LOCAL AND IMPORTED POTTERY IN THE NEOLITHIC GULF: A NEW PERSPECTIVE FROM THE SITE OF BAHRA 1 IN KUWAIT

Anna Smogorzewska
Institute of Archaeology, University of Warsaw

Abstract: The paper presents a new perspective on pottery traditions in the Gulf during the Neolithic period, based on new data from the Ubaid-related site of Bahra 1 in Kuwait. The site yielded an assemblage containing several different pottery types, classified as Ubaid Ware and Coarse Red Ware. These pottery groups were varied in many aspects: morphological types, technology, and provenance. Their main characteristics and cultural context are discussed, as well as the cross--pottery connections. The significance of these ceramic vessels for the Gulf population and their socio-economic context are also considered in this paper, given the new evidence from Bahra 1.

Keywords: Neolithic, Persian/Arabian Gulf, Ubaid, pottery, Bahra 1

Bahra 1, a site excavated since 2009 by the Kuwaiti–Polish Archaeological Mission from the Polish Centre of Mediterranean Archaeology University of Warsaw, has provided new data on the Neolithic in the Gulf and the character of interactions of that region with Mesopotamia during the Ubaid period. Vestiges of a dozen units composed of rectilinear houses of different character were uncovered there (Bieliński 2011; 2013). The site, which lies in the Al-Subiyah region of northern Kuwait, can be considered one of the earliest Ubaid-related settlements in the Gulf (about 5500–4900 BC, unpublished radiocarbon dating; Bieliński 2013). Examination of the pottery assemblage from the site gave a date for the occupation of the site in the Ubaid 2 period and the earlier part of Ubaid 3 (Ubaid 3a or Ubaid 2/3) (for chronological observations on the assemblage, see Smogorzewska 2013; 2015). A larger group of potsherds associated in shape and style with the Ubaid 2 (or Hajji Muhammad) phase is notable, compared to other Ubaid--related sites in the Gulf (Smogorzewska 2015). While the central Gulf has been considered a major area of Ubaid presence in this region, this owing to the large number of identified Ubaid-related sites, investigations at Bahra 1 and the nearby site H3 have shown that the upper Gulf must have played a significant role in relations with Mesopotamia and the distribution of Ubaid culture in the Gulf.

Two distinct groups of pottery, Ubaid Ware and Coarse Red Ware, were found

at Bahra 1. These two pottery groups were also identified at other Ubaid-related sites in the Gulf, from Kuwait to Oman, e.g., Abu Khamis, Ain Qannas, Khursaniyah, al-Markh, al-Da'asa, Umm al-Quwain and others, and they make for the earliest ceramic tradition present in the Gulf. The main difference between the two is the fabric: Coarse Red Ware was most probably produced locally, whereas Ubaid pots were imported from Mesopotamia. Different technologies were applied to the manufacturing process of the two groups and the repertoire of shapes varied as well. The cultural context and the importance of Ubaid and Coarse Red Wares for the Gulf inhabitants, as well as the nature of the interactions between the Gulf and Mesopotamia continue to be a topic for discussion. The Bahra 1 assemblage with its recorded more than 16,000 sherds, representing a wide range of vessel types, offers an excellent opportunity to reconsider these pottery groups, especially in the nature of the relations between the Gulf and Mesopotamia during the Ubaid period.

UBAID WARE

Ubaid Ware prevails at Bahra 1, currently accounting for about 53% of the pottery assemblage.[1] Plain and painted variants are both present, and the vessels demonstrate a variety of sizes, different morphological types and technologies. Represented are various bowls and jars, as well as beakers, large rectangular basins and special forms, like a "tortoise vessel" [*Fig. 1*], an anvil--shaped vessel and a vessel with pouring lip.

Bowls appear in a variety of forms and sizes. Simple shapes are accompanied by types showing morphological complexity. Carinated bowls were the prevailing form [*Fig. 2*], diagnostic for the Ubaid 2 phase, but not a precise chronological indicator, considering that it continued in use in the Ubaid 2/3.[2] Bowls of this type were usually rendered in the Hajji Muhammad style, painted in the reserve technique with a set of densely composed patterns that made the vessels visually distinct for their users. Characteristic motifs included grids, triangles, sunburst, encircling lines in reserve on a dark field. Considering their shape and dimensions (rim diameter ranging from approximately 30 cm up to 50 cm), these bowls may have been used as large serving vessels for collective use. The elaborate painted decoration must

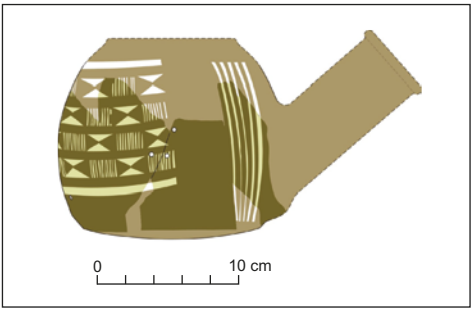


Fig. 1. "Tortoise vessel" (reconstructed), Ubaid Ware from Bahra 1 (Drawing and digitizing M. Momot, A. Smogorzewska)

[1] The share of Ubaid Ware from the first three excavation seasons was a reported 65% (Smogorzewska 2013).

[2] Carinated bowls in Hajji Muhammad style were reported from many sites, e.g., Hajji Muhammad (Ziegler 1953: Pls 11, 14, 15, 16:a), Ras al-Amiya (Stronach 1961: Pls XLVIII:2, XLIX:1–2), Abada level II (Jasim 1985: Fig. 152), Tell Songor A (Fujii 1981: Fig. 35:8), Tell Songor B (Fujii 1981: Fig. 46:7) and Oueili (Lebeau 1991: Pl. I:6–11) in Ubaid 2 and 2/3 context. Carinated bowls with dense grid pattern are also known from the Central Gulf (Ain Qannas) (Masry 1997: Figs 12, 18; Burkholder 1972: 267) and H3 (Carter and Crawford 2010).

