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Front cover. Cattle and two goats\gazelle from Site GRD-14 in the Wadi Gorgod (photo Hamad Mohamed Hamdeen).

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Skeuomorphism in Kerma metal vessels

Carl Walsh

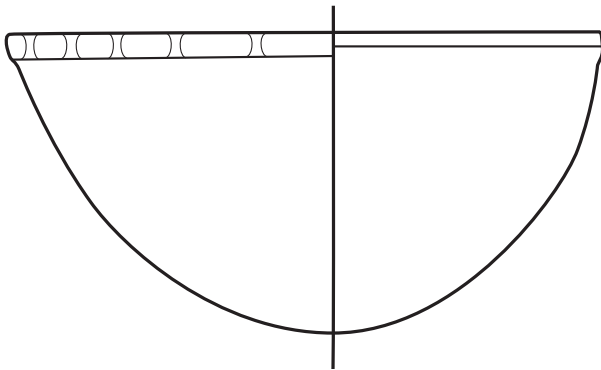


Figure 1. Middle Kerma bronze bowl with gold overlaid rim with decorative pinching (based after Dunham 1982).

and Rademakers 2019; Verly *et al.* 2019). This paper examines three surviving examples of Kerma metal vessels from Middle and Classic Kerma burials at the royal cemetery at Kerma. The material qualities of the vessels are considered through their affordances – the physical properties of the object that afford humans a way of interacting with them (Gibson 1979). These can include elements such as texture, colour, size, shape, mass and elasticity amongst others and the bodily experience of using them (Walsh 2018; 2019). The affordances of the vessels are considered with respect to ceramic fine ware beakers



Figure 2. Bronze beaker, K334, Tumulus XIII, royal cemetery, Kerma (courtesy of the Museum of Fine Arts, Boston, 20.1689).

Introduction

The production and consumption of metal vessels in the Kerma culture is little understood due to the lack of preservation of these objects in Middle Bronze Age Nubia. This may be due to the widespread recycling of metals and looting/reuse of metal objects from cemeteries. However, it is curious that so few metal vessels survive, given that metal objects such as daggers, swords, mirrors, and razors have survived from Middle and Classic Kerma cemeteries. In addition, bronze production at Kerma is documented from a surviving bronze cross furnace and from the variety of metal objects found in cemeteries (Bonnet 1986; Drici 2016; Verly

to determine if any skeuomorphic features are present, which may indicate cultural preferences for vessel materials in Kerma society, particularly relating to elite commensality.

Examples of Kerma metal vessels

The earliest example of a Kerma metal vessel is a copper alloy bowl with an overlaid band of gold on the rim found in a Middle Kerma tumulus, K 561 (no. 1), in the royal cemetery at Kerma (Figure 1) (Reisner 1923b, 203; Dunham, 1982, 37-38). It measures 92mm high with a diameter of 187mm, with a simple hemispherical form. The gold overlay on the rim had been hammered into place, creating a rim band of c. 5mm on the exterior and 3mm on the interior. In addition, the overlay has been pinched upwards at regular intervals of 24mm, which may have served as a decorative feature or to help the overlay stay in place without the use of rivets. This burial seems to have belonged to two important women, both placed on a bed, and

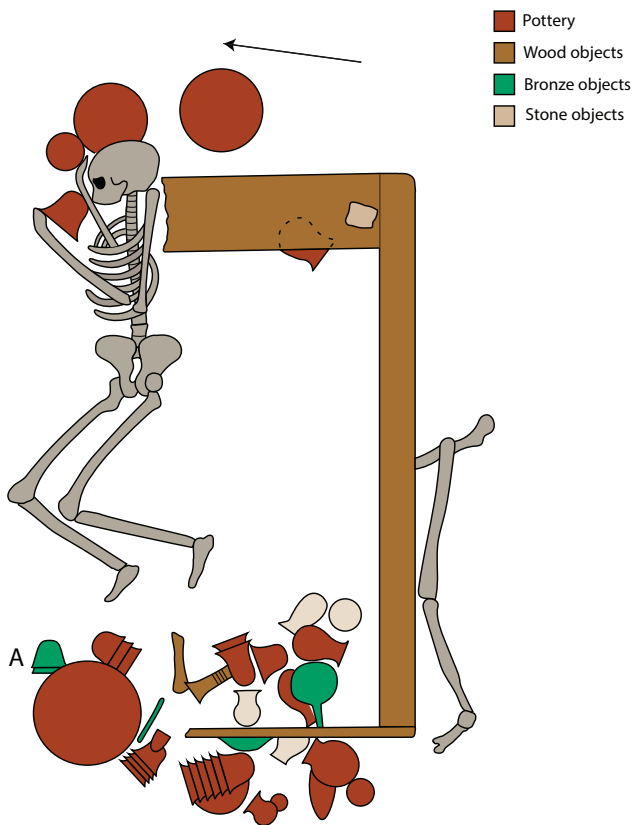


Figure 3. Plan of K334 with bronze beakers (A) marked, Tumulus KIII, royal cemetery, Kerma (author's drawing after Reisner 1923a).

