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Crafting Beyond Habitual Practices: Assessing the Production of a House Urn from Iron Age Central Italy

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Author(s): Caroline Jeffra [1]

[1] Independent researcher, address withheld by the editors (GDPR), the Netherlands.

A house-shaped urn dating to the Early Iron Age from Central Italy was technologically assessed in order to establish the forming techniques necessary to produce it. This hypothesized forming sequence was then tested through the production of two experimental urns. It was found that there is a meaningful relationship between the clay texture choices, the forming techniques, and the overall morphology of the finished object. The implications of this relationship are explored based on the reality that such house urns were made

relatively rarely and that they present unique, if recognizably architectural, morphology. It is established that by assessing such unique objects, significantly greater insights can be drawn than from examinations of trends in habitually-formed ceramic objects. Unique objects such as this house urn are opportunities to view a potter's individual choices and strategies in forming, which necessarily draw on habitual practices but also require a large degree of problem-solving in order to resolve unique challenges.

> “ The experiment was conducted in order to investigate the extent to which the macroscopic assessment of forming techniques was feasible, and to determine whether further construction details could be identified.

Introduction

Assessing potting techniques can take the form of seeking assemblage-wide practices which capture the diversity of techniques and forming strategies deployed by craftspeople of a given context, or diachronically over the history of a site. This approach is well suited to addressing questions at a community or group level, and to gain insight into questions of identity. Some ceramic objects, however, are not easily categorized in the standard practices observed within an assemblage, and may represent a production event which is outside of the normal range of practice for a potter. In these cases, there is an opportunity to observe the intuitive use of a potter's habitual practices in order to meet a non-habitual challenge. It is therefore a useful exercise to examine the forming techniques employed in unique and atypical ceramic objects in order to shed new light on the practices that can be observed when assessing potting techniques at the scale of the assemblage.

Object Background

An example of an Iron Age House Urn is held in the collection of the Allard Pierson museum in Amsterdam (inventory number APM 12.000, Figure 1). This unique object is displayed alongside other Late Bronze Age/Early Iron Age material from Italy to illustrate some of the diversity of objects from these contexts. The house urn was selected for further study by the author in conjunction with a teaching initiative funded by Blended Learning, the results of which are reported elsewhere in this Journal (Jeffra, et al., in review). The urn was studied for macroscopic trace evidence of production and then reproduced experimentally to assess hypotheses of production strategies. The finished object was then donated to the Allard Pierson Museum to aid in future teaching and interpretation of the original urn.

House and hut urns are idiosyncratic funerary objects which have overwhelmingly been separated from their original archaeological contexts, having been enthusiastically sought by antiquarians and early archaeologists excavating the Alban hills east of Rome starting in 1816 (Gnade, 1994, p.237). Some 200 such objects have been recovered, almost exclusively from

Latium and Etruria, and the known examples were studied as a group in Bartoloni's well-cited volume (1987).

This particular example is in the form of a house or hut with an ovoid to rectangular footprint (20.5x18.5cm) with four convex walls (26.6x23.0cm at their maximum dimensions), and is light- to dark-brown in color, fitting within the category of ceramics called *impasto*. The vertical corners where the walls meet are each marked by a single, raised ridge projecting outward. At the point where the upper wall meets the lower roofline at the eaves, another raised ridge was added horizontally around the full circumference of the house. From this horizontal ridge, the roof extends to its peak. While the gable ends are each convex as is the case for the walls below the eaves, the roof itself transitions from gently convex in the lower half to gently concave in the upper half. The peak of the roof is marked by a slightly wider ridge which has been interpreted to resemble a ridge pole. The two ends of the peak have projections resembling an upward-oriented crescent moon (as suggested by Gnade, 1994, p.235) or horns, giving a maximum height of 30cm. When viewed from above, the peak of the roof is slightly out of alignment from paralleling the longer axis of the urn (See Figure 2). On one gable side, three vertically oriented tabs project from the wall, one in the center and the remaining two on either side of a removable door. The tabs are pierced and when the door is put in place these holes align, allowing for a narrow bar to be inserted, holding the door in place.

Macroscopic Assessment of Techniques

The urn was examined and photographed for evidence of forming-related macroscopic features. The examination was completed using the naked eye and controlled lighting conditions, as well as through handling the object itself. Controlled lighting conditions allow for a small flashlight to expose small scale details of surface topographies, which are created as a ceramic object is formed by a potter. The range of actions which can generate these surface topographies has been described extensively, in particular by Valentine Roux (2016), and form a strong foundation for assessment of potting practices. The author is an experimental archaeologist who has more than 15 years of potting practice, specifically in investigating potting technologies and strategies.