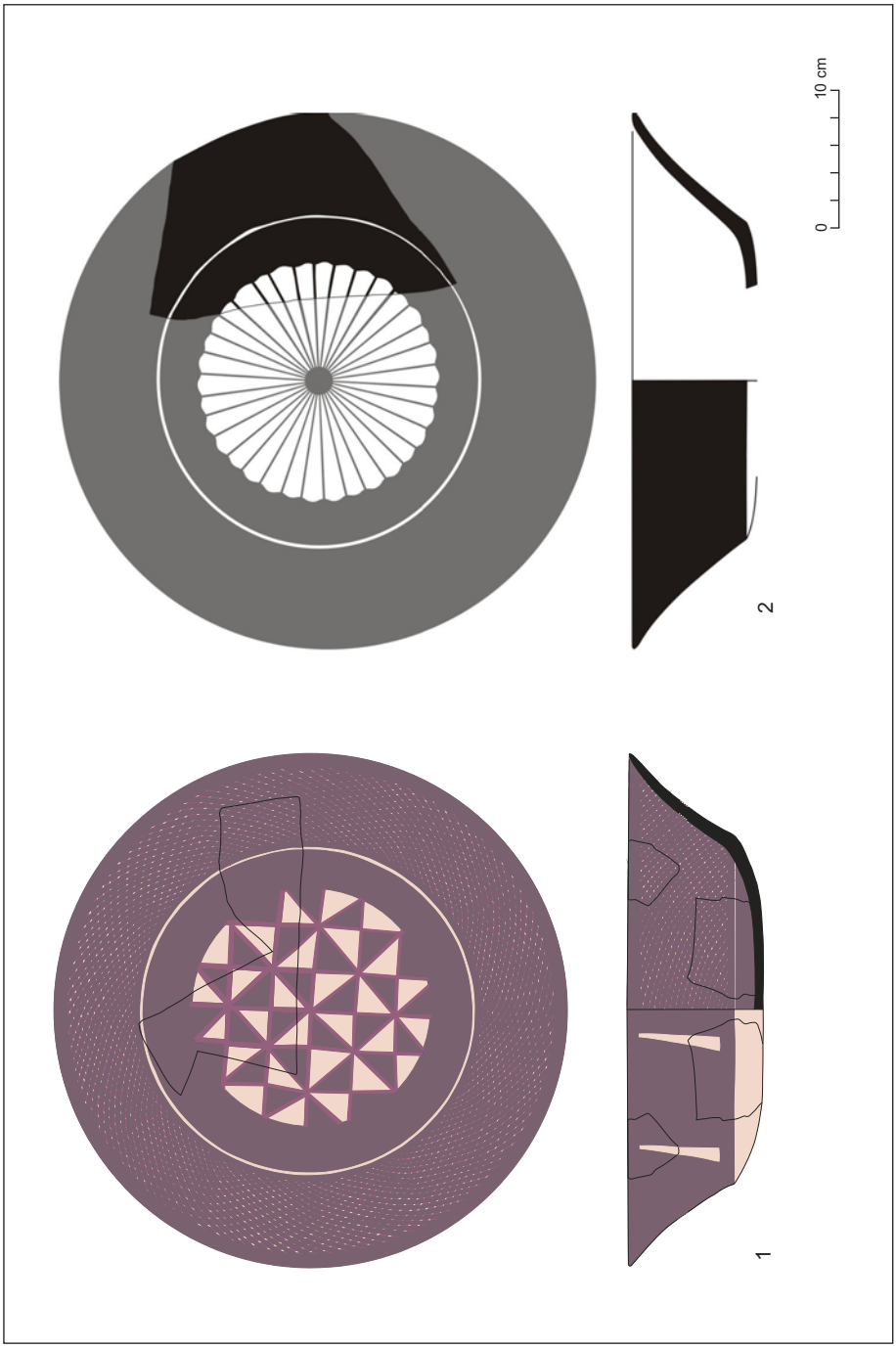


Fig. 2. Carinated bowls in Hajji Muhammad style (reconstructed), Ubaid Ware from Bahra 1 (Drawing and digitizing E. Hander, M. Momot, A. Smogorzewska)

have made them prized possessions in terms of both esthetics and prestige. Other types among the Bahra 1 finds included hemispherical and straight-sided bowls, with simple and out-turned rims and other forms [*Fig. 3:1–3*], adorned with a variety of patterns: horizontal bands, wavy lines, zigzag ladder, hanging loops and others. Judging by their size and decoration, some of the small bowls could have been used for individual drinking or eating. A beaker with S-profile, represented by a single sherd,

Fig. 3. Bowls of Ubaid Ware from Bahra 1: 1–3 – bowls; 4 – tall beaker (Drawing and digitizing E. Hander, A. Smogorzewska)

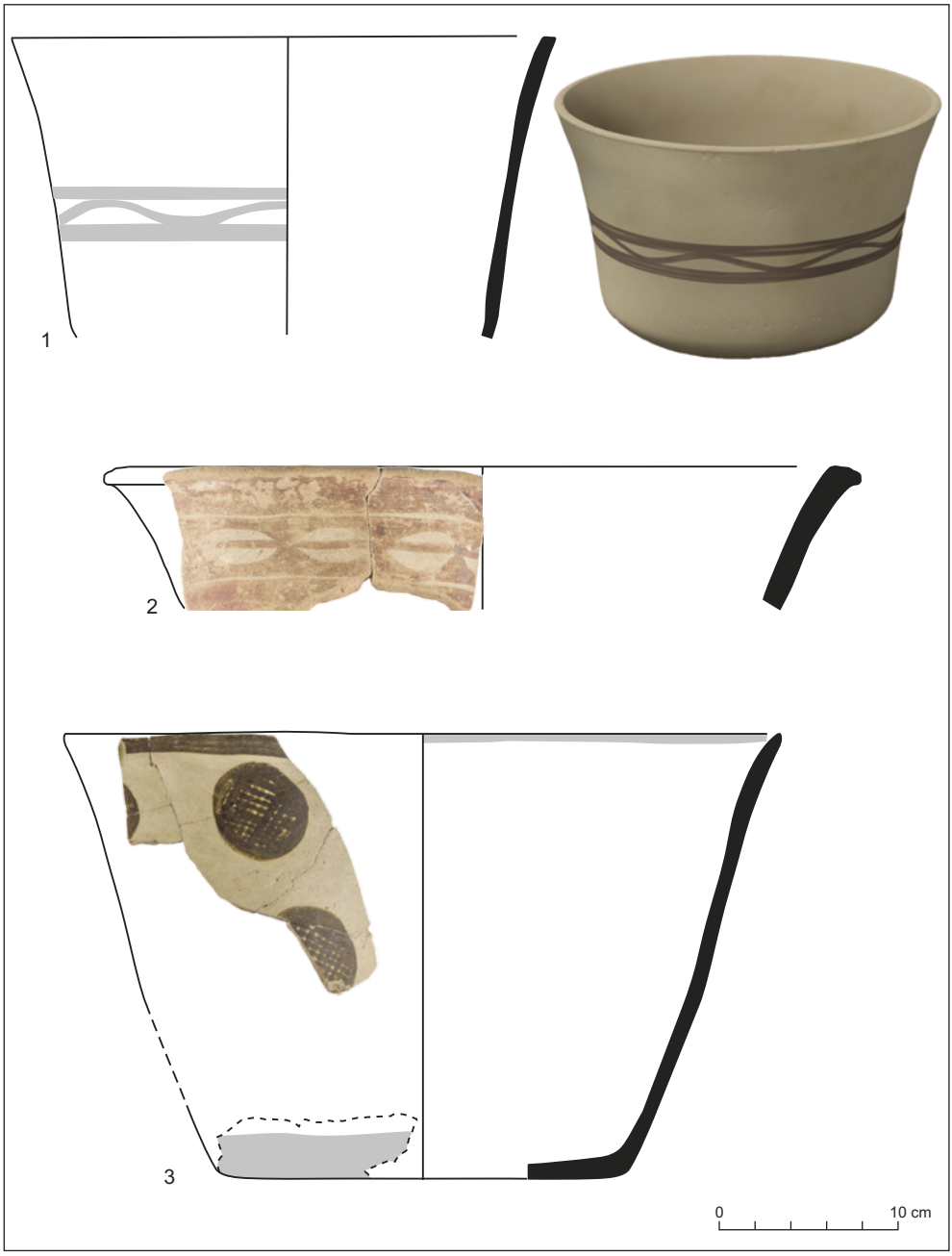


Fig. 4. Large bowls of Ubaid Ware from Bahra 1
(Drawing and digitizing E. Hander, M. Momot, A. Smogorzewska; 3D model E. Mizak)

was decorated with a wavy line between two straight parallel lines [*Fig. 3:4*].[3] Also well represented at Bahra 1 are the large open bowls (rim diameters ranging approximately from 30 cm to 40 cm) with straight or slightly rounded profiles [*Fig. 4*]. Being deeper than other bowls, they could have been used for preparing food or short--term storage. Bowls of this type could have also been shown off when serving food because of their painted decoration, comprising painted circles filled with

