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TRUCIAL OMAN IN THE THIRD MILLENNIUM B. C. NEW EVIDENCE FOR CONTACTS WITH SUMER, BALUCHISTAN AND THE INDUS VALLEY *

by Elisabeth C. L. DURING CASPERS - Netherlands

The intention of this paper is to discuss some on the contents of a group of seven stone cairns situated on Umm an-Nâr **, a small rocky island lying 5 to 10 metres off the coast of Trucial Oman, and also a selection of the objects found in a similarly built mortuary structure which is on the mainland near Hilî, to the north of the Buraimî Oasis (fig. 1).

The seven stone cairns on Umm an-Nâr form part of a group of about 50 burial mounds which were excavated by the Danish Archeological Bahrain- Expedition during the years 1959-1961¹. In 1959, 1961-1962 and 1964-1965, investigations were also carried out on Umm an-Nâr² on a settlement site which is contemporary with the burial-cairns. In addition, during the 10th and 11th campaigns of the Danish Archeological Expedition (1964-1965), a grave-mound whose circular stone structure proved to be contemporary with the stone cairns on Umm an-Nâr, was excavated near Hilî³.

Both Umm an-Nâr and that part of the Buraimî Oasis in which the village of Hilî lies belong to the sheikhdome of Abu Dhabi, a small Arab state which extends from the Jabal Ali near Dubai in the north,

* See postscript at the end of this paper.

** Transcriptions are chosen according to the available types.

¹ Kuml, 1958, pp. 164-165, figs. 1, 2; 1959, p. 239; 1960, p. 213, fig. 4; K. Thorvildsen, *Burial Cairns on Umm an-Nâr*, Kuml, 1962, pp. 208-219, figs. 1-24.

² Kuml, 1958, pp. 164-165; 1959, p. 239; 1964, p. 108, fig. 5; 1965, pp. 148-149; 1966, pp. 93-94.

³ Kuml, 1965, pp. 149-150, fig. 4; 1966, p. 94, figs. 1, 11-13.

where it touches the Trucial Sheikdoms of Sharjah and Fujaira, to the foot of the Qatar peninsula in the west; a stretch of coast along the Persian Gulf of about 400 kms. To the south, Abu Dhabi borders on Saudi Arabia, while to the east it shares the fertile Oasis of Buraimi with the Sultanate of Muscat and Oman. It also includes a number of low islands along the coast, one of them being Umm an-Nâr. Some

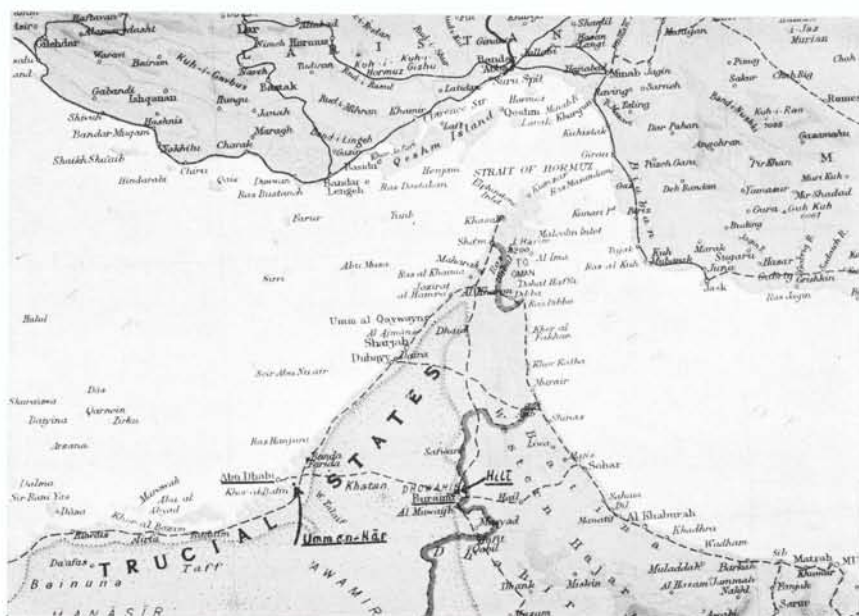


Fig. 1 - Map of the Trucial States with the Sheikdom of Abu Dhabi showing the locations of Umm an-Nâr Island and the village of Hili north of the Buraimi Oasis.

of the islands are sandstone or salt plugs and they are surrounded by coral reefs and extensive shoals which nowadays make approach very difficult, even for native craft.

Before attending to the cultural assemblages discovered on Umm an-Nâr and near Hili, a brief consideration of the geographical location of these two places is necessary, for any attempt to appreciate the general position of the Umm an-Nâr culture in the history of the Persian Gulf trade must be based on an evaluation of their favourable locations.

The open coast facing the Persian Gulf between the foot of the Qatar peninsula and Abu Dhabi town has neither fresh water supplies nor sheltered anchorages⁴. Only Sila, 8 kms. inland from Ras as Sila, has at least a brackish well and is therefore a stopping place on the way from Hasa to the Buraimî Oasis, which is the only overland route along this coast (fig. 2). Maritime trade is therefore dependent on

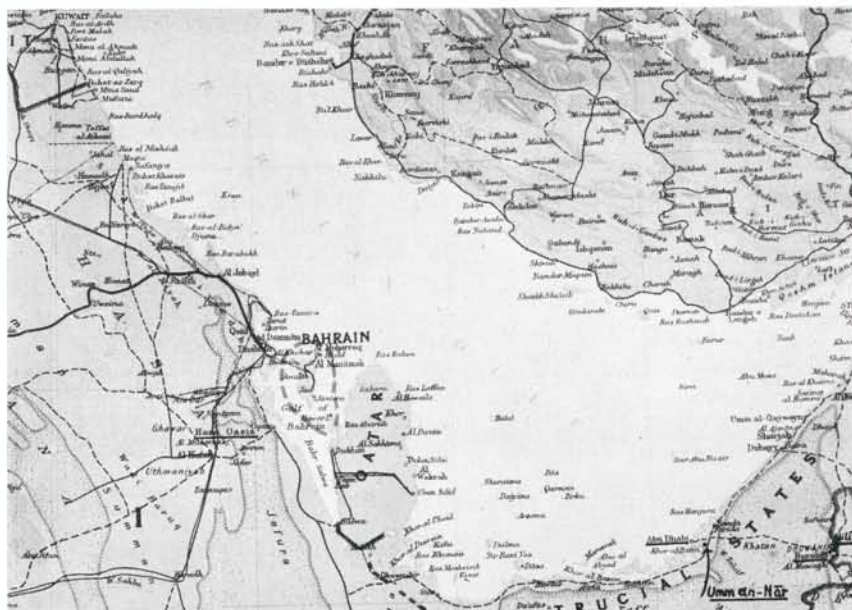


Fig. 2 - Map showing the overland route along the coast connecting the Buraimî Oasis with the Hasa Oasis situated opposite Bahrain Island.

those few places which afford natural harbours and have fresh water wells, since the rainfall is very low and unpredictable. Apart from the shelters which can be found in some of the more distant off-shore islands⁵, the only natural anchorage is at the east end of Umm an-Nâr island which also, has a well nearby. The Trucial Coast has two more

⁴ Elisabeth C. L. During Caspers, « *New archaeological evidence for maritime trade in the Persian Gulf during the Late Protoliterate period* » (in press shortly).

