Ancient repairs in archaeological research: a Near Eastern perspective

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ABSTRACT Archaeological research has long neglected the phenomenon of ancient repairs. Only recently have archaeologists and restorers begun to study past practices of repair and reuse in closer detail, recognising the need for careful registration of ancient repairs in artefact descriptions. A restoration represents an important element in the object's cultural biography, the study of which may highlight shifts in function, value and symbolic meaning. This paper discusses case studies selected from three successive periods in the archaeology of the ancient Near East: the Neolithic, the Late Uruk and the Late Bronze Age. We argue that the study of ancient repairs may contribute to insights into social organisation and symbolic meanings in the past.

KEYWORDS archaeology, ancient repairs, restoration, cultural biography, bitumen, pottery

Introduction

Archaeologists and restorers alike often come across ancient repairs. Various clamps and patches, perforations, alien pieces of pottery inserted into gaps and traces of glues show how people in the past prolonged the use life of their vessels. Yet, in spite of their frequency, ancient repairs have generally been neglected in archaeological research, both from a descriptive and from a theoretical perspective. Only recently have archaeologists and restorers begun to study past practices of repair and reuse in closer detail (Bentz and Kästner 2007; Chapman and Gaydarska 2007). We increasingly acknowledge that restorations represent an important element in the object's cultural biography (Kopytoff 1986). We have begun to explore the technological aspects of ancient repairs more systematically, and the context in which they occur. The study of ancient repairs may help us to understand changes in function, value and symbolic meaning of archaeological objects (Dooijes and Nieuwenhuyse 2007).

In this paper, we discuss some case studies from three successive periods in the archaeology of the ancient Near East: the Neolithic, the Uruk and the Late Bronze Age.

The Neolithic

In the Neolithic (8000–5000 cal. BC) people used various organic materials to repair broken vessels. One of the main techniques involved drilling holes along the breakages, probably using a flint or obsidian tool. The sherds were then tied together by stringing leather, rope or another organic material through the holes. Alternatively, bitumen was used as a glue. Bitumen occurs naturally at various locations across the Near East (Connan and Deschesne 1996) and studies show that this material was exchanged over very large distances throughout the Neolithic (Connan *et al*. 2004). Often these two techniques were combined. In many instances these repairs may have been waterproof, especially when the vessel was made of a compact material and the breaks were fresh. The earliest examples, dating from before the invention of pottery, have been found on stone vessels. After the introduction of ceramics (*c*.7000 cal. BC), the same techniques were applied to pottery vessels as well. Interestingly, Neolithic repairs do not seem to have been applied randomly to just any type of broken vessel. Instead repairs were associated with high quality serving vessels (Nieuwenhuyse 2007).

Late Neolithic Tell Sabi Abyad, situated in northern Syria, was a four-hectare site inhabited between *c*.7000 and 5500 cal. BC (Akkermans 1993; Akkermans *et al.* 2006). Excavations by the National Museum of Antiquities, Leiden (The Netherlands), have yielded numerous examples of ancient repairs using this technique. Pottery and stone vessels are thought to have been locally produced at the site, but some of the best quality items were probably imported from elsewhere. A stone vessel from this site shows the two main techniques combined (Figure 1). This object was found *in situ*, with the sherds still in position. No strings have been preserved; presumably these were made of organic materials. A thin layer of bitumen covers the breaks, but does not extend over the surface. Two Hassuna/Samarra

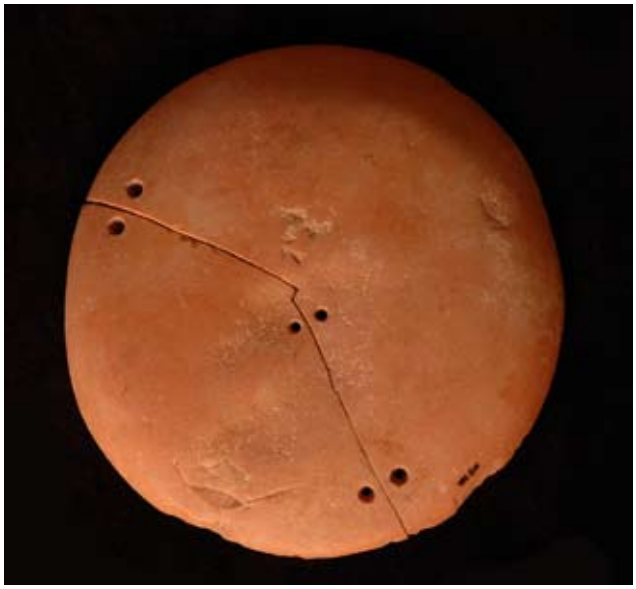

Figure 1 A Late Neolithic stone vessel from Tell Sabi Abyad, northern Syria. Early Pottery Neolithic, *c.*6500 BC. Reddish stone, diameter of vessel *c.*18 cm. (© National Museum of Antiquities, Leiden.)