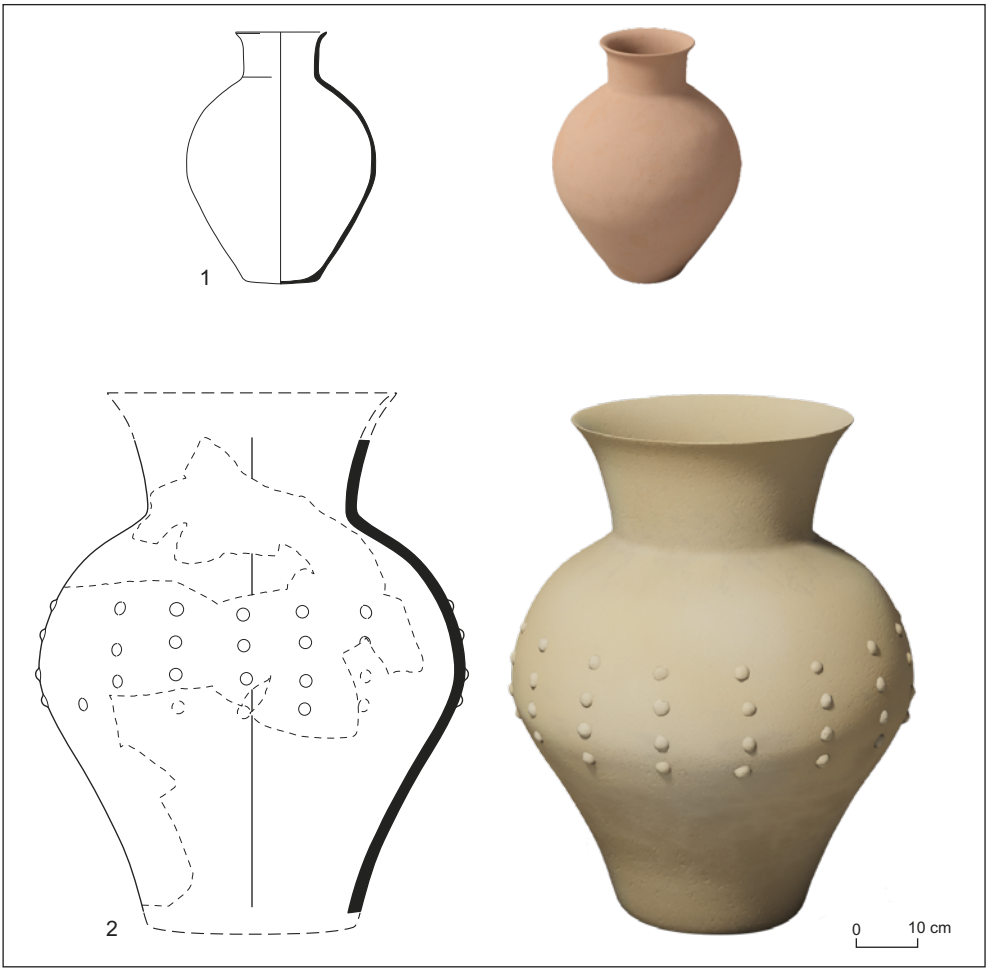


Fig. 5. Jars of Ubaid Ware from Bahra 1 (note the scale)
(Drawing and digitizing E. Hander, A. Smogorzewska; 3D models E. Mizak)

[3] The beaker resembles "tall goblets" which are characteristic of the Eridu phase (type 32) (Safar and Lloyd 1981: 175). Beakers of this type (some of them carinated) are known from, among others, Eridu level XVI (Safar, Mustafa, and Lloyd 1981: Fig. 96:20), Oueili (Calvet 1987: Pls VI:4, XII:8; XIII:1), Tell Abada levels II and III (Jasim 1985: Figs 100:b–d, 103:b, 196:b,c), in all cases in Ubaid 1 and 2, but also Ubaid 3 layers.

a dense grid pattern, denticulation at the rim, horizontal reserve lines, date-pits in reserve or a wavy line between two straight horizontal lines and other patterns.

Ubaid Ware jars at Bahra 1 present several morphological types. Jars with high cylindrical necks and everted rims, high flaring necks or short curved necks are the most numerous [*Fig. 5*]. They have ovoid or globular bodies and flat bases. Another type comprises jars with very short necks and globular bodies, which were often equipped with pierced lugs on the shoulders [*Fig. 6:4*]. The jars vary in size, which probably had functional significance. Middle-sized jars of appropriate shape

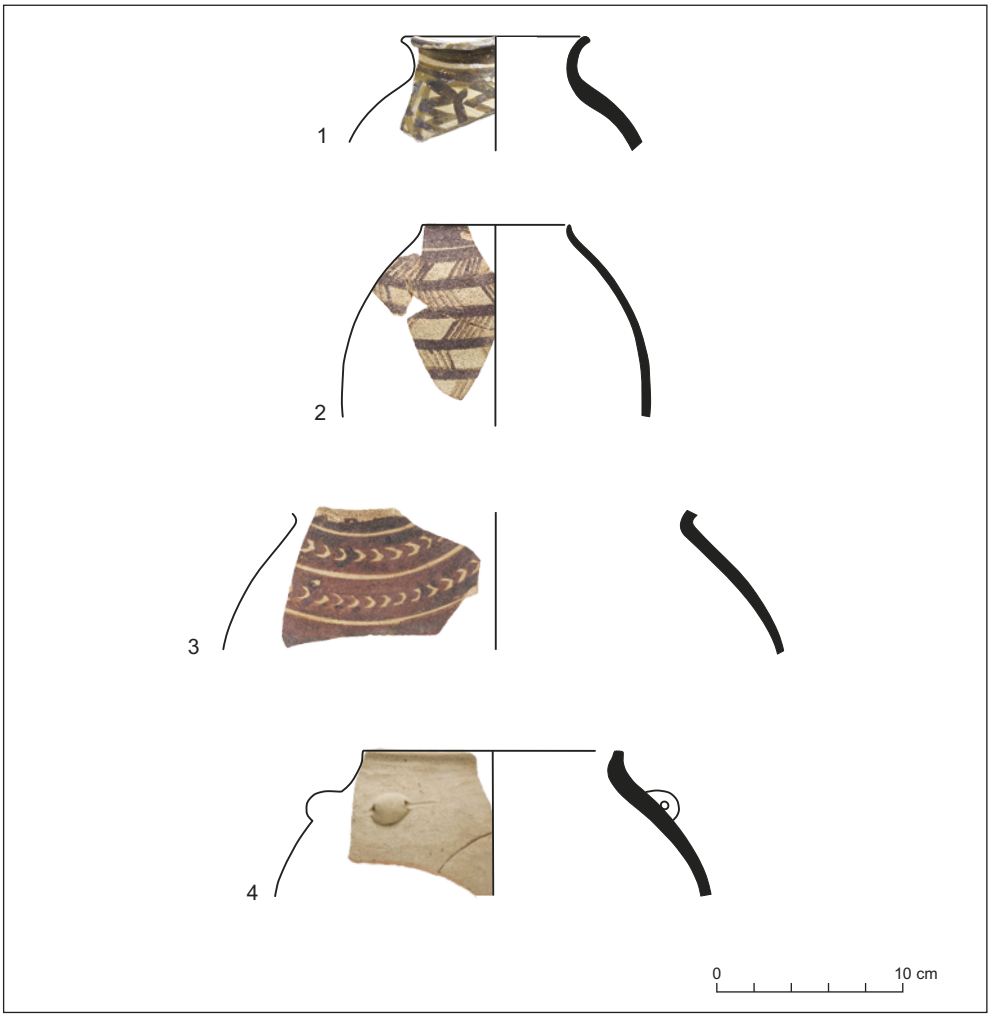


Fig. 6. Jars of Ubaid Ware from Bahra 1
(Drawing and digitizing E. Hander, M. Momot, A. Smogorzewska)

were suitable for serving. They often bear painted decoration indicating their use in public [*Fig. 6:1–3*]. The most popular decorative patterns included diagonal lines, horizontal chevrons, lines in reserve, horizontal bands, multiple vertical zigzags, or squares with diagonals and other designs. Larger jars were used for storing or moving products. An extra large jar, partly preserved, reaches 65 cm in maximum diameter and it could have been originally over 90 cm high [*Fig. 5:2*]. Its maximum capacity was 139 liters. It was adorned with a plastic decoration of round knobs, unique with regard to the Ubaid-period pottery. The knobs were arranged in four rows on the vessel shoulder. Other pottery types used for storage are present as well, for example, coarse-ware barrel-shaped vessels (rim diameter over 40 cm).