⁵ Ibid.

anchorages, one at Abu Dhabi town, and another further north at Dubai, which also has several wells⁶. Abu Dhabi has a harbour with both a natural outer and inner anchorage, and is at present the main port for trade in the Persian Gulf. It stands on a long sand-spit, but this is likely to have been formed in recent times, since a geological survey along the Trucial Coast near Abu Dhabi suggested that the action of winds, waves and currents have produced a succession of ancient shorelines much further inland than the present one⁷. The same may be true for the anchorage at Dubai.

The fact that most of the beehive shaped stone cairns which had, depending on their size, a more or less complicated system of division of the space inside, as well as the contemporary settlement site were built on a ridge to the east of Umm an-Nâr island, where anchorage and good springs are available, strongly suggests that these favourable conditions were an important factor in the early occupation of the island. The proximity to the mainland, although most likely less close in the Third Millennium B.C. than nowadays, probably favoured a spread of the Umm an-Nâr culture eastwards to the area around Buraimî, which, being fertile and easily cultivated, provided optimum conditions for easy and largely self-sufficient habitation⁸.

THE UMM AN-NÂR CULTURE

The structure of the cairns

Most of the fifty or so burial mounds which were built on a ridge to the east of the island, are constructed as cairns of quarried stone (fig. 3). They vary considerably in diameter and height, the majority being of modest dimensions and measuring 0.50-0.75 metres in height and 3-5 metres in diameter. Some cairns are rather larger, however, and four, lying close together, are up to roughly 2 metres high and have a diameter of about 18 metres.

The seven burial mounds selected for excavation by the Danish

⁶ Ibid.

⁷ Ibid.

⁸ Ibid.

Expedition included two cairns of sizeable dimensions, one (Cairn I) being 11 metres and the other (Cairn II) 12 metres in diameter, each with an approximate height of 2.25-2.50 metres. The other five cairns (Cairns IV, V, VI, & VII)⁹, which were lying together ca. 91 metres south of Cairn II, were chosen because their more modest size and cruder construction (see below) made them more truly representative of the great majority of the grave mounds on Umm an-Nâr.

The small group of larger cairns which includes Cairns I and II, were originally footed with a double ring-wall about 1 metre in width, the outer face of which consisted of carefully shaped limestone slabs fitted together without the use of mortar, forming an unbroken circle around the mound. The stones of the ring-wall varied between 0.50 and 1.50 metres in length and 0.40-0.50 metres in height. This outer wall consisted of several courses, and sloped slightly inwards, each course diminishing in size, giving the structure the appearance of a beehive. The inner ring-wall was built of flat unshaped stones piled up behind the ashlar outer ring-wall.

The outer ring-wall of Cairn I rested on a plinth of regularly cut stone blocks, a feature absent from Cairn II, but present in Cairn V. The latter cairn, although it had an external diameter of 6.50 metres and a height approximately 1.60 metres (including the 0.20 metres high plinth), also had a double ring-wall with an outer face built of carefully shaped blocks of grey stone, curved on the outer face and wedge-shaped, so as to follow the sharply curved contour of the wall. These were fitted together without mortar. In this respect, this mortuary building is distinguished from Cairn IV, (which with an outer diameter of 8.50 metres is slightly larger than Cairn V), as well as from the other cairns of smaller dimensions (Cairn VI has an exterior diameter of 5.50 metres and an approximate height of 1.30 metres and Cairn VII is only ca. 3 metres in external diameter), whose outer and inner ring-walls consisted merely of unshaped stone.

Depending on the size of the cairns, a more or less complicated system of cross-walls joined to the inside of the inner ring-wall divided the space within the mound into a number of grave chambers (fig. 3).

The burial space of Cairn I was divided into halves by a flagged main passage flanked by two walls running in a north-south direction,

⁹ Only a few stones of Cairn VIII remained, so that this cairn will be omitted from this discussion. Moreover, it has been mentioned that « only a single potsherd was found in the sand between the « walls » » (Thorvildsen, 1962, *op. cit.*, p. 218).

which stopped at each end about 1 metre from the ring-wall. The halves thus formed were each in turn divided into two by a cross wall running between the inner wall and the passage wall, which itself was interrupted halfway by two curved walls directly opposite one another, one leading off to the north, the other to the south. In this way each quarter of the space inside the cairn formed two flagged burial chambers with a common unpaved forechamber.

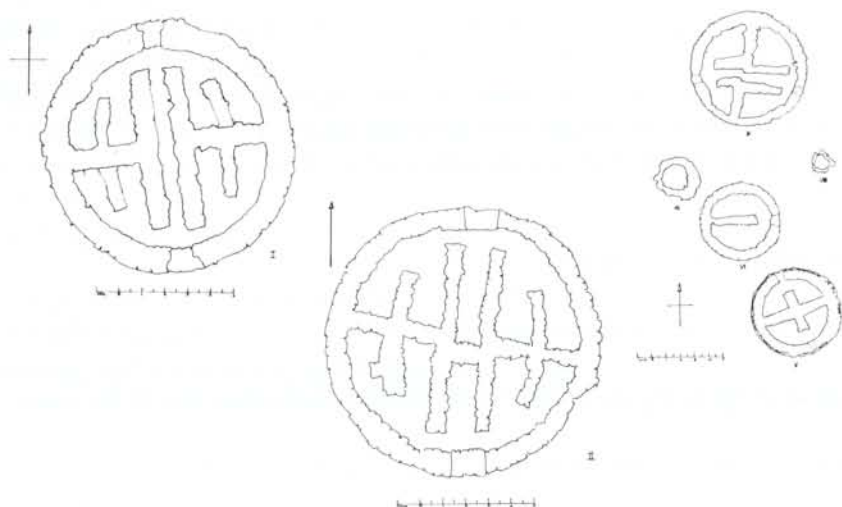


Fig. 3 - Umm an-Nâr Island. Plans of Cairns I, II, IV/VIII. After Thorvildsen, 1962, figs. 3, 5, 11.

In all cases in which the area inside the mound had been divided into burial chambers - Cairns I, II (similar to I except that it had a cross-wall halfway, blocking off the central passage), IV (comparable to Cairn I because of its central passage and two cross-walls, but without further subdivision), V (with only a single cross-wall stretching from one side of the inner ring-wall to the other and with two short cross-walls at right angles) and VI (with one cross-wall between the two burial chambers, leaving space for a passage at one end) — the burial chambers had been roofed originally with large flat stone slabs. These roof-slabs rested upon the inward-leaning inner ring-wall and the chamber walls, which having reached their required height (ca. 70-90

cms.) projected outwards towards the inner ring-wall in order to make the gap which the roof-stones had to span as narrow as possible.

