Module: Ceramic Studies
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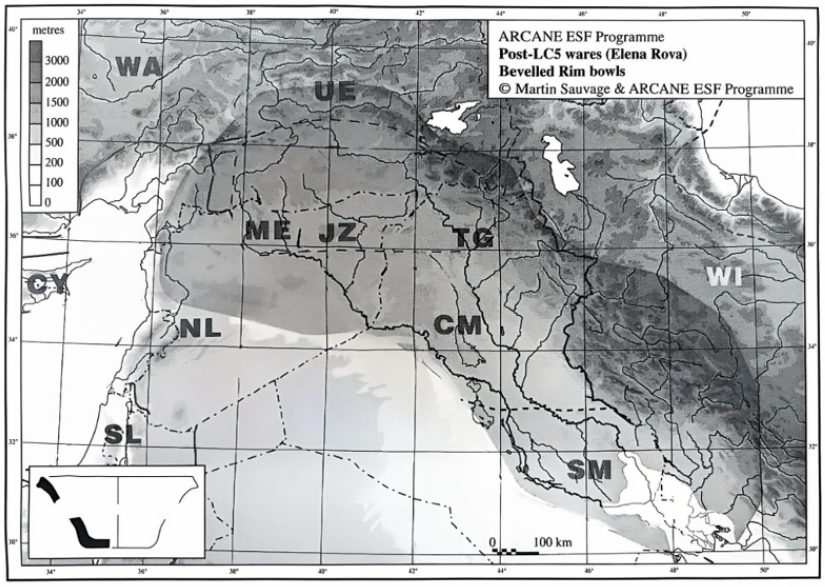
A Song of Simplicity and Complexity: The Bevelled Rim Bowl

Introduction

Ancient Mesopotamia, the land between two rivers, played a pivotal role in shaping early human civilization through advancements in animal domestication, plant cultivation, writing systems, and pottery production. Among the diverse ceramic traditions of the Uruk period (ca. 4000-3100 BC), the Bevelled Rim Bowl (hereafter BRB) emerges as a particularly distinctive and emblematic form. First discovered at Susa in 1897 (D. T. Potts 2009), BRBs have since been documented across numerous Uruk-related sites (Fig.1). Their widespread presence has earned them the designation of a "diagnostic fossil" of Late Chalcolithic and Mid-Late Uruk period (Lebeau 2014). Despite their importance, many aspects of BRBs remain only partially understood. This essay offers a technical description of BRBs, examining their physical features, material composition, manufacturing techniques, and their cultural and historical roles.



Note: WA: Western Anatolia, UE: Upper Euphrates, ME: Middle Euphrates, JZ: Jezirah, TG: Tigridian Region, CM: Central Mesopotamia, NL: Northern Levant, SM: Southern Mesopotamia, WI: Western Iran, SL: Southern Levant, CY: Cyprus

Fig.1: Approximate Distribution of BRBs in the Ancient Near East (After Rova 2014: Fig.1)

I. Description of BRBs

1. Shape and Physical Characteristics

BRBs are open-mouthed vessels characterized by a distinctively indented (bevelled) rim, walls inclined at approximately 45 degrees, with visible finger impressions on the interior base, and a coarse outer surface (Fig.2). Their form is relatively standardized, typically measuring between 6-15 cm in height and 14-19 cm in diameter, though larger shallow examples (up to 24 cm in diameter) and smaller versions (around 10 cm in diameter) have also been documented. The vessel walls exhibit moderate thickness (0.7-1.8 cm), and the base is gently rounded (Lehner 1990).

Fig.2: BRB from Nineveh © The Trustees of the British Museum. Image Source: British Museum Images (https://www.bmimages.com/preview.asp?image=00765813001).

2. Material and Fabric

BRBs are made from a coarse, chaff-or grit-tempered clay, resulting in a highly porous fabric. They are fired at low temperatures, typically between 500°C and 650°C, though some analyses suggest temperatures exceeding 1000°C in certain cases (Sanjurjo-Sánchez et al. 2018). This low firing leads to varied colors, ranging from brown or buff to light cream, orange, or pink (Delougaz, Kantor, and Alizadeh 1996) (Fig.3). After firing, the cores of the bowls are often unoxidized, with surfaces showing red, brown, gray, or green hues. The exterior is rough, often sandier than the body itself, while the interior bears finger marks from smoothing wet clay (Nissen 1970).