Large rectangular basins manufactured in coarse ware technology were also recognized in the Ubaid Ware repertoire. One of them, crushed into several dozen pieces, was originally 54 cm wide and about 100 cm long [*Fig. 7*]. Rectangular basins with their large working surface could have been convenient for processing different products, although their exact function and the nature of the processed products remain unknown for the moment.

Ubaid vessels were handmade. Techniques included coiling and slab building. Joints between coils are observed on the inner surface in singular, poorly made vessels. Traces of scraping and other secondary forming methods, used mostly for handmade vessels, can be observed on many of the potsherds. Most of the Ubaid vessels were fired at medium temperatures. Some, however, were fired at high temperatures, as indicated by the olive color, typical of calcareous clay fired in high temperature ranges, and dense fabric.

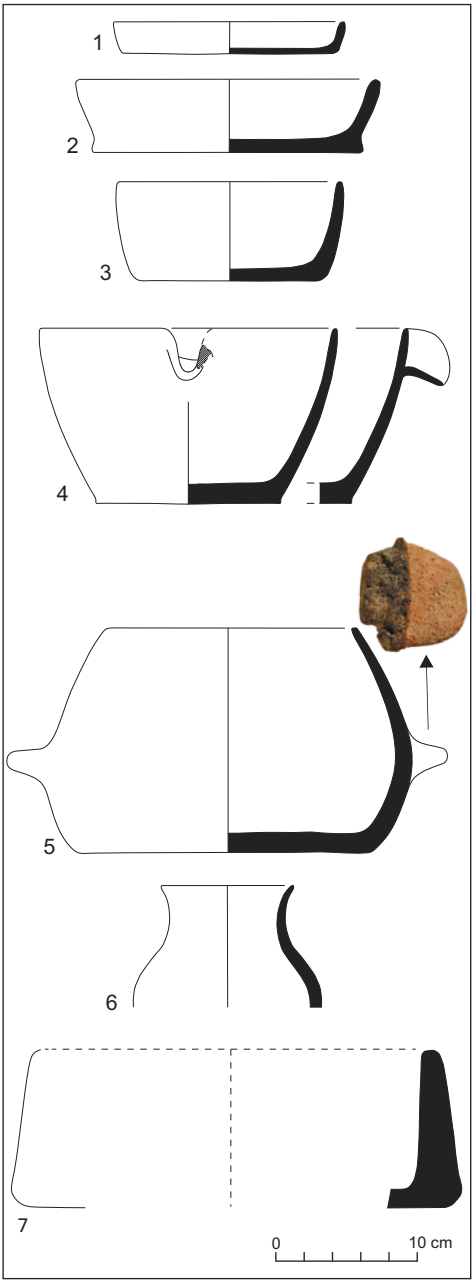
Three technological classes of Ubaid Ware were distinguished: fine ware, common ware and coarse ware. Common ware with mineral inclusions is the most frequent technological group from Bahra 1. Sand inclusions (dark grey/bluish, reddish and translucent grains) are the most common. Particles are medium or fine (usually around 0.2–0.3 mm), well sorted and in significant quantities (many or abundant). Common ware with medium or coarse sand particles, accompanied sometimes by moderate medium chaff, is less numerous. Fine ware is characterized by well-levigated clay with very fine particles. It is usually associated with thin-walled (0.1–0.4 cm thick) vessels of very smooth surfaces. A characteristic feature of the coarse ware is chaff temper added to the clay in abundant or moderate quantities. Some mineral inclusions are sometimes present in small number. Coarse ware vessels are also distinguished by their thick walls (1.3–2.3 cm).

COARSE RED WARE

Coarse Red Ware, also known as "straw tempered coarse ware" or "Arabian coarse ware" (Burkholder 1972: 268; Oates et al. 1977: 232; Oates 1976: 26; Masry 1997: 80), makes for approximately 47% of the pottery collected at Bahra 1. These vessels are distinguished by their red and less often pale brown color. Pale yellow slip (or self-slip) covers the surface of some red-ware pots. The vessels were fired at low temperatures, probably in bonfires. This resulted in a dark grey core,

Fig. 7. Rectangular basin of Ubaid Ware from Bahra 1 (Photo A. Smogorzewska)

Fig. 8. Mat-impressed bases of Coarse Red Ware from Bahra 1 (Photo A. Oleksiak)



visible in the breaks, and made the ware soft and brittle. Coarse Red Ware vessels were handmade, using the coiling or slab-building techniques. During the process of forming, baskets or trays could have been used as molds, as mat impressions (both rounded and oval) are visible on the outer surface of some bases [***Fig. 8***]. Technological similarities can be observed between basketry and pottery-making in the Neolithic of the Near East (Wengrow 2001: 178). Ceramic mat-impressed bases have been found at a number of Neolithic sites, from Iran to Syria and from the Gulf to the Caucasus, e.g., Hajji Firuz, Shir, Aruchlo and others (Vandiver 1987: 18, 27–28; Nieuwenhuyse 2009: Fig. 13; Hansen et al. 2006: Fig. 38).

Clay used for Coarse Red Ware manufacture includes chaff, sand, white particles (crushed shells?), red grains and other inclusions. Chaff, added in various quantities (usually moderate or abundant), is the main tempering agent. Some fabrics are distinguished by sand particles (medium or coarse in size) with moderate or scarce addition of chaff.

At Bahra 1, Coarse Red Ware is represented by a number of shapes: pots, trays, dishes, bowls, jars and basins [***Fig. 9***]. Pots were often equipped with plug-in lugs [***Figs 9:5***].[4] Some of the pots are oval in shape. Bowls were also identified [***Fig. 9:3***]

Fig. 9. Coarse Red Ware repertoire: 1– tray; 2 – dish; 3 – bowl; 4 – bowl with pouring lip; 5 – pot with lug handles; 6 – jar; 7 – rectangular basin (Drawing and digitizing E. Hander, M. Momot, A. Smogorzewska; photo A. Oleksiak)

[4] Pots with lugs, a convenient shape for cooking, are encountered in many Neolithic pottery traditions of the Near East. At Tell Sabi Abyad, Neolithic pots of Mineral Coarse Ware are similar to Coarse Red Ware pots also in the way the lug is inserted into the pot walls (Nieuwenhuyse 2007: 77–78).

as well as more shallow vessels, trays and dishes [*Fig. 9:1–2*]. Some bowls are distinct for their pouring lip [*Fig. 9:4*].[5] Jars with everted rims and curved necks represent another Coarse Red Ware morphological type [*Fig. 9:6*]. They vary in size. Jars with rim diameter ranging from about 10 cm up to 26 cm were registered. Fragments of vessels, most likely belonging to large rectangular basins, were also recorded [*Fig. 9:7*]. Other forms include miniature vessels, such as pots with lugs and bowls, as well as a few unique types. Various shapes were recognized at Dosariyah, where Coarse Red Ware is represented by pots with lugs, dishes, plates, cup-like vessels and bowls (Kainert and Drechsler 2014: 220, Fig. 5). The repertoire of Coarse Red Ware forms from other sites in the Gulf is difficult to determine because of the fragmentary state of preservation of most pottery vessels. Pots with lugs, bowls, some open and closed rims and flat bases (some with mat impressions), are known from the H3 site (Carter and Crawford 2010: 47) and from Central Gulf sites (Masry 1997: Pls 37:1, 40:1, Figs 32:1, 47:1).