Examination of the urn showed evidence for coil-based construction based on the visible surface features as well as a consideration of the overall morphology of the urn. During the initial assessment of the urn, it was noted that the convex nature of the profile from base to eaves of the roof and through to the peak of the roof formed a fairly continuous, if sinuous, series of curves. Furthermore, the fact that the base of the urn was not strictly rectangular but instead more ovoid gives an impression that the urn was not formed of slabs meeting at the ridges, but was rather formed from bottom to top. This impression was less important for assessing the forming techniques and the forming strategy than were the macroscopic traces and the surface topography.

Closer examination of the surfaces of the urn showed several areas of interest, and it was determined that the urn was likely constructed from base to roof from coils of clay. Traces are present where two horizontal masses of clay were joined together, visible as linear crevices on some areas of the wall about 5cm from the base (See Figure 3), and then repeated first 1-2cm and then again 4cm above the horizontal ridge marking the boundary between wall and roof (See Figure 4). These traces coincide with currently-mended fractures in the ceramic body, although the evidence for breaks and the evidence for forming traces can be differentiated. It can be surmised that these fractures formed along existing lines of weakness where the two clay masses were insufficiently integrated with one another prior to firing. The base, which was not broken, also shows these linear crevices which broadly follow the curve of the outer base edge at 1.5-2cm from the base edge (See Figure 5). Additionally, by using one hand to feel the inner surface and the other hand to feel the corresponding outer surface simultaneously, it was possible to feel that these various crevices aligned with horizontally-oriented regions of thicker or thinner areas of wall thickness.

Overall, the traces observed indicated that the urn was likely formed by first creating an ovoid slab for the base, to which coils were attached to build up the height of the walls, a practice which was used for the full height of the urn. The vertical corner ridges would have been added to the walls after some wall height was reached, though it was not immediately clear how high the walls would be when ridges were applied. The horizontal ridge where the walls meet the roof profile was similarly added after the overall urn height was a few centimeters higher than its location, at a minimum. The remainder of the urn, from eaves to roof ridge, were formed and closed from the outside before the door could be created. Given the overall size of the urn and the weight of the clay, the door could not be created until the clay was sufficiently dry to avoid sagging and deformation. The tabs would have been formed, applied, and pierced before cutting the door and removing the panel in order to maintain proper alignment for the holes. Once the door was removed, the opening would allow the roof edge ridges to be applied with a hand supporting on the inside to prevent undue deformation of the roof. The ridge on the peak of the roof and its final details could also be formed at this stage. Before completely drying, the urn’s surfaces were well-smoothed and other decorative surface features were applied (for further information on these details, see Gnade, 1994, p.237).

Experiment Method

The experiment was conducted in order to investigate the extent to which the macroscopic assessment of forming techniques described above was feasible, and to determine whether further construction details could be identified. Two full-sized urns were produced, the second of which was fired (Urn B). The process for each of the two experimental urns was slightly different, and these differences largely stem from the characteristics of the clay used; although commercially-available clay was used in both cases, the first urn (Urn A) was constructed of white-firing, grogged clay (Clay A) which was hydrated sufficiently for general studio use (the clay is sold in homogenously-hydrated bags and was unaltered prior to use). The second experimental urn (Urn B) was formed of black-firing 0.5mm grogged clay (Ve-Ka K32000) which was hydrated further (Clay B), creating a more malleable and stickier consistency with diminished wet strength compared to Clay A.

The process for forming the experimental urns paralleled the process described above in the macroscopic assessment of techniques, within the performance allowances of Clay A and Clay B. Clay A had good wet strength but its plasticity was adequate, whereas Clay B had comparatively low wet strength but significantly higher plasticity. These differences meant that Clay B, although requiring interruptions to forming actions so that the clay could dry enough to increased its strength, was much better suited for use in larger and heavily-deformed coil construction. Urn B potting was recorded, and the sequences represented there were incorporated into an augmented reality app described in Jeffra, et al. (in review). These potting sequences can be viewed online (Jeffra, 2020). Each experimental urn was formed over the course of several days in order to provide drying time to the clay in between construction stages. As these were formed in multiple stages, some smoothing and finishing actions were performed throughout the process, and in general the surfaces were carefully smoothed regularly as the body of the urn became dry enough to do so. In general, the urn formed of Clay A required fewer drying periods during construction, and the urn formed of Clay B required more adjustments to the overall shape at the end of each potting phase (prior to the drying phases between the construction phases).