Fig.3: BRBs from Tepe Badamyar Rabat (After Abedi et al. 2019: Fig.5)

3. Comparison to Other Uruk Pottery

In contrast to other Uruk pottery, BRBs are distinct in their simplicity. They were not wheel-thrown but instead shaped by hand or with a mold. They also lack any form of ornamentation, setting them apart from the more elaborate ceramics of the period (Nissen 1970). Their standardized form, coarse fabric, and rough texture make them easily recognizable. This uniformity and widespread distribution across Uruk sites highlight their significance, raising questions about how they were produced and what role they played in Uruk society.

II. Production of BRBs

1. Clay Sourcing and Preparation

Mud and clay are among the most plentiful natural resources in Mesopotamia. During flood seasons, the Euphrates transports between 1,000 and 4,000 parts per million (ppm) of sediment, while the Tigris can reach peaks of up to 25,000 ppm, depositing calcium-rich montmorillonite clay ideal for pottery production (D. T. Potts 1997; Charles 1988). Chemical analyses of pottery at various Uruk sites such as Samsat Hoyuk, the Susiana Plain, and Chogha Mish, indicate the use of locally sourced sediments, with slight variations in composition (Emberling and Minc 2016; Shimabuku 2023). The clay was often collected from the alluvial silts of rivers or canals, where water action naturally refined it (Moorey 1994) .

The coarse-grained and porous texture of BRBs suggests that the clay was used with minimal processing before being mixed with large quantities of tempering agents, such as straw, chaff, or grit, depending on the region (Millard 1988). For example, at the site of Uruk, quartz, minerals, and rock fragments were added to the clay, along with coarse chaff pieces up to 5 mm in size (Ess

2012). Petrographic analyses of 13 BRB sherds from Jebel Aruda, Farukhabad, and Umm Q'seir revealed that 15-25% of the fabric consists of voids left by the combustion of organic materials, while 3-5% is composed of mineral inclusions, primarily quartz, along with occasional small pebbles and pottery sherd fragments (Lehner 1990).

2. Forming and Shaping Methods

Unlike wheel-thrown finely made Uruk ceramics, which involved separate construction of the body, shoulder, lug, and handle (Fig.4), BRBs were created using simpler techniques. To date, three shaping methods have been proposed: (1) shaping a lump of clay by hand, (2) using sequential slab construction with stacked clay strips, or (3) molding in ground depressions or other types of molds (Kalsbeek 1980; Vandiver 1985; Millard 1988).

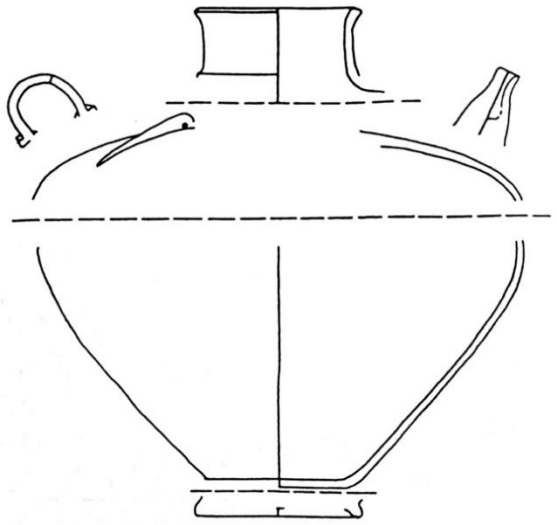


Fig.4: Illustration of the Construction of a Late Uruk Vessel (After D. T. Potts 1997: Fig VI.14)

Among the three methods, the mold hypothesis is the most widely accepted. A detailed account of the ground-molding process was provided in the excavation report of Tepe Farukhabad (Miller 1981), and the method was successfully replicated in an experimental production of BRBs:

1. Prepare the clay mixture.
2. Dig multiple holes in the ground using an old bowl as a template.
3. Flatten the clay into slabs, then roll them into balls.
4. Place one ball of clay into each hole.
5. Punch each clay ball with a fist and press it against the sides of the hole.
6. Smooth the interior with a wet hand and individually bevel the rims.
7. Dry the bowl in the mold before firing.