The cairn at Hilî has been described as « a burial chamber of the same type as that known from Umm an-Nâr, as traces of interior walls were found in the much disturbed interior¹⁰ ». However, further data are lacking at present¹¹.

Multiple burial practice

Judging from the amount of skeletal material found in each cairn, this type of tomb was used more than once.

In Cairn I, masses of human bones lay piled up against the inner ring-wall outside the eight paved burial chambers, although the latter

¹⁰ Kuml, 1966, p. 94.

¹¹ There are four stone slabs with decoration in relief which originally adorned the outer ring-wall of Cairn II, and a fifth one re-used in an inner wall of Cairn IV. One slab has a figure reminiscent of an idol carved on it, but the quality of the photograph does not permit further comment. The other slabs portray three species of animals and are important since they raise the question of whether wild or domesticated animals are intended (see below) (Kuml, 1960, fig. 4; Thorvildsen, 1962, figs. 7, 8, 9, 14).

Stone slabs with relief decoration have also been reported from the tomb structure near Hilî. One of the smaller slabs found in 1965 (Kuml, 1966, p. 94) portrayed an oryx (?) in low relief. Kuml report 1968 illustrates two door-stones, a northern with a stepped top, a squarish porthole entrance and broken across the middle, and a southern which upper half was broken into two (Kuml, 1968, figs. 1, 5 a-d). The northern door-stone showed three groups of human and animal figures executed in a schematic fashion; two long-legged animals with long inwardly curving tails, possibly to be seen as lions, holding a gazelle between them; two human figures engaged in a ritual (?) coitus and a human being riding a donkey (?) sidesaddle, one hand on the animal's neck the other holding its tail and a second human being following at close quarters holding two sticks (?) in his half-raised hands. The representation on the upper half of the southern door-stone, executed in a similar schematic style, shows two human figures holding hands and two ruminants with pointed heads and very long, slightly backwardly curved, pointed horns. They have been identified as oryx.

The decoration of the stone cairns on Umm an-Nâr, however, portray single animals, some of which, moreover, seem to have been executed less schematically and more naturalistically. One relief shows a short-horned bull or cow which is very similar to the domesticated breeds descended from *Bos primigenius*. These breeds also include humped cattle, and were present in Egypt, Mesopotamia and India by the Fourth Millennium B.C. (F.A. Zeuner, *A History of Domesticated Animals*, London, 1963: 211, 216-217). Wild precursors of domesticated long and short-horned primigenius breeds also occur in Egypt.

Lack of water and pasture in the Arabian peninsula would not have produced a favourable environment for wild herbivores, which leads one to conclude that if

and the central passage contained only a few scattered remains. The number of individuals (which include a child) buried in the western part of the mound has been estimated as being at least 15 judging from the number of skulls and jaw bones present.

A similar situation was encountered in Cairn II. In the south-western quarters of the cairn, where the deposit of burial objects (pottery, metal objects, beads) was thickest, piles of human remains were lying in the forechamber against the inner-wall. About 36 bodies, including at least 3 children, were buried in the four paved chambers of Cairn V, the bones being piled up with the burial goods without any trace of order. This was the largest number of burials deposited in a single cairn, since Cairn VI contained roughly 5 individuals and only 3 or 4 bodies were found in the small Cairn VII.

From the foregoing it is obvious that these burial cairns were used more than once and that as each new burial took place the earlier

cattle were present at Umm an-Nâr, where conditions for cattle raising were better than elsewhere in the Arabian peninsula. — seal representations from Failaka and Bahrain suggest the possibility of a short-horned breed in those localities too — they were brought there by man and thus were domesticated. Moreover, two Umm an-Nâr black-on-red ware vases (see text below) have representations of humped cattle painted on them.

This particular decorated ware and also a small class of black-on-grey canisters from Umm an-Nâr and Hili have parallels in the Kulli pottery from Pakistani Makrân on which elongated humped bulls and cows generally painted in black on a cream-slipped background are a characteristic feature (see text below). Hence it may be that only the representations of the cattle were introduced to Umm an-Nâr from India or elsewhere. However, the humped cattle or zebu, depicted on the Umm an-Nâr pottery, is a tropical breed with a distribution centred in India whence they may have originated (Zeuner, 1963: 239).

Thus either the representations of short-horned cattle and zebu were borrowed from other cultures, (the zebu most possibly from the Kulli pottery tradition) and the pictures are not based on direct observation, or the suitability of the climate in this part of Trucial Oman enabled the Umm an-Nâr people to keep one or both breeds of cattle. Study of the animal bones from the settlement contemporary with the tumuli might provide evidence from which firm conclusions could be drawn.

The other horned animal is very tentatively identified in the excavation report as a gazelle, but the two representations are rather crude (especially in Cairn IV) and weathered, and lack diagnostic features. The animals have a long tail, pricked ears and straight vertical horns. The long tail is a feature of breeds of sheep known from the time of predynastic Egypt, (probably getting there via northern Mesopotamia (Zeuner, 1963: 178) down to modern times in Arabia and India. However, the straight horns are not a feature of breeds mentioned by Zeuner (1963: 153-198), a loose spiral being the most similar. Even so it may be that sheep were kept at Umm an-Nâr with cattle, the two replacing goats as suppliers of milk and wool by virtue of the more favourable ecology of the area (Zeuner, 1963: 151-152).

Finally there are two representations of dromedaries. The problem of the earliest