At Bahra 1, single vessels bear simple lines or zigzags incised at the rim, a feature unusual for Coarse Red Ware, which is for the most part undecorated [*Fig. 10:4*]. A pot with incised geometric patterns from Dosariyah also belongs to the few exceptions of decorated Coarse Red Ware (Kainert and Drechsler 2014: 220, Fig. 6).

PROVENANCE AND CULTURAL RELATIONS

Laboratory analyses confirmed significant differences in the chemical composition of clay used for the production of Ubaid Ware and that used for Coarse Red Ware. It pointed to different places of origin of these two pottery groups. Provenance analyses performed in the 1970s proved that the Ubaid-style pottery found in the Gulf originated from southern Mesopotamia (Oates et al. 1977). Coarse Red Ware was most probably produced locally in the Gulf region; however, clay sources matching the chemical composition of Coarse Red Ware have yet to be identified. There are two clusters of Coarse Red Ware findspots in the Gulf region and they coincide with concentrations of sites yielding Ubaid Ware potsherds: the Northern Gulf with the sites of Bahra 1 and H3 (Carter and Crawford 2010), and the Central Gulf with a number of sites (Burkholder 1972; Potts 1990; Oates et al. 1977; Masry 1997; Kainert and Drechsler 2014). Coarse Red Ware drops in numbers in the Lower Gulf, where only small quantities have been recorded.[6]

Based on a high occurrence of Coarse Red Ware, the Central Gulf is regarded as its production center. From there vessels would have been distributed to other regions of the Gulf (Carter and Crawford 2010: 36, 47).[7] However, in view

5 A pot with pouring lip is known from Dosariyah (Kainert and Drechsler 2014: Fig. 5:b).

6 A few Coarse Red Ware fragments are known from al-Da'asa in Qatar (Oates 1976: 26; Potts 1990: 46), DA11 at Dalma Island, Umm al-Quwain and site JH4 at Jazirat al-Hamra in the United Arab Emirates (Carter and Crawford 2010: 36).

7 According to Joan Oates, some Central Gulf sites feature Coarse Red Ware amounting to 60–70% of the pottery assemblages (Oates et al. 1977: 222). Some evidence of local pottery production, such as kiln wasters, was reported from Dosariyah (Oates et al. 1977: 224).

of the latest archaeological investigations, especially at the sites of Bahra 1 and Dosariyah, this opinion needs to be revised. There are arguments supporting the idea that Coarse Red Ware vessels could have been produced locally in the Northern Gulf, without the effort of importing them from the Central Gulf. This opinion is supported by the percentage share of sherds of this ware, amounting to as much as about 47% of the ceramic material at Bahra 1. At H3, it is between 20% and 38% depending on the period (Carter and Crawford 2010: Fig. 3.3). Coarse Red Ware from renewed excavations at Dosariyah accounts for just 20% of the ceramic assemblage (Kainert and Drechsler 2014: 216) rather than the 45–50% presumed previously (Masry 1997: 80–81). Moreover, the repertoire of vessel types from Bahra 1 is quite diverse, with a number of them absent from the Central Gulf sites, rather than being limited to just a few forms that might have been objects of import from a remote source.

Issues of who produced Coarse Red Ware and what was the cultural context of this production are subject to discussion. According to some authors, Coarse Red Ware should be seen as a product of the Neolithic inhabitants of the Central Gulf (inspired by the presence of Ubaid Ware) (Carter and Crawford 2010: 67; Magee 2014: 73). Other authors suggest that Coarse Red Ware was manufactured locally by Mesopotamian visitors to the Gulf possessing basic know-how of pottery making, such as, for instance, Ubaid fishermen (Oates et al. 1977: 233; Potts 1990: 58). The joint occurrence of Coarse Red and Ubaid Wares may argue in favor of cultural relations between these two pottery groups. Coarse Red Ware is attested only at Neolithic sites with Ubaid Ware presence and it disappears when the latter vanishes.

Identifying Coarse Red Ware as the first local pottery tradition in the Gulf region is problematic, however, because the appearance of pottery at Ubaid-related sites in the Gulf did not lead directly to the emergence of a local ceramic tradition. With the disappearance of Ubaid Ware, the only specimens occurring in the Gulf in the following periods were a few imported pieces attesting to contacts with Mesopotamia (among others, Late Uruk and Jamdat Nasr) (Potts 1990: 63–64). After the period when Ubaid and Coarse Red Wares were in use, the next notable local pottery tradition was recorded in the Gulf in the 3rd millennium BC.

UBAID WARE AND COARSE RED WARE: CROSS-POTTERY INTERACTION

Interactions observed between Ubaid and Coarse Red Ware pottery derive from the concurrent functioning of these two ceramic traditions [***Fig. 10***]. Importantly, however, these interactions were unidirectional: Ubaid Ware forms were imitated in Coarse Red Ware, most likely in order to procure cheaper versions of vessels imported from Mesopotamia. Such imitations are rare however. At Bahra 1, large, rectangular basins made of Coarse Red Ware may have emulated an Ubaid Ware form, as many imported vessels of this type were recorded at the site [***Fig. 10:3*** and ***4***]. A few basin fragments were also part of the Coarse Red Ware assemblage.