A similar technique may have involved pressing clay directly into bowl-shaped molds and removing it by inverting the mold. A layer of mineral or sand was likely sprinkled inside the mold to help release the clay easily (Helwing 2014). Both methods effectively explain several

characteristic features of the bowls, including the merging of the base into the walls, the bevelled rim, the fist marks, and the rough exterior.

3. Firing Process and Kilns

Uruk-period kilns were typically up-draught, oval, two-storey structures with grids of radiating ribs separating the levels (Sanjurjo-Sánchez, Montero Fenollós, and Polymeris 2018; Moorey 1994). Notable examples include those found at Chogha Mish in Iran (Alizadeh 1985) and Habuba Kabira in Syria (Strommenger 1980).

During the 1965-66 excavation season at Chogha Mish, Kiln R21:404 (Fig.5) was excavated in Trench XXV, revealing significant amounts of slag, cinders, and hardened clods inside. The kiln, oval in shape, measures approximately 2 m in length and 1.3 m in width. Its uppermost preserved section features six ribs made of pisé resting on mud-brick walls. These ribs likely supported a grate, with the rounded spaces between them serving as vent-holes. R21:404 differs from typical kilns by having an arched stoke-hole on the southeast side, likely to shield it from strong winds. The oven was likely domed, with walls that may have included either multiple vent-holes (Fig. 6A) or a single flue at the top (Fig. 6B).

Fig.5: Kiln R21:404 from Chogha Mish (After Alizadeh 1985: Pl. Ia)

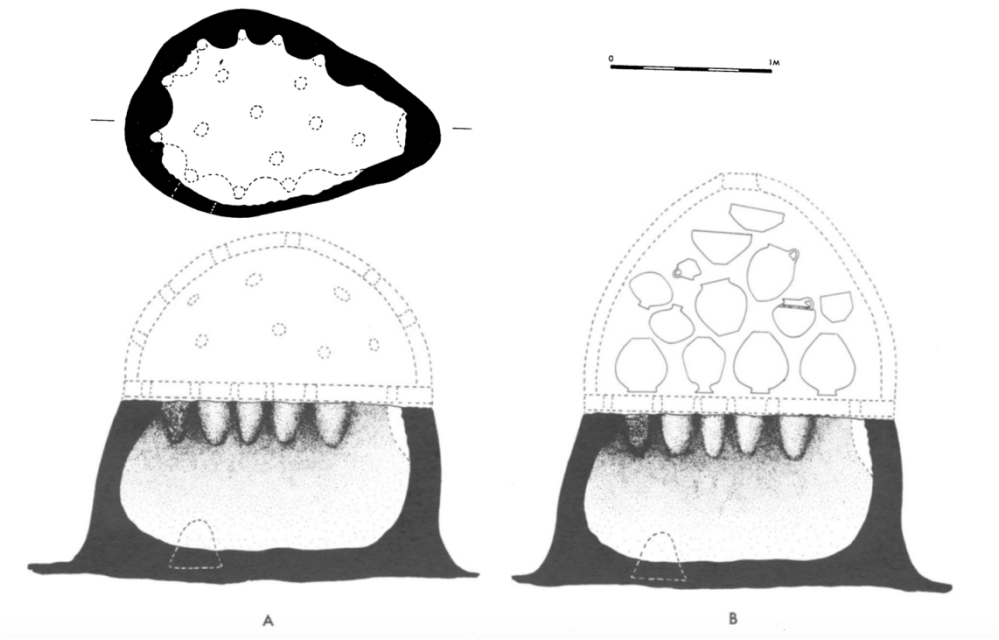


Fig.6: Reconstruction of Kiln R21:404 with (A) Multiple Vent-Holes or (B) a Single Flue (After Alizadeh 1985: Fig.1)

At Habuba Kabira, excavations revealed a well-preserved pottery kiln situated outside the fortified area (Fig.7). The kiln consisted of a combustion chamber carved into the ground and an oven positioned above it, divided by a perforated clay platform. Fuel was fed into the combustion chamber via a lateral shaft. The heat then traveled through twelve channels, which extended through the perforated platform into the oven. Constructed from sturdy clay bricks, the perforated platform required no additional support within the combustion chamber. In contrast, the oven itself was covered with a temporary dome made of brushwood and clay, which was partially rebuilt before each firing. Once firing concluded, the dome was broken open to extract the finished pottery, with fragments of the dome wall and ash from clearing the combustion chamber scattered around the kiln.