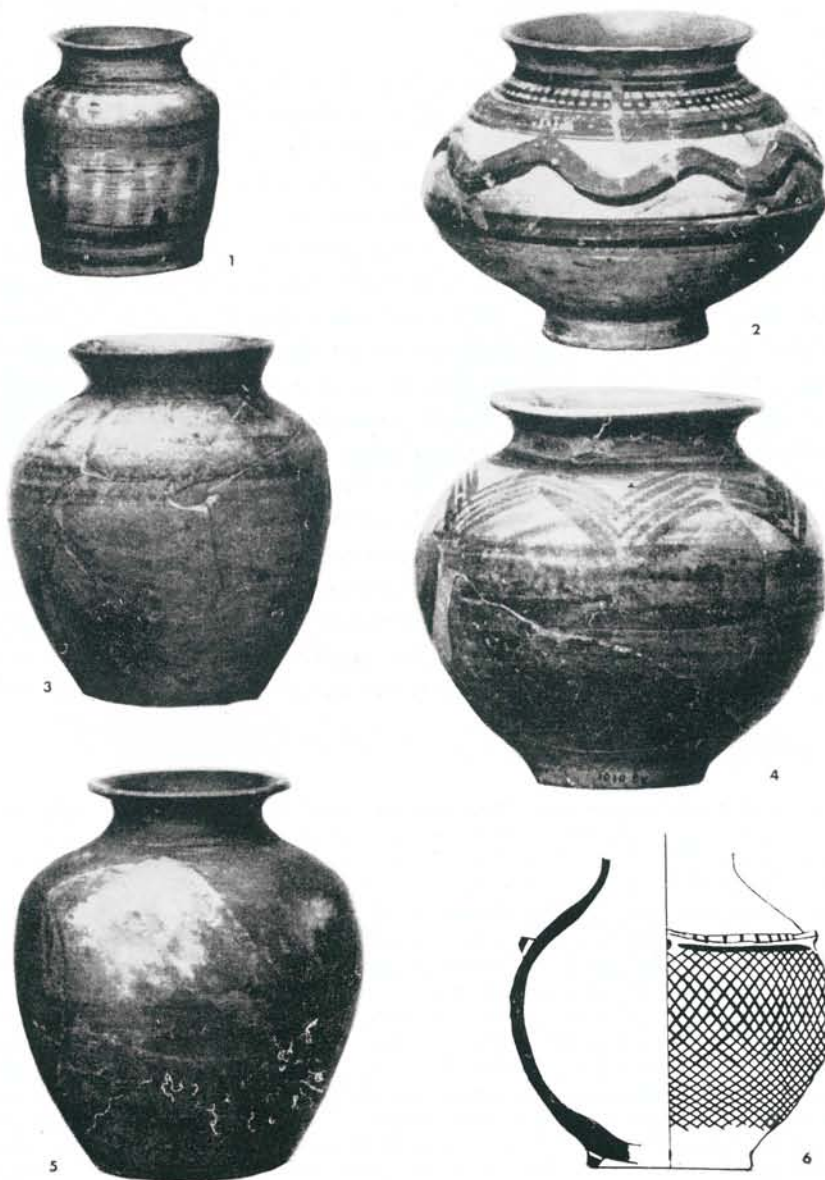


Fig. 4 - 1: Umm an-Nâr Island. Cairn I. Black-on-grey ware; canister type (Ht. 7 cms.). (Thorvildsen, 1962, fig. 21, top row left); 2: Umm an-Nâr Island. Cairn I. Black-on-grey ware (Ht. 8.8 cms.). (Thorvildsen, 1962, fig. 21, top row right); 3: Umm an-Nâr Island. Cairn I. Red-slipped red ware with black or black-to-dark brown decoration (Ht. 10.5 cms.). (Thorvildsen, 1962, fig. 21, second row left); 4: Umm an-Nâr Island. Cairn I. Red-slipped red ware with black or black-to-dark brown decoration (Ht. 11 cms.). (Thorvildsen, 1962, fig. 21, second row right); 5: Umm an-Nâr Island. Cairn I. Grey ware with black shiny wash (Ht. 11.5 cms.). (Thorvildsen, 1962, fig. 21, bottom row left); 6: Hili Cairn, Buraimi Oasis. Red-slipped red ware with black-to-dark brown decoration (remaining Ht. 11.8 cms.). (Kuml, 1966, fig. 12).

skeletal remains and grave goods were cast aside and piled up with previous removals in the forechambers. Therefore, the funerary objects found with these multiple burials would have accumulated gradually but, the possibility cannot be excluded that the more valuable pieces were removed each time the tomb was opened.

Access to the burial chambers was provided by two diametrically opposed breaks (or rarely, one, as in Cairn VI) in the ring-walls. These 'entrances' were orientated either north and south (Cairns I, II, V) and thus in line with the north-south central passage (Cairns I, II), or placed approximately on an east-west line as in case of Cairn IV, where they are also at each end of the central passage. The openings were sealed from the outside either by carefully shaped stone blocks provided with a carved 'handle' (Cairn I)¹² or with a square hole cut into the surface (Cairn II, Hili)¹³, or probably with ordinary stone slabs or unshaped stones such as were used for the construction of the outer ring-wall.

Whether or not special rites or ceremonies inside the burial-cairn accompanied the burial cannot be ascertained, although it may perhaps be justifiable to assume that human sacrifices were occasionally performed outside the tomb. This tentative hypothesis is based on the fol-

date of the domestication of camels has not been finally resolved, Albright (see W. Dostal, *The Evolution of Bedouin Life*. L'Antica Società Beduina (ed. Gabrieli), Rome, 1959: 21, n. 13) argues that this took place in the late Second Millennium B.C., but Dostal (1959: 16) and Zeuner (1963: 345, 364) hold that it occurred in the Third and the Fourth Millennium B.C. respectively: Zeuner also states firmly that one centre for the domestication of the dromedary was central or southern Arabia (Zeuner, 1963: 364). This evidence, together with the fact that large camel long-bones, presumably from domesticated animals, were found at the settlement site, suggests that the reliefs do in fact represent domesticated animals. Moreover, the probability that a domesticated species (either a dromedary or a Bactrian camel) adorns the shaft-hole axe-pick from burial E at Khurâb (Stein, 1937, Pl. XVIII, Khur. E.i. 258; Zeuner, Iraq XVII (1955): 162-163; C.C. Lamberg-Karlovsky, Iran VII (1969): 163-168), a grave which contents suggest a correlation with Bampur V (B. De Cardi, *Antiquity* XLI (1967): 39; *Ibid.*, Iran VI (1968): 144-147), seems to indicate that camel breeding or at least the use of the camel for riding purposes was already practised in south-east Iran in the Third Millennium B.C.

Thus the decorated stones from the cairns on Umm an-Nâr suggest that the tombs belonged to a community with a mixed economy. On the one hand they raised cattle and sheep, in the manner of settled farmers, and on the other bred camels, which possibly points to an older nomadic way of life based on the raising of sheep and (or) goats to serve daily needs (Dostal, 1959: 12).

¹² This description is given by the Danish report (Thorvildsen, 1962, *op. cit.*, p. 210) which unfortunately does not give an illustration.

¹³ Compare the « Seeloch » of the European megalithic monuments.

lowing discoveries. Outside three of the cairns (Cairns V, VI, VII) lay several human skeletons furnished with pottery, several quernstones and a scrap of copper or bronze, which in most cases had been crushed by the fall of the stones of the ring-wall. The positions of only three of the four bodies lying outside the western wall of Cairn V (in fact resting against the plinth) could be recorded; the skeletons buried alongside the southern foot of the Cairns VI and VII were only partly preserved. Thus, at present, the three burials belonging to Cairn V provide the only information we possess regarding burial practises in Trucial Oman during the Third Millennium B.C., and as such are worth discussing.

Since the pottery found with these 'extra-mural' burials is similar in shape, colour, texture and decoration to that inside the burial mound, it can be assumed that these burials belong to the same cultural assemblage and are thus approximately of the same date as the latter.