In each case, the base was formed as a slab and smoothed out onto a plywood support. Coils were created by rolling a mass of clay between two hands and allowing the weight of gravity to pull the mass of clay down through the pressure of the hands. Coils were applied to the inner face of the growing walls. Once applied, the coil was pushed into and down the inner wall face while the outer wall face was pulled upward, in effect stretching the outer face of the wall and its upper edge upward, while adding the new coil's bulk to the wall's inner face. After applying coils to the full circumference of the urn, the wall was first supported on the outside with the palm of one hand while the inner surface was smoothed and shaped using the knuckle of the opposite hand. This action was then repeated with the supporting hand on the inside and the smoothing knuckle on the outside of the wall. This action served to obscure the majority of coil traces by shaping, thinning, and smoothing the wall profile. Because of the greater wet strength of Clay A, the full height of Urn A's walls were formed in a single potting episode, and then the vertical corner ridges were applied. Urn B's walls were formed in two potting episodes separated by a day of drying time, and the lower walls were reinforced using the vertical corner ridges prior to this drying time.

After reaching the full wall height, another coil was applied to the full circumference of each urn before applying the horizontal ridge demarcating the transition from wall to roof profile.

For Urn A, this addition had no strong effect on the overall wall morphology. In the case of Urn B, the addition of a horizontal ridge was an important moment that reinforced and stabilized the walls. Prior to this, but after reinforcement with the remainder of the vertical corner ridges, the upper half of the walls became very flexible and deformed quite easily. The horizontal ridge 'fixed' the position of the walls more securely. After applying the horizontal ridge, each experimental urn was left to dry overnight.

Creating the roof for each urn progressed in the same way as for the walls; the Urn A roof was fully formed and mostly reinforced with corner ridges (but not fully closed) in a single potting episode while the Urn B roof and supporting ridges were formed (but not fully closed) in two potting episodes separated by a day of drying time. Before any further actions could be undertaken to complete the roof for either urn, the door opening needed to be created and the door finished. First, three tabs were molded by hand and attached to the designated front wall of each urn. The tabs were placed, each with a vertical orientation, so that one would be on either side of the door and one would be in the center of the door. Once in place, a narrow metal rod was used to pierce through all three tab and widen the piercing. The rod was removed and the door opening was cut using a narrow metal tool. The door panel was removed from the wall and the edges of it and the resulting aperture were smoothed.

Once the door was removed, it was again possible to manipulate inner and outer surfaces simultaneously. The two slopes of the roof were fully closed to form the roof peak at this stage. The two slopes were first pressed together and smoothed, and then a coil of clay was applied to thicken and reinforce this juncture. Lastly, the final morphological details were added: small curved coils projecting upward at either end of the roof peak to form the crescent moon/horns. Once finished, the door panel was put back in place in order to avoid deformation, and each urn was left to dry completely.

Observations

Although the urn's architectural qualities are often considered to be largely in the interest of aesthetically representing a house or hut, it was found that these features did play an important role during the forming process. The ridges which project vertically and horizontally from the urn's corners served to mitigate deformation while the clay dried enough to support further weight in subsequent potting sessions. Similarly, the ovoid footprint of the base created an intentional curvature to the urn's walls along the horizontal plane, so that deformation to the urn's upper portions was controlled; the presence of the horizontal plane curvature restricted the vertical plane curvature (in effect, its ability to fold inward). By instituting this curvature, then, the potters reduced the likelihood of walls collapsing while clay dried enough to support further weight.

Overall, the behavior of Clay B created more morphological similarities between Urn B and the archaeological object than was the case for Urn A. A comparison between the two experimental urns highlights some interesting points, the first of which is that Clay B's diminished wet strength meant that Urn B had walls which were significantly closer to the archaeological example morphologically than Urn A's walls. The weight of the clay as construction proceeded forced Urn B's walls to bulge outward, whereas Urn A was, for the most part, straight walled. Similarly, the roof profile of Urn B exhibited the sinuous line observed in the archaeological example, with a transition from convex to concave profile in the vertical plane.

Irrespective of the differences between Clay A and Clay B, both experimental urn surface topographies show similarities to the archaeological example. These similarities, however, are more marked on Urn B, which indicates that clay plasticity played a significant role in the final morphology of the archaeological urn. An interesting final observation relates to the alignment of the roof peak in reference to the wall orientation. The archaeological urn roof peak is several degrees out of alignment from the corners where the walls meet (as illustrated in Figure 2). Though Urn A and Urn B were formed using the same techniques, only Urn B exhibited a similar discrepancy in alignment. This was likely due to the cumulative and combined effect of rotating the urn during forming atop its wooden support while adding coils, and the strength/plasticity of the clay itself.