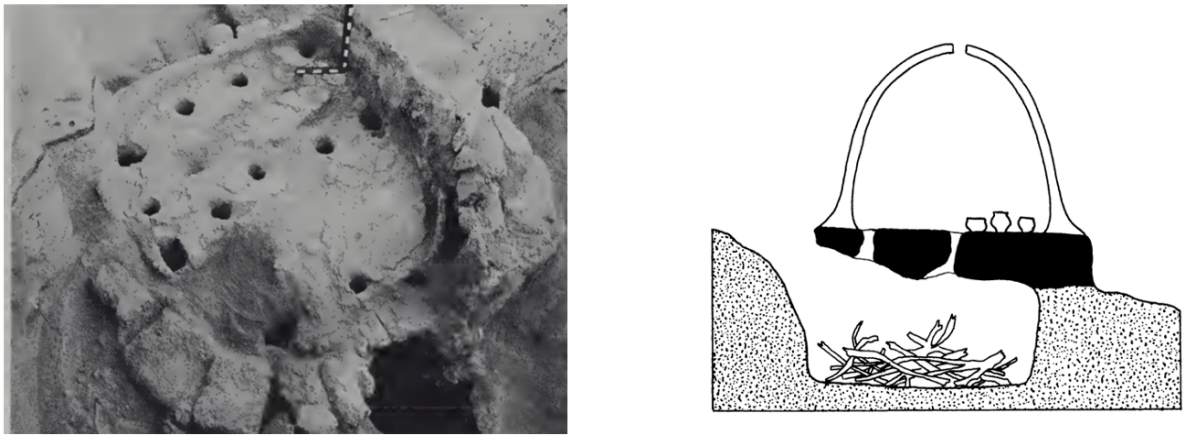


Fig.7: Kiln at Habuba Kabira (left) and Its Reconstruction (right) (After Strommenger 1980)

Together, these examples reflect an understanding of thermodynamics and kiln design for even heat distribution and efficient fuel use. Mineralogical, chemical, and thermal analyses from the Middle Euphrates Valley confirm that BRBs were fired at relatively low temperatures, typically between 500°C and 650°C, and generally below 900°C (Sanjurjo-Sánchez et al. 2018). Although no finished BRBs were found in R21:404, unbaked fragments and BRB wasters were discovered near smaller kilns at Chogha Mish, such as R17:210 and Q18:316, indicating local production.

4. Workshops

Despite the discovery of many firing installations, identifying Uruk-period workshops with definitive evidence remains challenging. Scholars debate whether pottery was produced in specialized workshops or domestic settings (D. T. Potts 1997). Recent finds at Girdi Qala, however, suggest the possible existence of Uruk workshops, with 16 kilns and associated structures documented in Trench C (Fig.8). Among these, two kiln complexes are particularly noteworthy: a quintuple kiln complex in Level 10 and a triple kiln complex in Level 7 (Fig.9 and Fig.10).

Fig.8: Trench C at Girdi Qala, view from the southwest (After Vallet et al. 2017: Fig.11)