Figure 2 A Hassuna/Samarra pottery vessel from Tell Sabi Abyad, northern Syria. Transitional (Proto-Halaf) period, *c.*5900 BC. Standard Fine Ware, diameter 14 cm. (© National Museum of Antiquities, Leiden.)

Figure 3 A Hassuna/Samarra pottery vessel from Tell Sabi Abyad, northern Syria. Transitional (Proto-Halaf) period, *c.*5900 BC. Standard Fine Ware, diameter 15 cm. (© National Museum of Antiquities, Leiden.)

Figure 4 Painted Late Halaf vessel repaired in antiquity with bitumen, northern Syria, *c.*5500 BC. (© National Museum of Antiquities, Leiden.)

pottery vessels show the same two main techniques (Figures 2 and 3). Here, the strings were not preserved either. A thin layer of bitumen covers the breaks and some part of the surface along the breaks. Painted Halaf vessels also occasionally show the same technique (Figure 4). Here bitumen was used as a glue, covering the breaks and part of the surface. In some cases perforations along the breaks can be observed.

The Uruk period

With the rise of city states in the Uruk period (*c.*3200–3000 cal. BC), the practice of repairing high quality stone and pottery vessels continued. A famous example is the Warka vase, a ritual vessel showing scenes in relief decoration of food offering processions to the city deity. The vase was broken in antiquity and repaired with copper wire or clamps set in perforations along the breaks. A fragment belonging to another vase was inserted to replace a missing part at the rim.

In addition, however, a more practical, functional approach to pottery repairs emerged during the Uruk period. The National Museum of Antiquities, Leiden owns a large collection of Uruk pottery from Jebel Aruda, a ritual site containing several large, high status buildings adjacent to two large temples. The settlement was situated on a high spur overlooking the central Syrian Euphrates Valley, looking down onto the contemporaneous urban settlement of Habuba Kabira (van

Driel and Murray 1979, 1983; van Driel 2002). Habuba Kabira and Jebel Aruda were key points in the extensive exchange network that connected societies from Anatolia to southern Mesopotamia (Algaze 1993). During a recent restoration project on several Late Uruk vessels, a number of Uruk period restorations using bitumen as a glue were discovered (Dooijes *et al.* in press). Bitumen was traded in bulk during the Uruk period (Schwartz *et al.* 2000). A preliminary inspection of the spatial context of the bitumen-treated ceramic vessels at Jebel Aruda suggests an even distribution across the excavated settlement. Quite probably the occasional pottery repair could easily be executed locally, whenever the need arose, by melting the bituminous material and pouring or brushing it in place.

One large pottery jar from the Jebel Aruda collection in Leiden shows a significant amount of bitumen covering the exterior rim and large parts of the shoulders. The bitumen has also been applied in broad, vertical bands on the body (Figure 5). These vertical bands may have been applied to the surface with brushes. They may mark the locations where supportive or protective netting was added after the vessel had been repaired, the bitumen serving to keep it in place or to protect the surface of the pot from the abrasive effects of the rope. The break edges of a large loose sherd, just below the rim, had been covered with bitumen. Clearly this is the place where the vessel had already been broken in the past, possibly during firing. A second example (Figure 6), is a medium-sized jar with red slipped and engraved decoration, which has a massive splash of bitumen on its interior, covering a number of breaks and seeping through these breaks onto the exterior surfaces (Dooijes *et al.* in press).

The Late Bronze Age

In the Late Bronze Age people restored pottery vessels using techniques that were essentially the same as those used in prehistoric periods. However, a broader, more diverse range of techniques can be observed. A Middle Assyrian fortified rural settlement dated to *c.* 1200 BC was excavated at Tell Sabi Abyad, northern Syria. The settlement, which consisted of a series of administrative buildings surrounded by a wall and a ditch, contained a number of pottery workshops (Akkermans *et al.* 1993; Akkermans and Wiggermann 1999; Akkermans and Duistermaat 2001). The Middle Assyrian ceramic output was very similar across the empire, and consisted of mass-produced, wheel-made plain vessels. Damage sometimes occurred during production, and afterwards vessels often broke during use. Ways of repairing broken vessels included drilling perforations along the cracks, using bitumen as a glue or as a filling between the cracks and filling the cracks or damaged parts with a gypsum/lime paste. Occasionally the potters repaired damage before the vessel was fired, by closing the cracks with clay (Duistermaat 2008).