Discussion

In the absence of precise contextual relationships, it does remain difficult to situate the forming practices observed for this object in the wider suite of practices utilized by potters during the time of its creation. Petrographic assessment of the urn's paste would certainly be of some assistance in this respect; at a minimum the urn's fabric should be investigated macroscopically or, ideally petrographically. A number of such studies have been conducted for contemporary archaeological assemblages, and against the backdrop of these studies the potter's technical choices could be better understood. Fabrics observed within northern Latium and southern Etruria have been described from a range of periods, including the Neolithic (Pallecchi, 1995), the Copper Age (Forte and Medeghini, 2017; Muntoni and Pallecchi, 1998; 2002), as well as the Iron Age (Cuomo di Caprio, 1992). In particular, Drago Troccoli (2009) offers a wider perspective chronologically, while focusing on the Alban Hills from which many house urns originate. Similarly, Interdonato (2013) offers an important consideration of raw materials relating to specific classes of contemporary *impasto* ceramics. Building on these perspectives by assessing both paste preparation and vessel forming strategies can surely offer further, urgently needed, information on the habitual practices of potters who likely created the house urn described here.

The experiment reported above indicates that the initial assessment of macroscopic forming-related traces was well-founded. The areas of deformational stress in the experimental urns corresponded to the presence of coil seam crevices on the archaeological example. Furthermore, the similarity of roof peak alignment between Urn B and the archaeological urn supports the choice of Clay B for strength and plasticity. This speaks to the significant need to understand the raw materials used by potters in this context, a difficult proposition given that this object (as are the others like it) is no longer associated with its find context. Regardless of that fact, this singular urn provides useful insight into what habitual practices one might expect to see used by potters from its original context. Coil construction of vessels, and the conception of potting as divisible into discrete episodes, are important markers of habitual practice. Using a clay which can deform and sag (and requires mitigation against those tendencies, such as the reinforcing ridges) in a singular object such as this indicates that clay texture may differ from expectations. The fact that the urn is recognizable as an *impasto* object (Gnade, 1994, p.235) is an encouraging indication that the clay recipe used to create the urn does fit into the broader picture of Late Bronze Age/Early Iron Age potting in Central Italy. Further technological assessment of potting practices used to produce *impasto* vessels will improve this perspective.

More broadly speaking, studying the techniques applied to unique objects is an opportunity for accessing the habitual building blocks of craft practice. House urns are one such example of this opportunity, but it should be underscored that such opportunities are relatively rare. Major changes in technical practice is one such example, a frontier along with many potters negotiated between their existing knowledge and the new possibilities or requirements. Another example may be found in local replications of ‘foreign’ types of pottery. By seeking out and focusing on moments where potters needed to negotiate between relying upon their existing skills and achieving a finished object which sits outside of their habitual range, it is possible to observe the boundaries of those potters’ skills. The expansion or breaking of those boundaries can represent the start of major changes in the production of material culture, which can be observed by asking: Did these exceptional circumstances precipitate wide ranging or longer lasting changes in practice? In this way, it may be possible to start identifying the role that problem-solving played in innovation in craft production behaviors, a notoriously complicated premise.

Keywords funerary
clay
ceramics

Country Italy

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Corresponding Author

Caroline Jeffra
Independent researcher
Address withheld by the editors (GDPR)
the Netherlands
E-mail Contact

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FIG 1. FRONT VIEW OF THE IRON AGE HOUSE URN IN THE ALLARD PIERSON, AMSTERDAM (INVENTORY NUMBER APM 12.000). PHOTO BY C. JEFFRA

FIG 2. TOP VIEW OF HOUSE URN, SHOWING ALIGNMENT OF ROOF PEAK RELATIVE TO ALIGNMENT OF WALLS. PHOTO BY C. JEFFRA

FIG 3. LINEAR CREVICES INDICATING JOINED CLAY BODIES NEAR BASE OF URN. PHOTO BY C. JEFFRA

FIG 4. LINEAR CREVICES INDICATING JOINED CLAY BODIES NEAR BOUNDARY OF WALL AND ROOF OF URN. PHOTO BY C. JEFFRA

FIG 5. CURVING, LINEAR CREVICES INDICATING JOINED CLAY BODIES ON UNDERSIDE OF URN BASE. PHOTO BY C. JEFFRA