There were apparently no strict rules regarding the orientation or position of the body of these 'extra-mural' burials, since two skeletons lay with contracted legs in a south-north direction with the heads pointing southwards, while the third body was extended flat, its head to the north. However, the most characteristic feature of these burials is the fact that in all three cases they were furnished with quernstones. Cairn V provided two specimens, one of which was oval, about 30 cms. long and well polished, laid on « the remains of a woven palmleaf mat or basket ¹⁴ ». To the east of the outer ring-wall of Cairn VI a quernstone and a hammer-stone were discovered, and another quernstone lay among the burials outside Cairn VII. As only a small number of querns seem to have been found inside the actual cairns (Cairns I, II), their frequent occurrence in the 'extra-mural' burials is the more striking. If it may be assumed correctly that these burials reflect some sort of human sacrifice performed whilst the mound with which they are obviously connected was in use, then the frequent occurrence of quernstones associated with these 'sacrifices' may well suggest an explanation for this practice. Quernstones are invariably associated with the 'kitchen', being household implements used in the preparation of food and more specifically in the grinding of grain and other products of an agricultural nature. Since 'kitchen-work' is invariably associated with women, it is reasonable to suggest that the persons who were 'sacrificed' were women

¹⁴ Thorvildsen, 1962, *op. cit.*, p. 217.

(wives or women servants) whose kitchen equipment was buried with them so that they might carry on their work and continue preparing food for either husband, master or mistress who was buried inside the burial mound. Surely this practice recalls, although in a remote way, the one encountered in the Royal Graves at Ur. This possible connection with far away Sumer may for the moment seem highly improbable, but in discussing the pottery of the Umm an-Nâr culture it will become apparent that some cultural and (or) commercial influences indeed reached this area from Sumer.

*The Characteristics of the Pottery*¹⁵

The grave-goods of the Umm an-Nâr cairns of which pottery formed the greater part, will be discussed together since, as is to be expected with this type of burial, a division into different phases could not be observed due to the absence of any stratigraphy¹⁶. The burial gifts of the Hili cairn, in so far as they have been described¹⁷, too are representative of this cultural phase which may be called the Umm an-Nâr Culture.

The Umm an-Nâr pottery, as far as our present knowledge goes (up to Thorvildsen's report, 1962), falls into several distinct groups which differ sufficiently in texture, form and decoration to justify the following tentative classification:

1. Red-slipped red ware with black or black-to-dark brown decoration¹⁸ (figs. 4, 3-4, 6; 5, 2, 5; 6, 1-2).

¹⁵ I am greatly indebted to Mr. T.G. Bibby for allowing me to study the Umm an-Nâr material in 1964. However, as a full report on the Umm an-Nâr and Hili excavations will be published by the Danish Archeological Bahrain Expedition, this paper will deal solely with material which is at present already available (Thorvildsen, 1962, *op. cit.*, Kuml, 1966, p. 94, fig. 1, 11-13).

¹⁶ Thorvildsen, 1962, *op. cit.*, pp. 208-219.

¹⁷ Kuml, 1966, pp. 93-94, figs. 11-12. The pottery from the settlement site at Umm an-Nâr has not been published at all and therefore we have to take at face value the statement that most of the pottery from this site consists of thick walled ware, although the fine red ware with black decoration known from the cairns is also present. Neither during the season 1961-62, nor in 1965 did the stratigraphy permit any division of the material into different cultural phases; there appears to be a considerable uniformity throughout.

¹⁸ Thorvildsen, 1962, *op. cit.*, pp. 218-219, figs. 21-24; Kuml, 1966, fig. 12, inset.

2. Black-on grey ware¹⁹ (figs. 4, 1-2, 5; 5, 3-4; 7, 1-5; 8, 1).
3. Incised grey ware²⁰ (figs. 8, 2-3; 9).
4. Undecorated slipped and unslipped reddish-buff ware²¹ (figs. 10, 1-4).

The Painted Wares

The most common ware in all the Umm an-Nâr cairns is a wheel-thrown terra-cotta red or buff-red pottery. This is of good quality, most vessels having very thin walls, and the fabric being well levigated and well-fired. A thin slip of the same colour covers the outer surface and a purplish-red or orange-red paint or wash which sometimes has a shiny gloss has generally been added over the slip. Slip and paint cover the whole outer surface, the paint sometimes also coating the inside of the rim. Only a few vessels had been pared; this was discernible in groups of vertical comb-like incisions and thin horizontal grooves on the lower part of the body. The range of forms is extremely limited, consisting of only three main variants of a type of jar (a). One group has a well-defined everted rim and in most of the vessels this is combined with a straight vertical neck and either a globular body or one like a flattened sphere with a more or less accentuated flat base (b). In other cases the curvature of the sides is less and the shoulders are rather sloping, which produces a somewhat squat profile; the base is usually small and flat. The first variant has its maximum diameter mid-way between the base and rim, while in the second group the maximum diameter lies nearer the shoulder of the jar (c). The variant shape shown in fig. 5, 5 demonstrates clearly that the dividing line between the two types (a) and (b) is not sharply defined²². The di-

¹⁹ Ibid.; Kuml, 1966, p. 94, fig. 11.

²⁰ Thorvildsen, 1962, *op. cit.*, fig. 20; Kuml, 1966, p. 94, fig. 12; see also Elisabeth C.L. During Caspers, « *A Note on the Carved Stone Vases and Incised Grey Ware* », in the final report on the Bampur excavations by Beatrice de Cardi, to be published as one of the series of Anthropological Papers of the American Museum of Natural History, New York (in press).

²¹ Thorvildsen, 1962, *op. cit.*, pp. 218-219, figs. 22 top row, 24 top row and second row left.

²² I am greatly indebted to Professor Dr. P.V. Glob for allowing me to publish the description of this ware.

