of a comparable size. As their name suggests, the objects are spheres, and their shape is extremely regular and uniform. This season, some exceptions to the above characteristics were recovered, yet these objects were classified as and therefore recorded along with the large clay balls for lack of an alternative classification. The aims of the renewed study of the large clay balls was to reconsider the cooking function of these objects, and also study their overall distribution within and across the site, looking at broad temporal patterning, as well as their immediate context, fragmentation patterning, post fragmentation burning and wear patterning, to consider alternative interpretative functions, including secondary functions of clay ball fragments.

Recording stages and phases

Both the small clay objects and large clay balls are initially identified and registered on the Finds Register when recovered, constituting stage 1 of the recording process. Up until the 2016 season, both sets of artifacts were then recorded in detail, with many varied aspects of form, appearance, manufacture and wear studied. With the number of objects, large clay balls in particular increasing dramatically during the long 2016 season, it was decided to introduce a two tiered recording system, similar to that of the pottery and other teams. For both object categories, basic recording was carried out at a “level 1”: recording the total number of clay ball fragments per unit, with the total unit weigh (objects were not individually assigned numbers). Select units were then selected to be studied fully, as per the 2015 strategy, receiving individual numerical identifiers. The large clay balls were prioritized in the 2016, due to the sheer quantities being recovered, and the fact that this second phase of their study only began in 2015. This combined with the early closure of the site meant that a very small number of clay objects were recorded during the 2016 season, and none of the objects were photographed for publication.

The geometric clay object assemblage

Small geometric clay objects: 2016 season summary

100% of incoming clay materials (aside from that of the last three days of excavation pre closure) were assessed and sorted according to artifact category, with all artifacts falling into the classification of clay objects registered on the Finds Register, ready to be studied. Objects from a total of 11 units, totaling 41 pieces were further recorded at level 1. An additional 100 clay objects were fully, individually studied at level 2, a total of 133 artifacts within the classification of clay objects (Table 1).

GEOMETRIC CLAY ARTEFACT TYPE	DETAILED STUDY (I)	BASIC RECORD (II)	TOTAL RECORD COUNT
(Small) Clay Object	100	11	111
(Large) Clay Ball	628	127	755
Both combined	728	138	866

Table 1. Detail of the geometric clay objects registered, recorded (level 1) and studied individually in full (level 2) during the 2016 excavation season.

Clay balls: 2016 season summary

Large clay balls were overwhelmingly the most numerous find during the 2016 excavation season. During the final three days of excavation alone, two full crates of large clay balls (mostly fragments) were excavated from two buildings during the closure of the South Area. The aim of the season was to record all clay balls, from all areas fully (at level 2), yet it soon became clear this was an impossible task. The research strategy soon changed to incorporate a two level recording system (as described above), with all clay balls from Priority Units to be recorded at level 2. However, this strategy did little to reduce the work-flow, therefore, the decision was made to only record those objects from Priority Units.

A total of 628 large clay balls (or fragments thereof) were individually studied in detail during the 2016 season. A further 127 objects were recorded at a basic level (level 1) (Table 1). This season's study primarily covers clay balls excavated during 2016, but also some excavated during the 2015 season. In addition, 60 objects were registered and assigned as individual finds and database number, yet the full (level 2) analysis was unable to be undertaken due to early site closure. As was photography for all clay balls and clay objects during the 2016 season.