Egyptian travertine alabastra, one of which was inscribed for Sobeknakht of Hierakonpolis (Davies 2004, 101, no. 75), a travertine kohl pot with kohl stick, a copper alloy razor and mirror, Black Topped Red Polished (BTRP) and Black Polished (BP) fine wares (beakers, rilled beakers, bowls, and bottles), large ceramic jars, blue faience vessel fragments, remains of a silver headcap, and the remains of the wooden legs of a stool of Egyptian design. The burial clearly belonged to an important member of the royal court who was buried in the tumulus after completion (Minor 2018a, 260).

Affordances of the metal vessels

Having the opportunity to examine one of the copper alloy beakers from K334 (no. 32), which is now in the Museum of Fine Arts, Boston (20.1689), a number of physical features were immediately apparent. The form of the vessel was skilfully contoured, displaying the distinctive tulip shape of Kerma ceramic beakers (Figure 4). The size and shape allowed it to fit nicely in one hand. Both the interior and exterior surface were very smooth and provided a pleasing sensation when touched. This was clearly a deliberate design choice that emphasised the uninterrupted, polished surface, free of any textured decoration. The walls were incredibly thin, around a millimetre at the rim, making the beaker very light to hold, but still with a distinct weight and hardness (Figure 2).

The beaker was probably electrolytically cleaned after discovery, providing a sense of its original colour, ranging from a rich brown to a vibrant gold depending on the light. The surface colouration would have changed through use, creating changing patterns and colours that could be removed through regular cleaning. The hue was also affected by the contoured shape and reflective surface, which created an interplay of light and shadow on the surface. These luminous qualities would have varied according

another woman on the floor behind the bed. A variety of high status objects were included in the funerary assemblage including ostrich feather fans, ceramic fine wares, a bronze spear, beads of gold, faience, shell, amethyst, and carnelian, and an Egyptian travertine alabastrum, as well as animal sacrifices (Dunham 1982, 37-38). The identity of the individuals buried is hard to pinpoint, but they were presumably members of the royal court and their household.

The only other known examples are two bronze beakers found in a Classic Kerma burial at the royal cemetery at Kerma (Figure 2) (Reisner 1923b, 203-204; Dunham 1943). Both were found in K334 (nos. 31-32), a richly provided subsidiary burial in the royal tumulus KIII (Figure 3) (Reisner 1923a, 170-172). They measured 89mm and 93mm high, with diameters at the mouth of 119mm and 121mm. The primary body was placed on a legged bed with a footboard inlaid with rows of copper lions. A secondary body was placed on the north side of the bed. The burial was obviously disturbed, so the original positioning of the objects is not entirely certain. Included in the burial assemblage were



Figure 4. Kerma BTRP ware beaker, Abydos (Metropolitan Museum of Art, New York, 20.2.45).

to the light level, from brilliant gleams in direct sunlight to more subdued reflections in firelight. The shifting nature of the colours and reflections would encourage the user to turn and view the vessel from different angles.

The shape of the beakers meant they were top heavy, and the small base was unstable. This suggests a deliberate design that encouraged the user to constantly hold the vessel while in use, and would explain the focus on providing smooth, reflective, and lightweight affordances of the vessels, in order to make them pleasurable to hold.

Some experiential affordances of the vessel are more difficult to reconstruct from simply holding and visually examining it. Since it would have been used for drinking, the taste of the metal

would have been important, and might have had particular interactions with the taste of the contents (Aulsebrook 2016, 72). This of course could vary according to the type of metal used and the contents. The thermal conductivity of the metal might have also affected the contents of the vessel, with a preference for cool over hot beverages. The extremely thin rim and texture of the metal would provide distinct haptic sensations on the sensitive skin of the lips and mouth. Auditory properties could also be produced by the metal, such as the sound of impact from toasting against another vessel, or from pouring liquids into the vessel. There could also be additional cultural and mnemonic aspects of the vessel that added additional affordances but are unknowable to a modern audience.