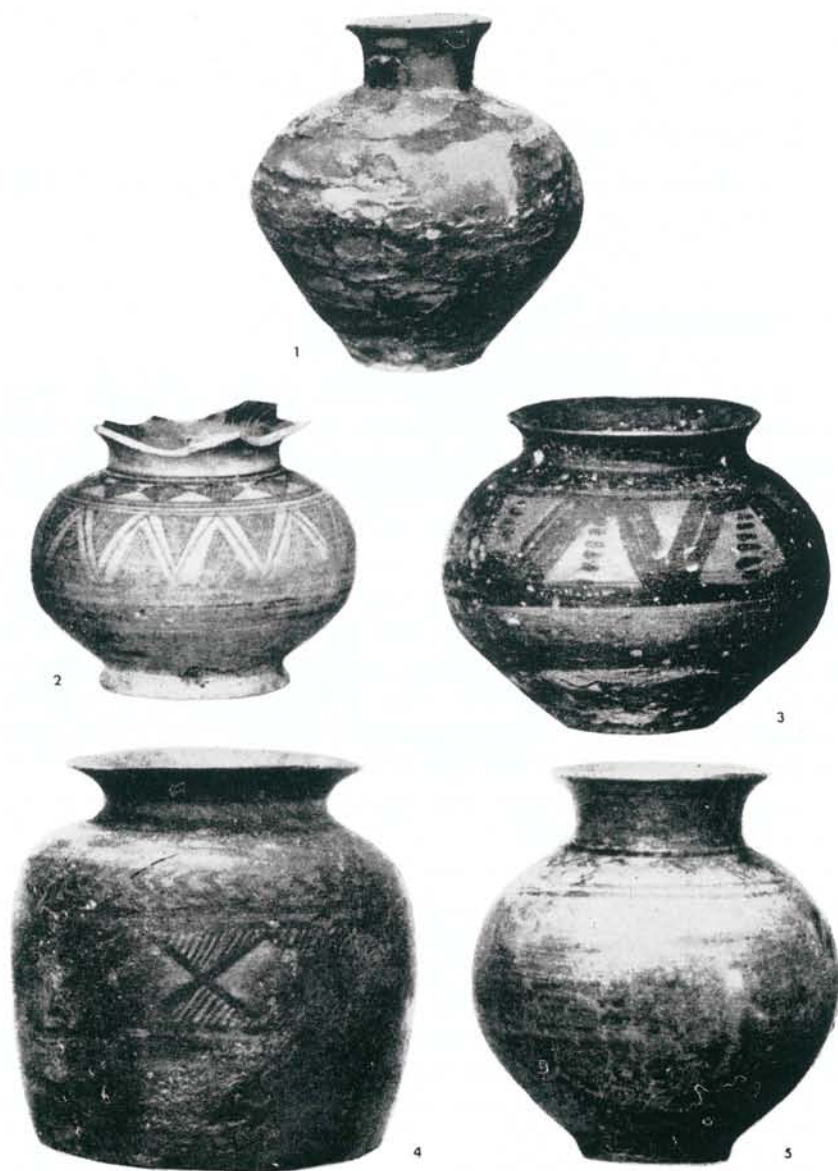


Fig. 5 - 1: Umm an-Nâr Island. Cairn V. Red-slipped red ware with dark red wash (Ht. 21.6 cms.). (Thorvildsen, 1962, fig. 24, bottom row right); 2: Umm an-Nâr Island. Cairn V. Pale red ware with a buff slip. Brown-black decoration on a light brown wash (Ht. 9 cms.). (Thorvildsen, 1962, fig. 22, second row left); 3: Umm an-Nâr Island. Cairn V. Black-on-grey ware with grey slip (Ht. 10.5 cms.). (Thorvildsen, 1962, fig. 22, second row right); 4: Umm an-Nâr Island. Cairn V. Black-on-grey ware with grey slip (Ht. 13 cms.). (Thorvildsen, 1962, fig. 22, bottom row left); 5: Umm an-Nâr Island. Cairn V. Red-slipped red ware with black or black-to-dark brown decoration (Ht. 12.8 cms.). (Thorvildsen, 1962, fig. 22, bottom row right).

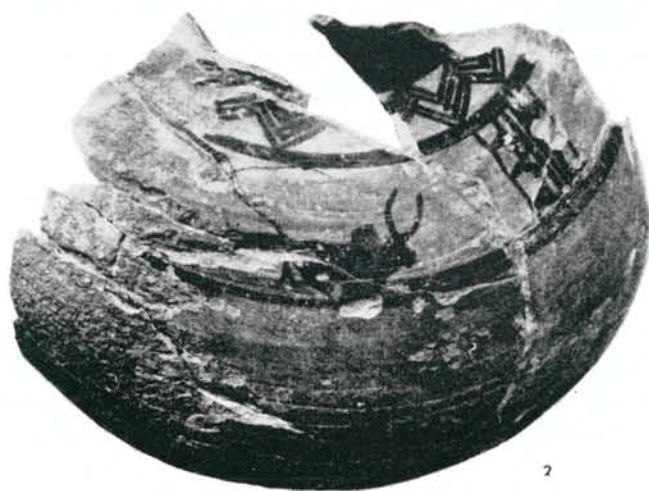


Fig. 6 - 1: Umm an-Nâr Island. Cairn V. Red-slipped red ware with black or black-to-brown decoration (Ht. 14.4 cms.). (Thorvildsen, 1962, fig. 23, upper one); 2: Umm an-Nâr Island. Cairn V. Red-slipped red ware with black or black-to-brown decoration (Ht. up to neck 19.5 cms.). (Thorvildsen, 1962, fig. 23, lower one).

mensions of these jars vary, although their general proportions remain fairly constant. The majority of the vessels measure only from 10-14 cms. in height, although occasionally one may reach over 20 cms.²³

Second in frequency of occurrence is a wheel-thrown light to medium dark grey ware. The paste, similar in quality to the group of red pottery, is well levigated and fired and the pots have very thin walls. Some vessels appear to have a thin slip in the same grey colour, but a high proportion are apparently left unslipped. As with the red ware a few of the vessels are pared.

On the whole, the shapes are similar to those encountered among the group of red ware, but one form which is of particular interest is a small canister with a broad flat base, sharply accentuated shoulder, slightly oblique or more or less straight walls and a wide everted rim on a short straight neck (figs. 4, 1; 7, 1-5). Canisters of this type are not known in the red ware category²⁴. They can, however, be matched with a larger and more developed type with either a slightly convex profile, or with tapering walls and a heavily accentuated shoulder bordering on the beginnings of a plastic ridge, which is found in the pottery from the Hili cairn.

The dimensions as well as the general proportions of these canisters vary considerably. The smallet recorded height is 6 cms. (fig. 4, 1), and the rim and base diameters of this particular canister are 4 cms. and 4.2 cms. respectively, but the larger specimens from the cairn at Hili measure up to 20.6 cms. high and have rim and base diameters of ca. 9 to 11 cms. and ca. 9.3 to 16.8 cms. respectively²⁵.

The main features of the Umm an-Nâr style, on both red and grey wares, are geometric patterns in black, or, less frequently, in dark brown. The kind of decoration and its positioning on these wares appears to be largely dictated by the shapes of the vessels; the painted decoration is found mainly on the shoulder reaching down to the maximum diameter, but occasionally covers the greater part of the body (type (b), squat shape). A decoration, consisting of a narrow black band with five or six groups of (usually) five short pendant lines, is

²³ Thorvildsen, 1962, *op. cit.*, p. 218.

²⁴ I am greatly indebted to Professor Dr. P.V. Glob for allowing me to publish the description of this ware.

²⁵ The measurements of these canisters from Hili have been calculated on the assumption that the scale given in Kuml, 1966, fig. 12 applies also to the canisters on fig. 11.

also sometimes applied to the inside of the everted rim of both red and grey vessels (fig. 5, 2-4). The design on the outside, if they are on red pottery, are applied over the purplish-red or orange-red wash or paint which covers the whole outer surface of the vessel.

As far as can be seen from the very limited amount of painted Umm an-Nâr - Hili pottery which has been published so far, the repertoire of design on the outside of the jars includes the following patterns:

Combinations of multiple chevrons (figs. 4, 4; 5, 5; 6, 2 red ware); semi-circles linked to each other and to the upper margin of the band by a series of parallel lines (fig. 6, 1, red ware); two rows of opposed hatched triangles bounded above by a row of hatched diamonds (fig. 5, 2, red ware); sigmas (fig. 5, 4, grey ware); upturned hatched triangles (fig. 5, 4, grey ware, above a row of sigmas not visible on the photograph); a continuous multiple step pattern with an in-filling of dashes (fig. 5, 3, grey ware); a zone of opposed hatched triangles enclosing plain diamonds (fig. 5, 4, grey ware); and a solid painted flattened wavy cordon, set between two painted plastic ridges (fig. 4, 2, grey ware). Two red vessels were enlivened by solid humped bulls set between a series of five vertical lines, the two outer pairs each containing a row of three solid triangles between them (fig. 6, 2). All the designs are arranged in horizontal zones set between one or more pairs of parallel lines.