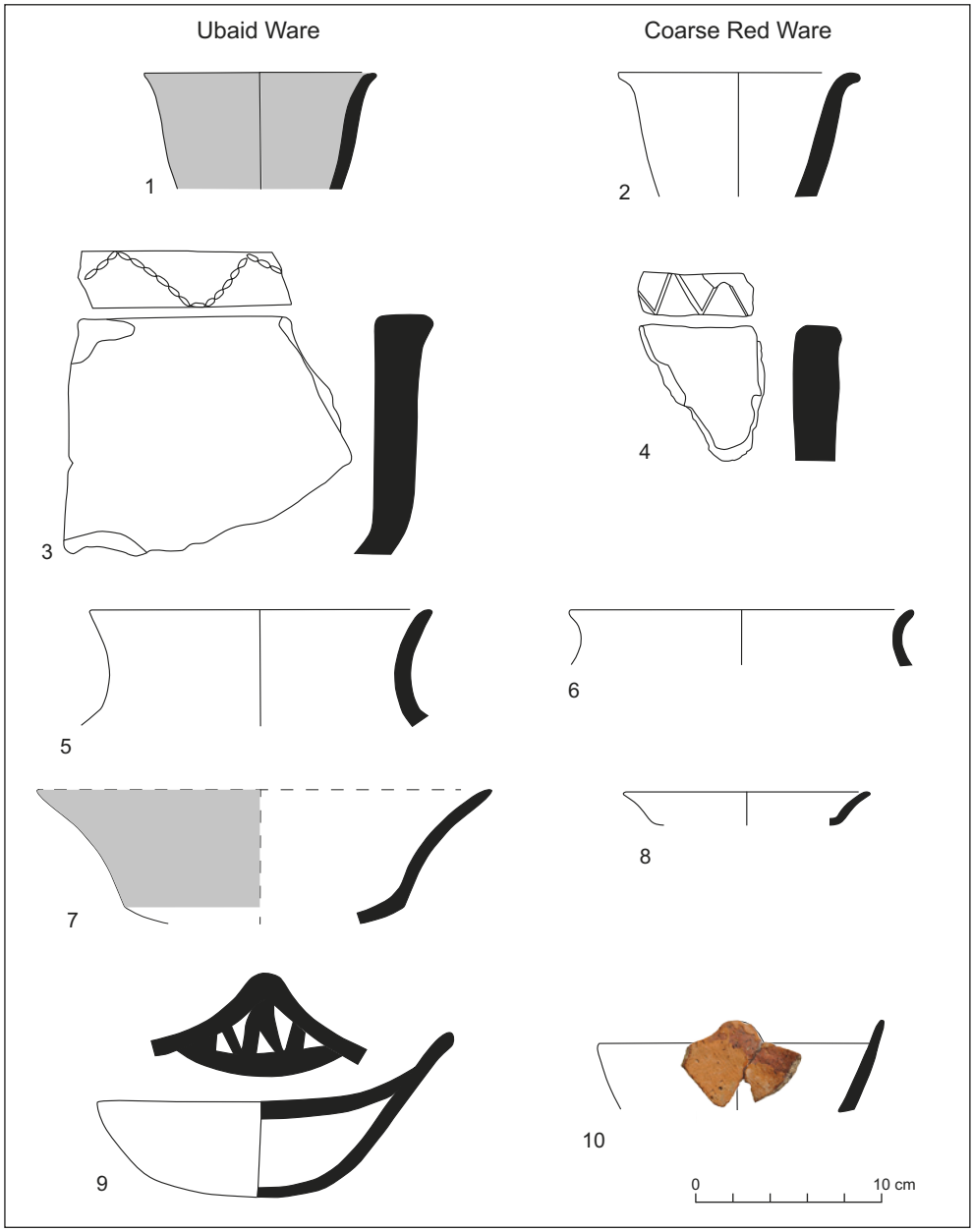


Fig. 10. Ubaid Ware and Coarse Red Ware: cross-pottery interactions: 1–2 – round-sided bowl with everted rim; 3–4 – large rectangular basin; 5–6 – jar; 7–8 – carinated bowl; 9–10 – "sauce-boat" vessel (1–8, 10 from Bahra 1; 9 from Ras al 'Amiya, Stronach 1961: Pl. LVII: 2) (Drawing and digitizing E. Hander, M. Momot, A. Smogorzewska)

Only Coarse Red Ware basins have mat-impressed bases. An additional indication of an attempt at imitation is the decoration in the form of zigzags incised on the rim in both wares. Also the Coarse Red Ware jars with curved neck and everted rim, well represented at Bahra 1, may have been inspired by the Ubaid jars, as implied by the same shapes recorded in Ubaid Ware [***Fig. 10:5–6***]. The round-sided bowls with everted rims in Coarse Red Ware from Bahra 1 are likely imitations of a similar form from the Ubaid Ware repertoire [***Fig. 10:1–2***]. Of interest in the Coarse Red Ware collection are two examples of vessels with wing-like vertical handles. They can be imitations of "sauce-boats" characteristic of Ubaid Ware [***Fig. 10:9–10***]. One example of a small carinated bowl, a distinctive shape in Ubaid Ware, was also registered in Coarse Red Ware at Bahra 1 [***Fig. 10:7–8***].

Also other Ubaid-related sites in the Gulf region have yielded single examples of local imitations of Ubaid vessels. Two fragments of jars with inner ledges from Dosariyah, made in the Coarse Red Ware technology, imitate forms characteristic of Ubaid Ware (Kainert and Drechsler 2014: 220, Fig. 7). Plaster painted vessels from the sites DA11 (Dalma Island) and MR11 (Marawah Island) are likely imitations of Ubaid pots and may be seen as an indication that imported Ubaid vessels reached the southern part of the Gulf irregularly, and local inhabitants attempted to imitate them on the spot (Beech 2003: 39; Carter 2010: 195, Fig. 15.5).

It has been suggested that the presence of Ubaid Ware stimulated the appearance of Coarse Red Ware (Carter and Crawford 2010: 67). However, Coarse Red Ware is in evidence at Bahra 1 and other Ubaid-related sites (such as Dosariyah, see Kainert and Drechsler 2014: 222) from the very beginning of settlement there, alongside the first examples of Ubaid Ware. Had it been inspired by the Ubaid ceramic tradition, it would have had to appear for the first time in later phases. At Bahra 1, Coarse Red Ware is present in a wide range of forms without any notable attempts at emulating putative prototypes in Ubaid Ware. The occasional efforts made to imitate Ubaid forms in Coarse Red Ware prove the interplay of these two pottery groups and the demand for cheaper, locally-made copies of Ubaid vessels.

FUNCTION OF UBAID WARE AND COARSE RED WARE IN THE GULF

Considering differences in technology and forms between Ubaid and Coarse Red Wares, the two wares could have had largely different functions and their joint appearance at Gulf sites points to a complementary nature of these functions. Ubaid Ware lacks forms suitable for cooking, whereas Coarse Red Ware pots with lugs were well-suited for that purpose. Moreover, trays of Coarse Red Ware could have been used for cooking or grilling (Henrickson and McDonald 1983: 631–632).[8] Such trays, well represented at the Bahra 1 settlement, could have been

[8] At Sarab, a 6th-millennium site in Iran, round and oval trays could have been used for parching grain or bread baking, or for drying foodstuffs (Henrickson and McDonald 1983: 638).

placed over fireplaces just like cooking pots. Jars and bowls were used for cooking, too, as indicated by parallels from other sites. At Kenan Tepe, an Ubaid-related site in southeastern Anatolia, two types of putative cooking vessels were recognized based on the correlation between fabric and sooting: hole-mouthed jars and open bowls (Parker and Kennedy 2010: 6).[9] While pots with lugs and trays appear only in Coarse Red Ware, jars, basins and some open bowls are encountered both in Ubaid and Coarse Red Wares, indicating that the functions of these two wares overlapped to some extent.

COARSE RED WARE

Coarse Red Ware is usually classified as a kitchen ware, based foremost on its coarse fabric, shapes and traces of sooting (Masry 1997: 239; Carter and Crawford 2010: 33). Its function must have been more versatile, as implicated by the large variety of forms in the Bahra 1 repertoire. Coarse Red Ware vessels could have been used in a wide range of household activities, not solely for cooking (pots, trays, some bowls and jars?), but also for food preparation and processing (bowls, basins), as well as for storage and transportation (jars). The ware, however, was not designed as a special-purpose ware. It lacks luxury tableware used for display while serving and presenting food. A few examples of Coarse Red Ware could have been used as cups, considering their shape and size. Also, some of the trays and dishes for cooking may have been used to serve food. Considering differences in size, smaller trays and dishes may have served individual meals, while the larger ones served families. They are, however, coarse and usually carelessly made, the surface rough and without any kind of decoration. Consequently, they could have been used as serving dishes in non-public, domestic contexts. Moreover, a small sample of Coarse Red Ware represents vessels which were not used in any domestic context. The existence of miniature vessels and special forms proves that Coarse Red Ware included vessels not necessarily connected with kitchen or household activities.[10] However, such forms are few and the bulk of Coarse Red Ware vessels was used for domestic purposes.