Skeuomorphic vessels

The Kerma fine ware typologies, in particular BTRP and BP ware vessels, are known for their design elements: vibrant colours, highly tactile and reflective surfaces, thin walls, and a variety of forms, sizes, and ways of holding (Walsh 2018). Many of these qualities are shared with the metal vessels, such as the metallic sheen, polished surfaces, and incredible thinness. This might indicate that the ceramic fine wares were skeuomorphs, directly imitating metal vessels and the experiences they afforded (Edwards 2004, 18). Comparative examples of this phenomenon can be found in the Bronze Age Aegean, where fine wares, such as Cretan Kamares ware, have been suggested to be imitating the features of metal vessels, with eggshell thin walls, thin ribbon handles, imitation rivets, and bright painted decoration that might mimic the colours of inlaid metal vessels (Knappett 2002; Reeves 2003; McCullough 2014). Similar examples of skeuomorphism can be seen in Anatolia during the Early Bronze Age, particularly in popular vessel forms such as depas cups, whose exaggerated handles and elongated forms were produced in silver, lead, and ceramic (Türkteki 2021). It has also been suggested in later Meroitic and Aksumite ceramic fine wares, whose forms, sizes, thinness of walls, and decorative compositions and features mimicked both indigenous metal forms and imported Hellenistic and Roman metal and glass vessels (Figure 5a, b) (Manzo 2003;



Figure 5a (left). Meroitic skeuomorphic ceramic cup, Grave 2538, Cemetery 1, Faras, (Metropolitan Museum of Art, New York, 3.125.34); Figure 5b (right). Meroitic metal cup, Grave 394, Karanog (courtesy of Penn Museum, E7132).

2012). The reasons for these cases of skeuomorphism are debated, ranging from artistic replication and competition, the production of ‘fakes,’ and prototypes for technological experimentation, amongst others (Reeves 2003; McCullough 2014). However, the most common explanation is that skeuomorphic vessels were used for expressing and negotiating socio-economic hierarchies and identities. Skeuomorphs are inherently emulative as imitations of something of value to the maker and consumer (McCullough 2014, 53). In the above cases, metal and glass vessels used by elites were copied in ceramic by those lower down in society as a way of emulating elite practices and material culture. In this way, they are an imitative response to elite culture and can occur in different intensities and times to accomplish varying social intents. Considering this, the similarity in affordances between the Kerma metal and ceramic vessels could be argued as an example of skeuomorphism, with ceramic fine wares drawing social value from mimicking prestigious metal prototypes.

However, studies of skeuomorphic relationships between ceramic and metal have predominately focused on cases of ceramic imitations of metals (Vickers 1985; Reeves 2003; McCullough 2014). This may be due to the more common or obvious direction of skeuomorphism seen in other societies, and perhaps because metal is always assumed to be the more valuable material. Ceramic can be highly valued and imitated in other materials for a variety of reasons. For example in the Indus, a range of metal vessels specifically imitate ceramic vessels, while also having their own unique metal forms (Vats 1940; Mackay 1943; Hoffman 2018; Tripathi 2018; Agrawal 2000; Bates forthcoming). In addition, the directionality of imitation can often be reciprocal, with cycles of emulation and imitation between a variety of different materials (McCullough 2014; Blitz 2015).

Some physical features of the Kerma metal vessels actually suggest they were skeuomorphs of ceramic fine wares. This idea was proposed by Reisner, who noted that the tulip form and thin walls of the bronze beakers appeared to directly imitate ceramic beakers (Reisner 1923b, 203). The hemispherical Middle Kerma bowl also has close parallels in ceramic coarse and fine wares, including bowls placed next to it in Grave K561 (Gratien 1978; Dunham 1982, 37-38). Replicating the thinness and shape of the ceramic features in metal would be difficult, requiring metallurgical tools and skill. The production process of Kerma metal objects is not currently well understood, but forthcoming studies of a bronze cross furnace, crucible, and metal objects from Kerma will hopefully provide more information on the production of bronze and copper alloys at the site (Verly and Rademakers 2019; Verly *et al.* 2019). However, the hammer

marks on the bronze beaker at the MFA clearly indicate that it was hammered out from a circular sheet of bronze, similar to how metal vessels are produced in the Aegean (Clarke 2012, 13). The flat base of the vessel also suggests that it was perhaps supported on a stake during this process, and it is probable that repeated annealing was needed to allow the formation of the flared tulip and hemispherical shapes without breaking (Figure 2). The gold overlay on the Middle Kerma bowl seems to have been hammered into place without rivets, and its decorative pinching was probably achieved using smaller specialised tools. The final stage involved polishing the surface, probably using a kind of abrasive powder, and then burnishing with a stone. This process allowed the replication of the distinct ceramic shapes, their thin walls, and highly burnished surfaces.