Clay balls: assemblage character

The overwhelming majority of 2016 studied clay balls were fragments. Just 13 (2.7%) were complete artifacts, with a further eight examples near complete (exhibiting a small chip or damaged portion of the outer surface (Fig. 2). Despite the high level and degree of clay ball fragmentation, the distinctive smooth outer surface, and large overall object size make even fragments of Clay objects extremely easy to recognize (Fig. 3). Almost all are fragments of carefully crafted spheres, yet this season a few exceptions to the dominant objects shape occurred (Fig. 4). Constituting less than 1% of the 2016 clay ball assemblage, in all other aspects of manufacture and finish, the four oblique spheroids resembled the large clay balls, and this were classified along with the category. Two, perfectly regular oblique-spheroid-shaped objects were recovered, one complete (22300.m101) and a second near complete (50-74% complete), (22300.m104). Both were oval in section view, slightly thicker at the bottom part than the top, with a flattened base and upper surface. In dimensions, color, fabric and finish, both were near identical. Two further similar objects were recovered, both much further fragmented, yet very clearly resembling the shape of the two examples above ((21661.m173) and (22300.m107)). Particularly clear on the otherwise smooth outsider surface, a small proportion of clay balls have impressions in the form of "twill plaited matting" impressions, n=4 (i.e. Wendrich 2005: 336, Fig. 15.5) and coiled basketry impressions, n=8 (i.e. Wendrich 2005: 334-335, Fig. 15.3 "left") (Fig. 5).

The high level of clay ball fragmentation is reflected in the weight and maximum dimensions (diameter or part therefore) of the category. Of the 628 fully studied 2016 clay balls, weight ranges from 0.05g to 712.10g, averaging at 59.61g (Table 2). Considering the complete examples only, the average weigh rises to 328.33g, the lightest being 79.40g (a complete and perfectly shaped sphere