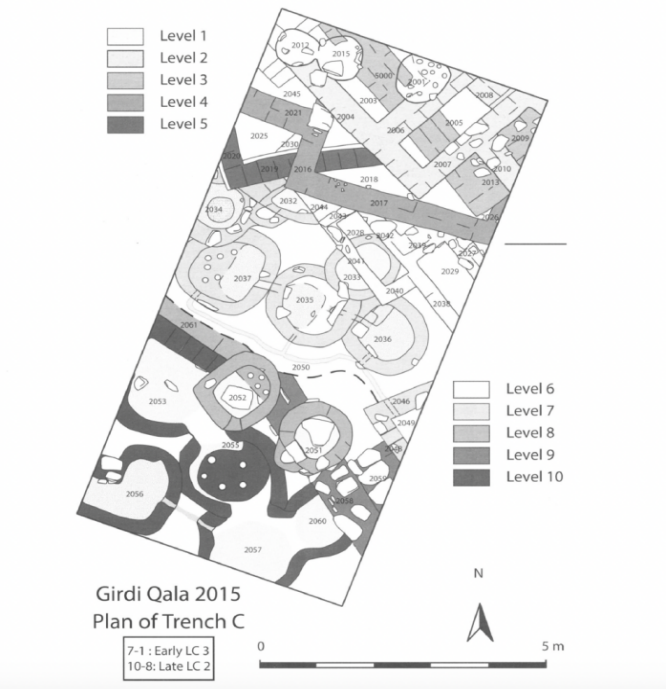


Fig.9: Plan of Trench C at Girdi Qala (After Vallet et al. 2017: Fig.12)

The quintuple kiln complex (Fig.10) consists of five large two-storey kilns (2053, 2055, 2056, 2057, and 2060), each averaging 1.8 meters in diameter, connected by a shared ventilation duct. This scale is highly exceptional for the Chalcolithic period. The uniform depth of the combustion chambers and the aligned aeration channels suggest that the complex was planned and constructed as a single unit. The triple kiln complex (Fig.10) features three circular kilns (2035, 2036, and 2037) connected by internal ventilation ducts and a square external duct on the eastern side of the trench, which likely functioned as a chimney to vent smoke. All three structures are similar in size and shape, and Kiln 2037 yielded a significant quantity of slag and firing waste. The uniform construction and interconnected systems indicate that these features were built simultaneously as part of a single installation. Both kiln complexes provide evidence of repeated, intensive production activities, which are strong indicators of workshop-level operations.

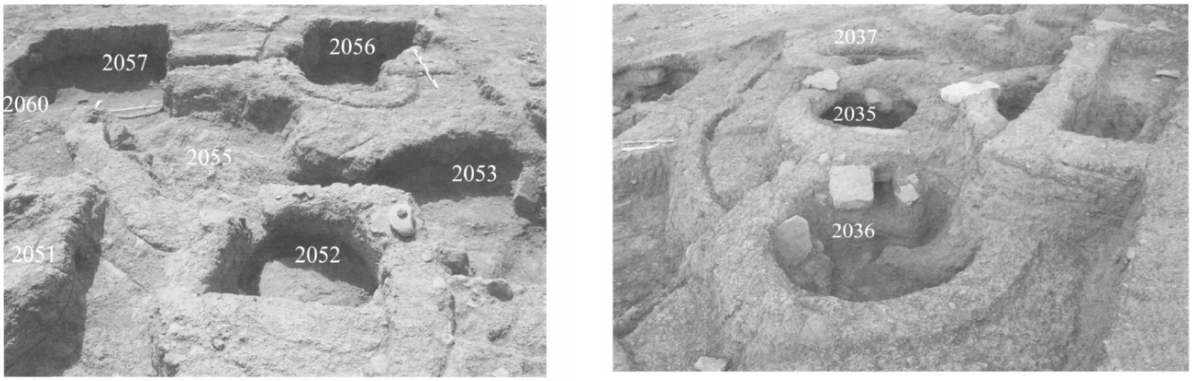


Fig.10: The Quintuple Kiln Complex (left) and Triple Kiln Complex (right) at Girdi Qala (After Vallet et al. 2017: Fig.13 and Fig.15)

To contextualize these findings, a later example from the Old Babylonian city of Mashkan-Shapir provides valuable insight into how pottery workshops may have been organized within a Mesopotamian urban landscape (Stone and Zimansky 1992). At Mashkan-Shapir, the city was divided into sectors by canals, with kilns, slag heaps, and wasters concentrated near the smaller canals in the eastern and northern sections (Fig.11). This suggests designated pottery production zones, strategically located to utilize the canals for transporting goods and accessing water, possibly for cooling or other production processes. While Mashkan-Shapir reflects a more developed urban context, its structured layout offers clues about how an Uruk-period workshop, like that at Girdi Qala, might have developed after a millennium of technological and societal advancements.