There is a lack of complex decorative metalwork techniques in the vessels, such as rivets, ribbon handles, inlays, fluting, incision, and repoussé. These are used extensively in Aegean, Anatolian, and even Egyptian metal vessels, and are types of decoration often replicated in ceramic skeuomorphs (Reeves 2003; McCullough 2014; Aulsebrook 2016; Angenot 2017; Türkteki 2021). The most elaborate example at Kerma is the decorative gold overlay used on the Middle Kerma bowl, a technique also used on wooden furniture and bronze rivets in metal weaponry (Manzo 2016). This overlay and pinching could be related to the decorated rims on contemporary Middle Kerma bowls, while the different colours of the bronze and gold metals replicated the contrasting red bodies and black rims of BTRP wares. Overall, the lack of decorative metal features indicates a conscious decision to replicate the smooth surface and decoration of pottery. This seems to associate the vessels with the forms of deep-rooted Kerma ceramic traditions rather than unique metal vessel forms and decoration.

The sophisticated metallurgy involved in the production of skeuomorphic vessels indicates that metal vessels were certainly being produced and consumed in Kerma society, but perhaps only in limited quantities by certain social groups as a form of social display. Ceramic was able to provide the affordances

of tactile, thin, smooth surfaces effectively, while also providing an array of colour, sizes, and shapes. Ceramic production was also quicker and produced a greater volume of vessels that could be used in domestic and funerary contexts. This suggests a preference for ceramic as the material of choice. Of course, metal vessels might have been more commonly used in non-funerary contexts, perhaps even being curated and recycled over several generations. However, a cultural material preference would better explain the dearth of metal vessels in Kerma burials in contrast to the variety of other metal objects.

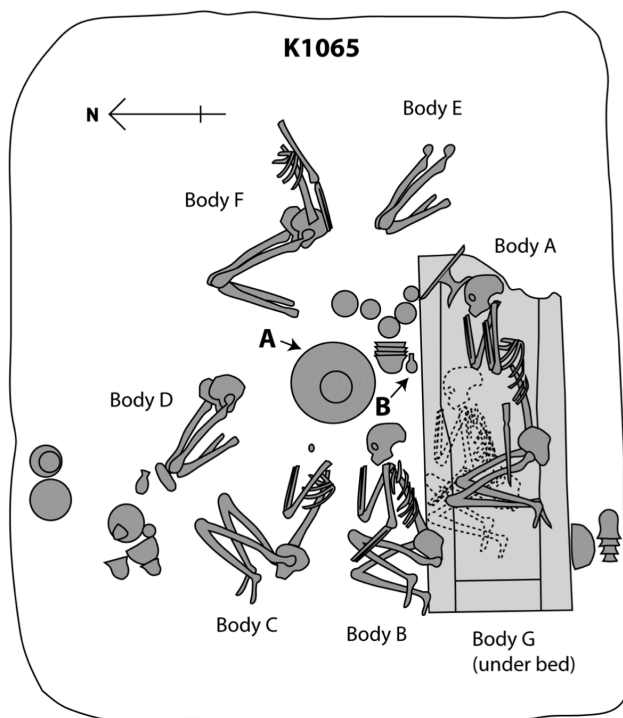


Figure 6. Plan of K1065 with centrally placed beer jar (A) and giraffe hair drinking straw (B) marked, Tumulus KX, royal cemetery, Kerma (Minor 2018 based after Reisner 1923a).

Vessels in commensality and social display

That metal vessels imitated ceramic fine wares is also suggested in their shared role in commensality and social display. The placement of metal vessels amongst ceramic

vessels, often of the same forms, indicates they were used together, as an assemblage of commensality equipment for the deceased. The vessel assemblage in K561 consisted mostly of bowls and jars, with no drinking forms, indicating a focus on dining/feasting. The placement of animal sacrifices near to the vessels might suggest an association with eating. In contrast, K334 was dominated by drinking forms, with 24 BTRP and BP ware beakers and rilled beakers, indicating a focus on banqueting (Reisner 1923a; Minor 2018b). The nine BTRP and BP ware jars in K334 likely functioned as small serving vessels, while the four larger jars were communal beer jars, given that beer remains have been found in other examples (Minor 2018b, 131).