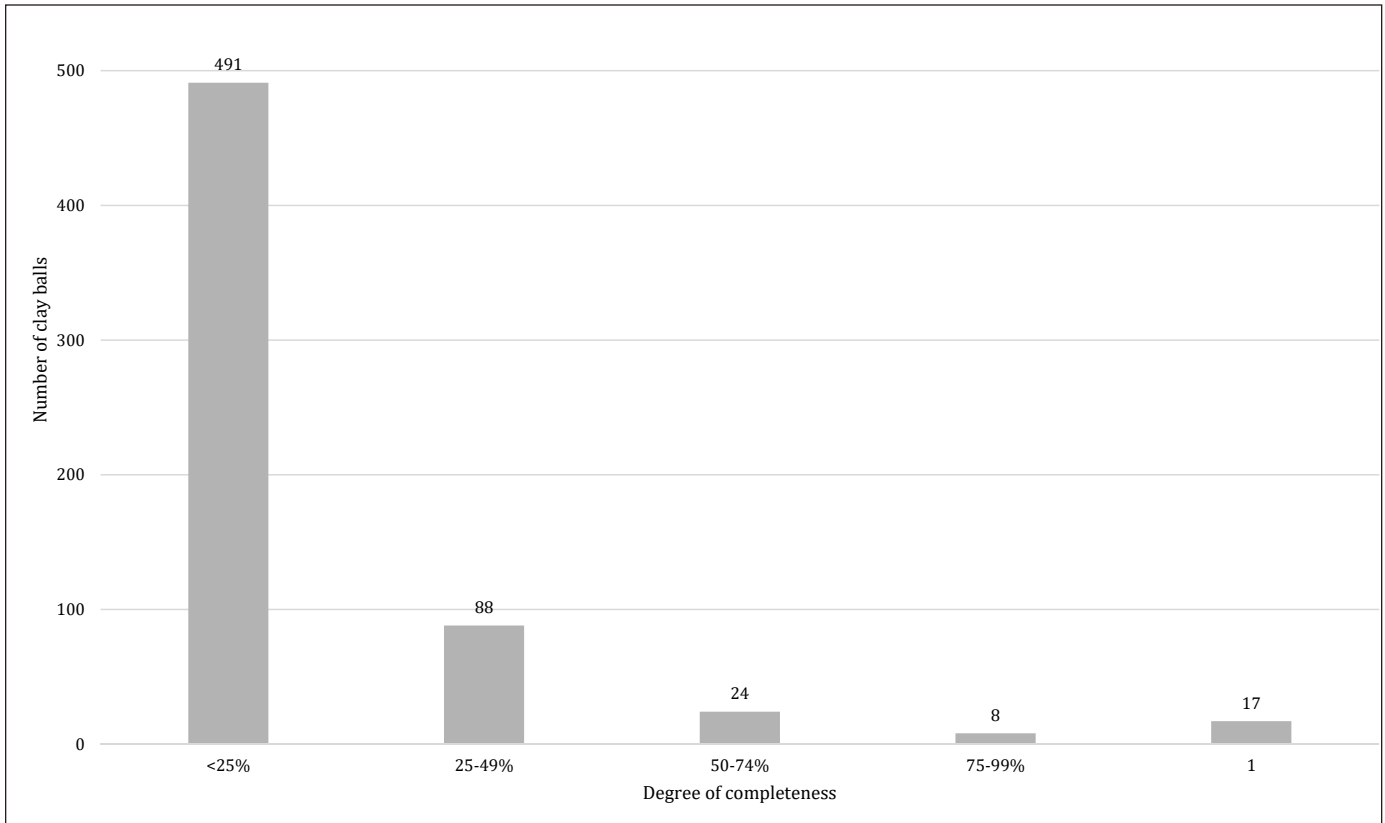


Figure 2. Object completeness in 5 tiers, of the n=628 individually and fully studied large Clay Balls in the 2016 season.

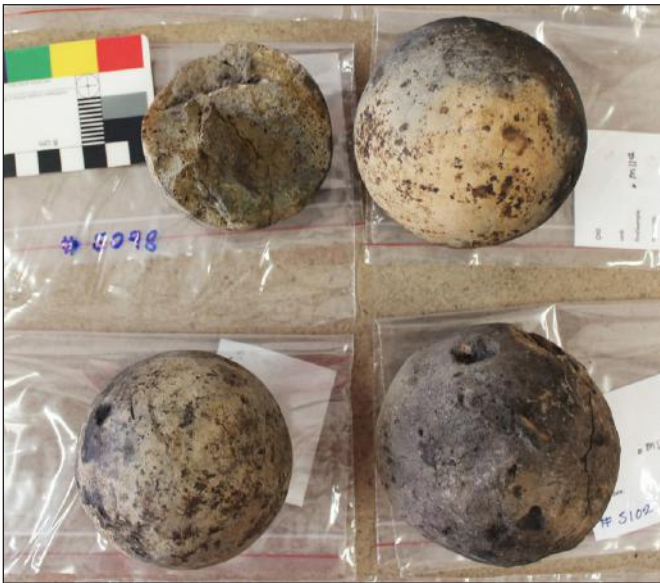


Figure 3. Example of complete nor near complete clay balls studied in the 2016 season (left to right, top to bottom: 32494.m109, 32494.m112, 32494.m110 & 32494.m113).

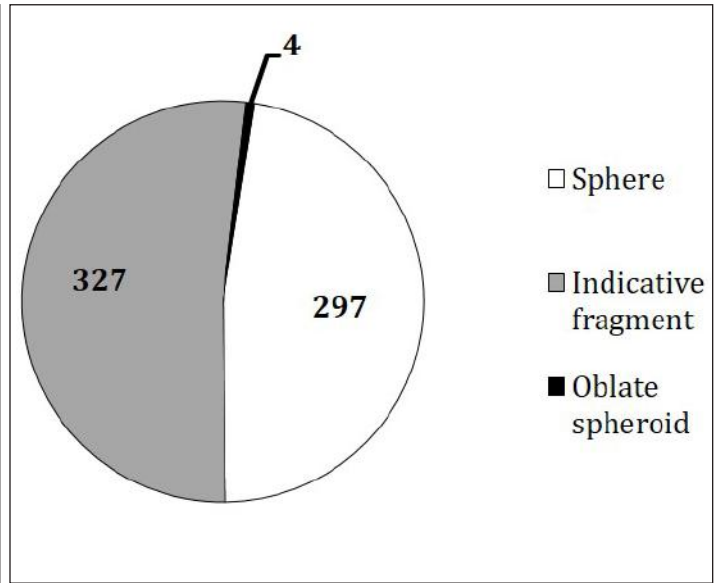


Figure 4. Shape variation seen in the 2016 studied Clay Ball assemblage. Total counts within each category are marked.