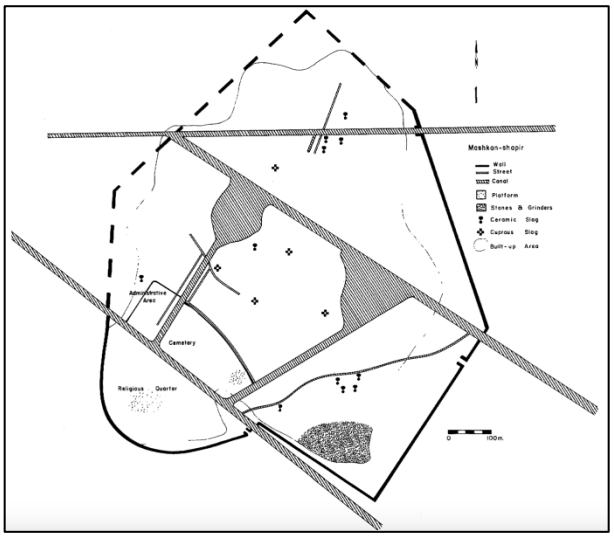


Fig.11: City Plan of Mashkan-Shapir (After Stone and Zimansky 1992)

III. Cultural and Historical Significance of BRBs

Despite their rough appearance, BRBs hold considerable archaeological value. Their widespread presence, from southern Mesopotamia to the Iranian highlands and southeast Anatolia, during urbanization and state formation has led to the term “Uruk Expansion” or “Uruk Phenomenon”. Algaze’s Uruk World System (Algaze 2004) envisions an Uruk-centered network in which southern Mesopotamian societies established enclaves, stations, and outposts along key trade routes in the northern periphery. These outposts, located far from the southern heartland, were likely designed to secure and promote long distance trade, while possibly exerting a degree of political influence. BRBs, as cultural markers, likely played a role in these networks, symbolizing Uruk’s economic and political reach.

BRBs also shed light on Uruk’s social and economic organization. In 1970, Nissen suggested that their standardized form and mass production indicated they were ration vessels (Nissen 1970). This is further supported by the striking resemblance between the BRB shape and the pictogram NINDA, meaning "bread" (Fig.12). If true, BRBs may have played a role in Uruk’s administrative

systems, helping to manage resource distribution. Each bowl could have contained enough grain to bake a loaf of bread for a family's daily needs. Beyond Nissen's interpretation, other scholars have proposed diverse functions for BRBs, including their use as votive bowls, bread molds, salt containers, yogurt vessels, or dishes for communal banquets (Kaercher 2009). Each theory provides a different lens on Uruk's social and economic structures.

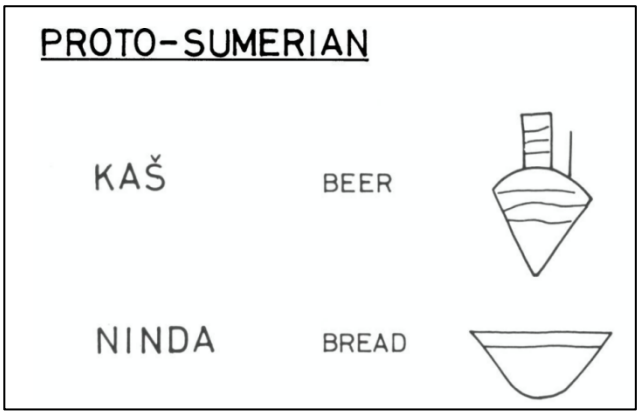


Fig.12: Proto-Sumerian Signs for Beer and Bread (After Lehner 1990: Fig.1)

Conclusion

Bevelled Rim Bowls, though seemingly crude, are far more than simple pottery. Beneath their unadorned appearance lies a hidden complexity, offering a window into the intricacies of Uruk society. Their standardized form, coarse fabric, and widespread distribution reveal a sophisticated system of organized production, likely centered in specialized workshops like those at Girdi Qala, which may have produced BRBs to support economic activities such as ration distribution. As Nissen (1970) noted, these small, undecorated bowls are "amazing artifacts" bridging industrialization, urbanization, and trade in one of the world's earliest complex societies. While their precise functions and manufacturing processes remain debated, ongoing research will enhance our understanding of BRBs and their role in ancient Mesopotamia.

Word count: 2187

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