UBAID WARE

The function of Ubaid vessels in the Gulf as well as how they got there are issues open to discussion. According to one view, Mesopotamians may have carried pottery in their packs when travelling in the Gulf region (Oates et al. 1977: 232). In a different model, Ubaid pots found their way into the Gulf region in the course of long-distance trade exchange with Mesopotamia (Carter 2006; 2010; Carter and Crawford 2010). Imported Ubaid Ware is believed to have had a special role in Gulf communities, focusing on the vessels' symbolic function as a major conveyor of social status and element of display (Carter 2006: 58–59). Taking into consideration the prevalence of open shapes, as well as the presence of elaborate

[9] Also at Hajji Firuz large open bowls were used for cooking (Voigt 1983: 159). At Kamiltepe, a Neolithic site (6th millennium BC) in Azerbaijan, truncated-conical bowls might have been used for cooking, considering that they have sooting on the outside (D'Anna 2012: 42).

[10] Coarse Red Ware from Bahra 1 includes also small items like conical rings, pegs, flanged discs, spindle whorls and cupped cones (Reiche 2013).

painted decoration, a large number of the Ubaid vessels can be considered luxury tableware used for serving food. Lavishly decorated Ubaid vessels seem to have served a public purpose, such as social acts of consumption (Karsgaard 2010: 54; Crawford 2010: 166). After all feasting played an important role in social life (Helwing 2003). Specially designed serving vessels are assumed to be one of the indicators of feasting in the archaeological record (Hayden 2001: 40). The elaborately decorated carinated bowls of Ubaid Ware seem to have been perfectly designed for communal consumption.

Examination of the pottery assemblage from Bahra 1 revises the opinion about the high status and showcasing function of Ubaid Ware as a commodity. The wide array of pottery types, varying in shape, technology and size, indicates that Ubaid Ware played diverse roles in the life of the inhabitants of Bahra 1, extending well beyond the social needs of the Gulf people. Many examples of common and coarse Ubaid Ware vessels intended for household activities accompanied the luxury tableware. Among them were large jars for storing and moving goods, and rectangular basins for processing various products. This assemblage does not look like either a set of selected vessel types that reached the site by means of trade exchange or a group of ceramic containers left over after the commodities imported in them had been used.

The prevalence of open pottery shapes is taken as an argument supporting the exchange model and defining a social and special-purpose function of Ubaid pottery in the Gulf (Carter 2006: 59). A high number of Bahra 1 jars suitable for storage and transportation, as well as other utilitarian vessels reveal the function of Ubaid Ware in the Gulf to be more varied than previously assumed. At Bahra 1, open shapes make up 54% of the Ubaid pottery assemblage (based on the results of seven seasons of excavation until 2014). Jars and pots account for 40%, while the remaining 6% of the assemblage is made up of special types (based on a rim sherd count). The share of jars is significantly higher than at the nearby site H3, where closed forms constitute barely 22% of the Ubaid pottery, while open shapes account for 78% (Carter and Crawford 2010: 60).[11] Open shapes prevail also at other sites, while jars are rare finds (e.g., at Dosariyah 11% of pottery sherds belonged to open shapes while 6.5% to closed forms, Kainert and Drechsler 2014: 217).

ITEMS OF EXCHANGE: LOCAL RESOURCES AND INDUSTRIES IN THE NEOLITHIC GULF

It is a moot point what kind of goods were taken in exchange for the Ubaid pottery. Marine resources, such as fish or shellfish, were important as food supplies and a raw material for the production of various items, hence they could well have been the commodity sought by the Mesopotamians for barter in the Gulf.

[11] Considering the function of the Ubaid Ware jars, it should be noted that the jars recorded at Bahra 1 could have been used for more purposes than just storage and transport. The small and middle-sized painted jars could have been intended for serving or display.

Goods like flint, obsidian and livestock or animal products have also been suggested as possible items of exchange (Oates et al. 1977: 233; Carter and Crawford 2010: 199). Some inhabitants of the Neolithic Gulf were clearly focused on gathering specific marine resources (pearls, mollusks, fish).[12] Others were busier producing ornaments from locally available shells. Of the various Gulf resources, pearls and "made in the Gulf" shell jewelry can be suggested as possible commodities coveted by the Mesopotamians, who offered luxury pottery in exchange.[13] The problem with this theory is the absence of potential Gulf imports, such as pearls or shell beads, in Mesopotamia, not found probably because of their small size.

Pearls were always part of the Neolithic Gulf tradition as evidenced by the increasing number of finds. Approximately 100 pearls have been recorded so far from Neolithic Arabia, from Kuwait (H3), Saudi Arabia (Dosariyah), United Arab Emirates and Oman (Charpentier, Phillips, and Méry 2012: 1, Table 1). Evidence from H3, Jebel al-Buhais, Dosariyah and Umm al-Quwain 2 shows that pearls were collected as early as 5500–5000 BC. Vast deposits of marine molluscs clearly indicate collection of oysters on a significant scale in the Gulf. It has been suggested that Dosariyah may have been a settlement of specialized pearl collectors (Drechsler 2012: 493).[14] Significant numbers of oyster shells were also reported from Abu Khamis, which indicates that this may have been a specialized pearling site (Oates et al. 1977: 233; Oates 1976: 26).

Local bead industries were identified at some sites in the Gulf at the time of the interaction with Mesopotamia. Shell jewelry was produced on a significant scale at Bahra 1 and H3. It is noticeable that these sites, which are located close to one another, focused on the production of entirely different types of beads. Bahra 1 was a production center specializing in the manufacture of tubular beads made of *Conomurex persicus* shells (Reiche 2011: 78–79). There is an abundance of failed beads as well as microlithic tools, such as drills or borers that were used in the production process. Shell tubular beads produced at Bahra 1 were clearly not for use by the inhabitants of the settlement, but must have been traded to other regions, because all that has ever been found at the site are fragments of beads and waste pieces. At H3, the bead industry was focused on disc shell beads, particularly made of *Acrosterigma lacunosa* and *Spondylus marisrubri* shells; these were the most common ornaments at H3 (Carter and Crawford 2010: 71–74).[15] Production of standardized types of shell jewelry at these two sites and careful selection of mollusks for bead production[16] are noteworthy as they indicate the existence of specialized shell bead industries in the Neolithic Gulf.

[12] A specialized fishery has been suggested for Khor FB (Potts 1990: 50) and the site of RH-6 (Uerpmann and Uerpmann 2003: 247).

[13] It has already been suggested that pearls could have been valuable items for which ceramics may have been traded (Oates et al. 1977: 233; Uerpmann and Uerpmann 1996: 135; Carter 2005: 164).

[14] Pearl oysters account for over 90% of the shells at Dosariyah (Drechsler 2012: 493).

[15] Small mother-of-pearl plaques of various shapes were also a highly distinctive shell ornament at H3 (Carter and Crawford 2010: 75).

[16] While *Conomurex persicus* mollusks are abundant at Bahra 1, at H3 they account barely for 3.8% of the shellfish assemblage (Carter and Crawford 2010: 160).

BAHRA 1 AND H3: NORTHERN ZONE OF CONTACTS

Bahra 1 and H3 demonstrate strong Mesopotamian presence.[17] Mesopotamian feaures in the material culture are more varied and numerous compared to other Ubaid-related sites in the Gulf. These close connections of the Northern Gulf sites with Mesopotamia reflect their geographical location, just a short distance from the southernmost Mesopotamian sites (approximately 200 km in a straight line). Moreover, there is some evidence to suggest that by the second half of the 6th millennium BC, the open sea extended from the Northern Gulf up to the southernmost Ubaid sites (Ur, Oueili, Eridu) (Pournelle 2003). Access to the sea and to water transport enabled the emergence of a maritime trading relationship between the southern Mesopotamian sites and the Gulf in the Ubaid period.