Repairs, the biography of objects and archaeology

Ancient repairs are not just distortions of the authentic appearance of an object – they contain valuable information concerning the cultural biography of an artefact. Pottery vessels and other objects can be said to have 'social lives' (Kopytoff 1986; Chapman and Gaydarska 2007). They are not just 'tools' with a particular function, but they are also invested with social and symbolic meaning. Importantly, their role in society was often dynamic: it changed as the object moved from one use

Figure 5 A large jar from the excavations at Jebel Aruda (JA 1642). Late Uruk period, *c.* 3200–3000 BC. Height 90 cm. (© National Museum of Antiquities, Leiden.)

Figure 6 A medium-sized jar from the excavations at Jebel Aruda (JA 1801). Late Uruk period, *c.* 3200–3000 BC. (© National Museum of Antiquities, Leiden.)

context to another in the course of its life. Each time people established new relationships with the object, it gained a new meaning.

Archaeologists can often reconstruct different stages within an object's cultural biography from the distribution, consumption, circulation and exchange to the discarding of the object once damaged. However, an object's biography did not always end when it broke. Often it was repaired or curated, and given a new lease of life. Archaeological excavation itself initiates a whole new lifecycle of the broken and discarded artefacts. Repairs, both modern and ancient, 'mark' an object. They offer valuable information about changes in context and use of the artefact. They deserve careful study alongside other physical transformations such as traces left by the production process, erosion, use traces, graffiti, breakage, and so on.

In the Near East, repairs during the Late Neolithic were associated with high quality serving vessels. The repairs were highly visible however it should be borne in mind that technological constraints prevented the restorations from being less conspicuous. It is also possible that people simply did not bother to cover up the repairs. Perhaps the visible presence of a repair even contributed to the prestige value of the object. We know that some of these vessels were exchanged, sometimes across considerable distances, from village to village. It may have signalled that the object was old and valuable enough to merit restoration (Nieuwenhuyse 2007).

Although high status objects were repaired with similar methods in the Late Uruk period and in the Neolithic, cost and practical considerations seem to have become more relevant. At Jebel Aruda, the uniquely isolated location of the settlement apparently made it worthwhile occasionally to restore a large, heavy storage vessel, rather than replacing it with something new. Pottery was not produced locally at the site: each vessel had to be carried up the mountain from the city located far below on the river bank. Given the visible character of the coarse repairs, it may be argued that aesthetic considerations were of minor concern, and that the repairs were purely functional. Interestingly, the technique of drilling holes along break edges and using clamps has thus far not been attested at this site. In the case of the large, heavy storage jars at Jebel Aruda, using metal would have been more efficient than bitumen glue. Considerations of cost in this case perhaps overruled those of efficiency (Dooijes *et al.* in press). The application of additional supporting netting around the vessel was perhaps a practical alternative to using costly metal clamps.

In the Late Bronze Age restoration of mass-produced plain ware pottery appears to have been an essentially pragmatic affair. The restorations were carried out as part of the pottery production process. It appears that in some cases these pottery restorations were executed by specialists (ie the potters) in workshops. This is in contrast to the repairs dated to the prehistoric and Uruk periods. Generally, these repairs seem to have been made locally, within the private domestic surroundings of an individual household.

Conclusions

Past stages in an object's cultural biography are just as important as the biography we can reconstruct for its more recent history. The same considerations that apply to recent restoration practices also apply to the more ancient ones: they provide insight into aesthetic choices and changing cultural values. Not so long ago, restorers habitually chose to remove ancient repairs or to render them invisible. By doing so they made a cultural choice, ironically by removing part of the cultural biography of the object. Today ancient repairs are increasingly left untouched and shown to the public (Bentz and Kästner 2007).

The potential of ancient repairs for reconstructing the cultural biography of objects has been neglected by archaeologists and museums. We are poorly informed about the frequency of repairs in archaeological contexts, or in museum collections. Pottery restorations should no longer be treated as a less important by-product of archaeological find processing and publication. Interdisciplinary cooperation between museum staff, restorers and archaeological scholars is essential.

Acknowledgements

The authors would like to thank the National Museum of Antiquities, Leiden, Professor Peter Akkermans, director of the excavations at Tell Sabi Abyad, Dr Kim Duistermaat, Erica Dooijes-Hoogwijk and Ans Bulles.

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