The only vessel known from the Hili cairn bears an all-over pattern of cross-hatching giving the impression of a net, which is bounded above by a pierced plastic ridge halfway down the shoulder (fig. 4, 6, red ware). Canisters, on the other hand, usually bear an all-over decoration in which friezes of caprids drawn in various stages of 'short-hand', or, less frequently, a continuous row of trees, have been set. These lie between bands with solid or hatched, elongated, upturned or apex-to-base triangles, squiggly lines, or occasionally, hatched diamonds and stylised caprid heads (fig. 7).

Incised grey ware

Two incised greyware vessels from Cairn II, as well as several similar specimens discovered in the cairn-burial at Hili, belong to a type of hard grey ware which has incised decoration covering the whole surface of the vessel.

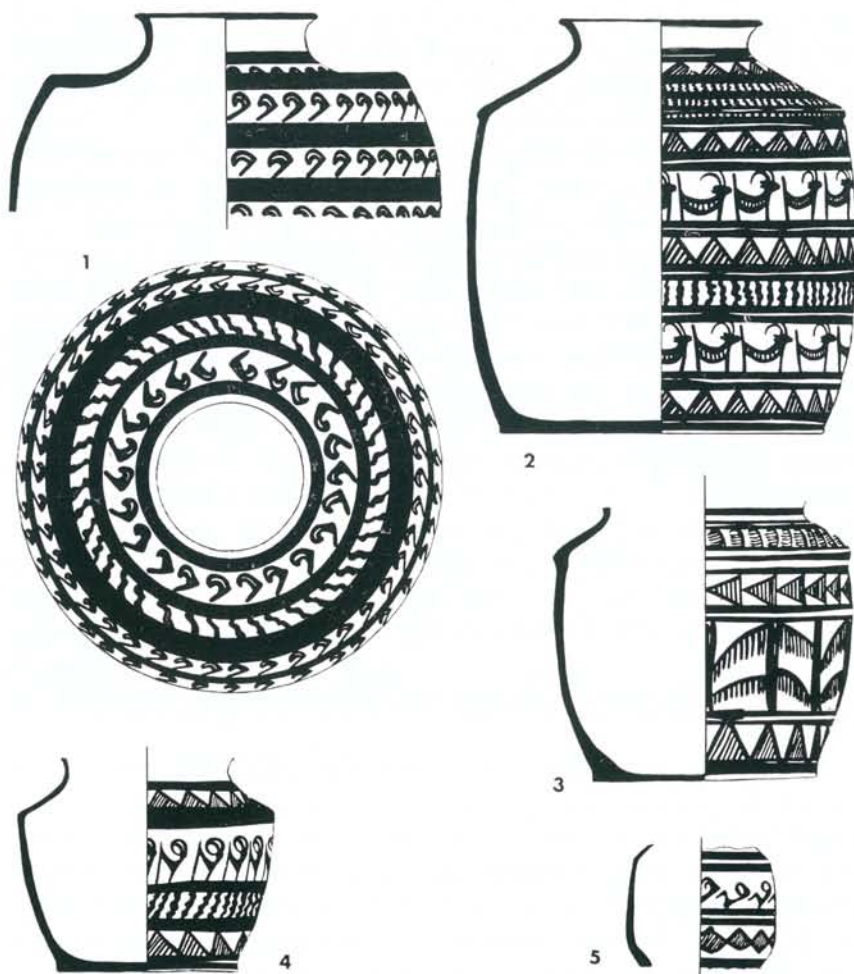


Fig. 7 - 1-5: Hili Cairn, Buraimi Oasis. Black-on-grey ware; canister type (1: Rim diam. 9.3 cms., shoulder diam. 18 cms.; 2: Ht. 20.6 cms.; 3: estimated Ht. 15.2 cms.; 4: estimated Ht. 10.9 cms.; 5: Body diam. 7.5 cms.). (Kuml, 1966, fig. 11. The measurements have been calculated on the assumption that the scale given in Kuml, cit., fig. 12 also applies to the canisters on fig. 11).

The decoration of this incised grey ware falls into two categories. The first consists of architectural representations of small huts (figs. 8, 2; 9, 1-7), possibly constructed of woven reeds or palm-leaves, with well-defined doors and windows characterised by sagging lintels. There is herring-bone and criss-cross in-filling between these representations.

The second category consists of purely geometric patterns composed of one or more rows of opposed, hatched triangles covering the total height of the vessel (figs. 8, 3; 9, 8, 9). On a few pots of the first category this geometric pattern has been incorporated into the architectural facade either as an upper zone closing off the main scene (fig. 9, 7) or set vertically alongside it (fig. 9, 6, 7). This suggests that the geometric decoration of the second category was also intended to represent some woven substance used for building purposes.

The incised grey ware from Umm an-Nâr and Hilî is of considerable interest since it emphasizes the existence of a relationship between the cultures of Persian and Pakistani Balûchistân and the opposite side of the Persian Gulf. This is further substantiated by certain similarities in the Umm an-Nâr painted wares to those of the Bampûr IV-VI culture of Persian Balûchistân and related assemblages in adjacent regions; that is, with sites in the southern delta of the Helmand river in Seistân and in south-central Afghanistan (Mundigak, Deh Morasi Ghundai) (see below).

A relationship between Umm an-Nâr and the sites along the Bampûr river and its upper reaches in Persian Balûchistân has been considerably confirmed by an excavation at Bampûr in 1966 by Miss Beatrice de Cardi²⁶. This finally established a cultural sequence into which the previously unrelated painted and incised wares discovered by Sir Aurel Stein at sites in the Bampûr valley region during a reconnaissance in 1932²⁷ could be fitted. This cultural sequence showed a division into six different periods, of which Periods IV-VI provide clear evidence of cultural contact with Umm an-Nâr and Hilî.

A tentative relative chronology for the Bampûr valley sites is provided by the occurrence of certain intrusive elements in the pottery of Bampûr III, 3-4 and IV, 1²⁸ and by the presence of a compartmented metal stamp seal (Period IV)²⁹. These provide parallels for wares from sites in the southern delta of the Helmand river on both the Iranian and Afghan sides of the border³⁰ and for comparable

²⁶ Beatrice de Cardi, « *The Bampur Sequence in the 3rd Millennium B.C.* », *Antiquity*, XLI, 1967, pp. 33-41; *Id.*, Iran, VI, 1968, pp. 135-155.

²⁷ Sir M.A. Stein, *Archaeological Reconnaissances in North-Western India and South-Eastern Iran*, London, 1937, pp. 104-125.