The relationship between the sites of Bahra 1 and H3 is an interesting issue which requires further consideration.[18] Bahra 1 is located over 7 km from the present coastline. This distance was much shorter in antiquity, still the site had never been located on the seashore (Kiersnowski 2013). Relations of Bahra 1 with the nearby H3, which had access to the sea, are of great interest in this context. There are many similarities in the material culture of these two settlements. Significant differences can also be observed, the most evident being the architecture (rectilinear architecture at Bahra 1 and cellular structures at H3). Permanent occupation can be suggested for Bahra 1 considering its size and the nature of the architectural remains. Notable is the predominance of rectilinear architecture and a certain standardization of space and the type of houses (Bieliński 2011; 2013). Substantial stone-built architecture is of greater complexity than that known from the Neolithic Gulf. Mobile communities living in temporary camps were a common feature of the Arabian landscape in the Neolithic period, while the archaeological evidence of sedentary life in permanent settlements during this time is generally scarce (Drechsler 2012: 485–486).

Based on a pottery analysis and the results of radiocarbon dating, it seems that Bahra 1 and H3 were contemporaneous (or at least largely overlapping in time). H3 is dated to the Ubaid 2/3 period (5300–4900 BC, see Carter and Crawford 2010: 201). The available evidence shows that Bahra 1 could have been established a little earlier (Ubaid 2–3a, about 5500–4900 BC). Despite doubts concerning the value of the Hajji Muhammad Ware as a precise chronological marker, the frequent occurrence of this pottery at Bahra 1 indicates that the settlement could have been founded as early as the Ubaid 2 period. The site of H3 could have been inhabited already in the Ubaid 2, although the Ubaid 2 ware is less common compared to the Bahra 1 assemblage. Bahra 1 and H3 seem the earliest Ubaid-related sites in the Gulf, and they could have been founded as early as the Ubaid 2 period. Most of the

[17] Carter distinguished three zones of contacts in the Gulf during the interaction of this region with Mesopotamia (Carter and Crawford 2010: 206–207). Site H3 in the Northern zone was considered the most 'Mesopotamian'.

[18] This subject merits more attention and will be discussed in detail elsewhere.

Ubaid-related sites in the Gulf are dated to the Ubaid 2/3–Ubaid 4 periods.[19] At both sites there is no evidence of Ubaid 4 occupation, meaning that the Ubaid 4 pottery known from some Central Gulf sites could have reached this region without the mediation of the Northern Gulf.

Bahra 1 and H3 present similar pottery assemblages. Early pottery types and decorative motifs, distinctive of the Ubaid 2 and 2/3 periods, such as carinated bowls and ornaments like sunburst, dense grid or reserve lines and zigzags, were recognized at both sites. At Bahra 1, features related to Ubaid 2 pottery (or Ubaid 2 with relics in Ubaid 2/3), are generally more varied and numerous (see Smogorzewska 2015). At both sites, Ubaid pottery is not limited to luxury items, because vessels used in household activities are also represented. Large vessels are more numerous at Bahra 1, while at H3 they are rare (a couple of large jar rims[?] and a couple of basins) (Carter and Crawford 2010: Fig. 3.15:15–16). The presence of large rectangular basins of Ubaid Ware at both sites has significance, as such basins are not attested at other Ubaid-related sites in the Gulf.

THE MESOPOTAMIA–GULF INTERACTION: NEW PERSPECTIVE FROM BAHRA 1

The Bahra 1 pottery assemblage is a functionally diverse group of vessels essential to the community using them in varied socio-economic contexts. A plausible scenario is that the Ubaid Ware found its way to the Gulf as a result of goods exchange with Mesopotamia and was adopted by local Neolithic communities. Accepting Ubaid Ware by the Gulf population not just as exotic goods, but also because of its utilitarian function, was possible only in the context of economic and social changes. Moreover, the Neolithic population at Bahra 1 must have adopted a broad array of pottery vessels during a relatively short time. The range of vessel forms used by its inhabitants for various purposes was wide from the start. The use of Ubaid Ware by the inhabitants of Bahra 1 would have been connected with adapting these vessels to local needs. Originally, the Ubaid Ware vessel forms were related to agricultural economies, while the economic base of the Bahra 1 settlement — and of other Neolithic sites in the Gulf — was based on hunting, livestock herding and, foremost, on shellfish gathering and fishing.[20] At Bahra 1, the Ubaid Ware vessels for storing and processing would have been used not for agricultural products, but rather for livestock and seafood-related products, since no definite proof of agriculture was found at the site. If we assume that the Ubaid vessels were objects of exchange, their large number and diversity of forms at Bahra 1 would be proof of a large demand for ceramic vessels. In the context of the Neolithic Gulf, one

[19] Pottery in Hajji Muhammad style, such as carinated bowls, are known from Central Gulf sites, such as Abu Khamis, Ain Qannas or Al-Da'asa, where it is accompanied by Ubaid 3 pottery (Masry 1997: Fig. 18, 90:1; Burkholder 1972: 267; Oates 1976: 26). However, the occupation in the Ubaid 2 period cannot be surely stated for this region, because such finds are rare and of equivocal chronological value.

[20] A preliminary study of animal bones from Bahra 1 revealed the presence of wild species (gazelle, antelope, jackal, hare) as well as domesticated ones (mainly sheep and goat, some cattle) (Piątkowska-Małecka 2013: 124–130).

may wonder with regard to the demand for ceramic vessels among fishermen, hunters and shellfish gatherers. Mobile communities of Neolithic Arabia living in small, ephemeral camps, would have been using containers made of organic materials, such as grass, palm leaves and animal skins, for storing and carrying. The craft of plaiting mats and containers was known in the Neolithic period, as proved by impressions on the Coarse Red Ware vessels.

Another scenario to consider is that Mesopotamians brought Ubaid pottery with them when they moved to a region with no pottery vessels available. Taking into consideration the location of the settlement and its early dating, Bahra 1 could have been established by the Mesopotamians to serve as the first way-station, especially during the first phase of contacts between Mesopotamia and the Gulf. While the presence of Ubaid Ware at Bahra 1 (and generally in the Northern Gulf) may be considered in the context of an actual Mesopotamian presence, at the more remote settlements, especially in the Lower Gulf, Ubaid Ware could have been acquired indirectly, by means of exchange.

Bahra 1 represents a mix of local and Mesopotamian traits in its material culture. There are significantly many features of Mesopotamian origin present at Bahra 1 (varied Ubaid vessels and small finds, such as flanged discs, pegs, cupped cones and spindle whorls, more frequent in Coarse Red Ware). Also the extent and complexity of the architecture find no parallels in the Neolithic Gulf. Local features are apparent in the lithics (Kozłowski 2013) and shell ornaments. The significant Mesopotamian presence observed at Bahra 1 could have resulted from close and direct contacts with Mesopotamia. The nearby H3 is assumed to be a settlement inhabited by an Arabian Neolithic group who adopted some aspects of Ubaid material culture (Carter and Crawford 2010: 86). At Bahra 1, it seems justified to assume the actual presence of the Ubaid Mesopotamians who visited the site frequently or stayed there for a long time. Their presence at Bahra 1 (at least seasonal) may have been related to shell bead production, which seems to have been the main activity of the inhabitants there.

Dr. Anna Smogorzewska
Institute of Archaeology, University of Warsaw
00-497 Warsaw, Poland, ul. Krakowskie Przedmieście 26/28
asmog@wp.pl

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