Metal and ceramic vessels played the same functional roles in commensality, but provided both overlapping and differing experiential affordances. Shared affordances included the highly tactile and reflective surfaces, techniques for holding the vessels, and similar weights. Differences included colour palettes, intensity of reflectiveness, taste, and the haptics of the thin walls and rims. These affordances meant that the vessels could be used to both include and exclude participants within commensality events. Participants shared in the drinking experience by using vessels that had similar qualities, creating a sense of commonality through shared experience. Simultaneously, differences in affordances resulted in diverging experiences of an event. These different experiences provided means of status negotiation through the performance of social etiquettes, such as the allocation of vessel type, the order of service and/or consumption, and the potential sharing of vessels, food, and drink. The experiential interactions between object and people were therefore key in negotiating social relationships between participants during commensality events.

The role of these vessels in mediating social relations is also suggested by the fact that many of the elite burials in the Kerma royal cemetery were group burials. Bodies were carefully placed to express the social relationships between the individuals, with a primary body placed on a bed and secondary bodies placed at the foot, under, or around the bed. The placement and quantity of the burial goods, including the commensality equipment, was highly intentional as a form of social display. Minor (2018b) has suggested that the placement of banqueting equipment in burials could express the primary internment's ability to host large scale commensality events and create distinct identities of host/patron and guest/client (Minor 2018b). In one case, subsidiary burial K1065, bodies were arranged around a central beer jar, perhaps replicating the spatial elements of commensality so the jar could be accessed by all of the 'participants' (Figure 6) (Minor 2018b). In K165 the ceramic jars were placed along the graves edge, with a select few vessels including the bronze bowl placed in the centre, alongside the bed. The central placement of these vessels might represent a spatial arrangement for feasting, though the bodies are not organised around it as in the later K1065. As K334 was disturbed, the original spatial arrangement of vessels and bodies is uncertain, but the large quantities and range of forms would support Minor's suggestion that commensality was used as a means of mediating social relationships, even in death. The metal vessels in these burials may have been placed near a particular individual(s) to denote specific identities or relationships with the other 'participants,' through the experiences they afforded to the user. In the case of K334 it seems a metal vessel was supplied for both individuals, which might highlight a more egalitarian social relationship, though of course other vessels could have been looted.

Concluding comments

It is important to acknowledge that this apparent preference for ceramic vessels may be affected by preservation biases (Manzo 2003, 8). Organic material types, such as gourds, wood, reed, wool, and leather, may have supplemented ceramic and metal vessels. Remains of basketry were found in the Kerma royal cemetery, as were ceramic vessels that seem to have skeuomorphic features imitating basketry (Reisner

1923b, 371-374). This may point to a wider porosity of influences between vessel typologies and materials in Kerma society.

However, the affordances of ceramic – reflective and tactile surfaces, thinness, colours, and decoration – provided distinct experiential aspects that were highly valued. Fine wares played important roles in managing social and power relationships through commensality, probably through the construction of social etiquettes around their use. Metal vessels were incorporated into these events and etiquettes, albeit on a much smaller and restricted scale. They provided both similar and unique experiential affordances that could be used in social display. However, the metal vessels closely imitated the features of fine wares, harnessing the social power and value of ceramic affordances. The value placed on the affordances of ceramic and metal might explain the lack of strong Kerman stone and faience vessel traditions, despite the production of objects in these materials (Lacovara 2021). While stone and faience supplied some degree of overlap in affordances such as reflective and tactile surfaces, they could be less functional or perhaps unable to achieve the same qualities of thinness, desired colours, and light weight. Vessels of these materials are found in Kerma burials, but they are more commonly of Egyptian origin, and seem to have been acquired through a combination of trade, raiding, and diplomatic gifting (Walsh 2021). This would suggest that while a range of other materials were available, ceramic was the most highly valued and preferable material choice for commensality vessels.

These preferences in Kerma vessel traditions and roles are potentially quite different from those found in contemporary Bronze Age societies, such as in the Aegean, Anatolia, and to some degree in Egypt. In these societies metal vessels seem to have acquired their own unique forms and features that exploited the strength and fluidity of metal and created their own distinct affordances. Metal vessels were highly utilised in elite status expression and were referenced in ceramic as forms of emulation for different social intents. In contrast, the Kerma metal vessels appear to be mimicking ceramic fine wares and closely adhere to the affordances of ceramic traditions. This may suggest a different cultural meaning to vessel materials and affordances in Kerma culture. Indeed, it is interesting that even in later Meroitic contexts, traditional Nubian ceramic vessel forms such as beakers continued to be produced in metal alongside skeuomorphs of imported Roman and Hellenistic glass and metal vessels. The longevity of these forms indicates deep rooted Nubian material and vessel traditions across time, which were imbued with significant social and cultural power. While the corpus of Kerma metal vessels is currently small, future discoveries and further research will help to expand our understanding of the phenomenon of skeuomorphism and material preferences in Nubian societies.

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