with a maximum diameter of 4.3cm). In size, the overwhelming majority of the large clay balls as the name suggests, are far larger in size than their small, geometric clay object “sphere”-shaped counterparts. Object size (maximum diameter of original outer surface finish) ranges greatly, due to the varied nature of clay object fragment size. Of the examples with a complete diameter measurement, the size ranges from 4.10-8.90cm. A complete circumference could be measured on 52 of



Figure 5. Fragment of a Clay Ball detailing impressions of twill plaited matting. Object 22351.m113 (fragment measures 6.20cm, 92.4g).

All Clay Balls (n=628)		
Range	Weight (g)	
Lightest	0.05	
Heaviest	712.10	
Average	59.61	
Weight grouping	Count	%
<10g	101	17.66
<50g	363	63.46
>100g	89	15.56
>200g	29	5.07
>500g	8	1.40
Complete Clay Balls Only (n=13)		
Lightest	79.40	
Heaviest	712.10	
Average	348.33	

Table 2. Weight range of the 2016 studied Clay Balls, all record Clay Balls and the complete examples only.

the season's clay balls. Circumference ranges from 12.00cm to 30.00cm, with an average complete circumference of 21.40cm. As with the shape classification of these objects, some exceptions with regards to size were also made, with smaller than normal objects, yet those exhibiting all of the classic, defining feature of the large clay ball objects category (in terms of manufacture, shape and surface finish), when recovered complete, were included within the category. The smaller than average clay balls are in general still significantly larger than their comparative counterparts in the small geometric clay object category (which are more crudely shaped, less well finished and less dense in feel).

A very small, yet notable proportion of clay balls had clear, intentional, decorative markings on the outer surface. Thirteen examples (2% of the 2016 studied clay balls) displayed markings, varying in form, from holes, notches and deep, seemingly intentional depressions made with the finger. One motif is found on two separate pieces: in the form of clear, deep, equally spaced, incisions in clay (as if made with a very thin piercing tool). One clay ball fragment, (31594.m103), has such markings on one



Figure 6. Clear and intentional circular holes forming a triangle shape on the surface of Clay Ball fragment 31594.m103. The face of the fragment measures 5.80 x 3.20cm. 4.30cm deep, 42.60g.

forming an equilateral triangle (Fig. 6). An identical motif is seen on complete clay ball (21661.m171). In addition to the triangle formation, the opposing side of this object displays a further, identical two holes on the otherwise very smooth surface.

Clay balls – functional interpretations and future research

One of the aims of the renewed study of the clay balls is to consider whether there is a change in their density, proportions and/or depositional practices in the earliest levels at Çatalhöyük, compared to the later levels. This question will hopefully be answered using data from the final phase of excavation (2016, 2017) at the site. All aspects of both the clay balls and smaller clay objects will continue to be studied, with the large clay balls considered for re-interpretation. Particular attention will be paid to clay ball manufacture, standardization of shape and size and weight, and the

presence of markings. Preliminary detailed analysis of object size and shape standardization suggest the creation of a very standardized and accurate spherical shape to a degree unnecessary if the main or sole purpose of these objects was to heat liquid food-stuffs. Likewise, the presence of clear, deliberate and seemingly symbolic markings on a small, yet significant number of clay balls suggests an alternative function. Finally, post-fragmentation re-use will be considered in detail, via the observation of patterning in the heavy wear of clay ball fragments, post-fragmentation burn-patterning and analysis of contextual deposition patterning according to these characteristics. The 2016 season has revealed a large number of clay ball fragments from within different construction phases of oven makeup (as seen in B.17 in the South Area).

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