²⁸ de Cardi, 1968, *op. cit.*, fig. 7.

²⁹ de Cardi, 1967, *op. cit.*, fig. 2.

³⁰ W. A. Fairclough, Jr., *Archaeological Studies in the Seistan Basin of South-western Afghanistan and Eastern Iran*, Anthropological Papers of the American Mu-

painted ceramics and similar compartmented stamp seals at Mundigak in southern Afghanistan (both in Periods III and IV, 1-3)³¹.

The Mundigak IV- Hissar IIB/III connections, substantiated by the occurrence of Hissar grey polished ware at Mundigak IV, 1³², helps to overcome the present lack of a C₁₄ dating for Mundigak IV³³, while compartmented metal stamp seals of the type mentioned above have also been reported from Hissar IIB, III, Anau III, Namazga Tepe Periods III-V, and from the Shâhî Tump cemetery situated in the Kej valley of Pakistani Makrân.

The only parallels with south-western Iran are found in elements of the painted pottery tradition of the kaleh and following Shoghâ assemblages of Fârs which were incorporated during Bampûr Period V, 1. Strong Kullî traits are discernible in certain pottery designs and forms of Bampûr Period V, 2 (see below).

Three fragments of carved serpentine pots found at Bampûr, (only one came from a stratified level, i.e. Period IV, 2³⁴; the two others bearing a 'hut-pattern' and a basket-weave design³⁵ respectively were found on the surface), suggest that carved stone 'hut-pots' were traded down the Gulf or carried overland through southern Iran for a time before they went out of fashion in Sumer, i.e. late Early Dynastic III. It may be justifiable to suppose that it was these carved stone prototypes which stimulated the incised pottery ware industry, current

seum of Natural History, Vol. XLVIII, Part. 1, New York, 1961; see also de Cardi, 1968, *op. cit.*, p. 148, note 15; M. Tosi, « *Excavations at Shahr-i Sokhta, A Chalcolithic Settlement in the Iranian Sîstân. Preliminary Report on the First Campaign, October-December 1967* », East and West (IsMEO, New Series) 18, 1-2, 1968, pp. 9-66; Id., « *Excavations at Shahr-i Sokhta. Preliminary Report on the Second Campaign, September-December 1968* », East and West (IsMEO, New Series) 19, 3-4, 1969, pp. 283-386.

³¹ J.-M. Casal, *Fouilles de Mundigak*, Mémoires de la Délégation archéologique française en Afghanistan, Tome XVII (2 vols.) Paris, 1961; for seals see Pl. XLV.

³² Casal, 1961, *op. cit.*, fig. 82, Nos. 298-299.

³³ The C₁₄ samples from Mundigak were unreliable.

³⁴ de Cardi, 1968, *op. cit.*, Pl. IVb left.

³⁵ Ibid., Pl. IVb right. The formalised 'hut'-pattern is of a kind with parallels from Tello, Sippar and Mari which has been ascribed to the Early Dynastic III period (P. Delougaz, « *Architectural Representations on Steatite Vases* », Iraq XXII, 1960, pp. 90-95). The basket-weave design is of a type exactly paralleled at Kish, Susa, Failaka island (de Cardi, 1967, *op. cit.*, p. 39) and by a fragment found in the lowest levels at Mohenjo-daro (-28-40 ft.) (E.J.H. Mackay, *Further Excavations at Mohenjo-daro*, Delhi, 1938, I, p. 321, II, Pl. CXLII, No. 45).



Fig. 8 - Bampûr Period VI. Black-on-grey ware; canister type (Ht. 14.6 cms.). (de Cardi, 1968, fig. 12, No. 89); 2: Umm an-Nâr Island. Cairn II. Incised grey ware (estimated Ht. 17.6 cms.). (Thorvildsen, 1962, fig. 20, left); 3: Umm an-Nâr Island. Cairn II. Incised grey ware (Ht. 13.5 cms.). (Thorvildsen, 1962, fig. 20, right).

from Periods IV, 2 — VI resembling the carved 'hut-pots' both in its form and decoration³⁶.

An ED III — Akkadian date for the kaleh culture as suggested by Vanden Berghe³⁷ agrees with the occurrence of a carved steatite vase at the name site Talli kaleh on the one hand helps to set a date for Bampûr Period V, 1 on the other (fig. 12, f).

A comparable incised grey ware pot from Susa, ascribed by the excavator to the period of Naram-Sin³⁸, but most probably belonging to Susa Dd (end ED IIIB or transition to protoimperial) and to be treated as an import from Balûchistân, confirms the view that the start of the incised grey ware at Bampûr Period IV, 2 must fall before or at the end of the Early Dynastic III- post Early Dynastic period, but cannot be later than Susa Dd.

Thus, Bampûr Periods III, 2-3, IV, 1 when the Bampûr valley was closely connected with Seistân and Afghanistan (Mundigak IV, 1) appears to fall within Early Dynastic IIIB. A more casual contact between the later part of Bampûr Period IV and Period V and Mundigak IV, 2-3, is suggested by the occurrence of only a few counterparts³⁹.

³⁶ Recent excavations at Tepe Yahyâ, a site approximately 200 kms. south of Kerman in south eastern Iran, by Professor C.C. Lamberg-Karlovsky, Harvard University, U.S.A., have revealed during Yahyâ Period IV a great quantity of variably shaped carved steatite vessels, which show almost all of the known motifs on steatite vessels in Mesopotamia. 'Hut-pots' with architectural representations of sagging doors and windows, basket-weave and interlinked spiral curves are all found together with a great number of undecorated steatite vessels as well as a small number of other pieces of art made of steatite (see Elisabeth C.L. During Caspers, « *Tepe Yahya: The Third Millennium* », Proceedings of the first annual Archaeological Colloquium, Shiraz (in press). This combined with the presence at Yahyâ of unfinished steatite beads in various stages of manufacture, blanks for stamp seals and unfinished steatite vessels, seem to argue for a local steatite production at Tepe Yahyâ itself, after the raw materials or perhaps in some cases half finished products had been imported from elsewhere, for instance from the area south of Bampûr. Here we must recall Le Breton's supposition of an Elamite origin for many of the Early Dynastic carved stone 'hut-pots' from Sumer (Le Breton, Iraq, XIX, 1957:120) which makes one wonder whether perhaps the steatite carving industry at Tepe Yahyâ can have been the impulse for the start of the incised grey ware manufacture in late Bampûr IV.

³⁷ L. Vanden Berghe, « *Archeologische Navorsingen in de Omstreken van Persepolis* », Jaarbericht Ex Oriente Lux 13, 1954, p. 403; see also R.H. Dyson, Jr., « *Problems in the Relative Chronology of Iran, 6000-2000 B.C.* », in Ehrich, R.W., *Chronologies in Old World Archaeology*, Chicago, 1965, p. 246, who gives an overall date of ED III - 2000 B.C. for the kaleh culture.

³⁸ J. De Morgan, « *Observations sur les couches profondes de l'Acropole à Suse* », Mémoires Délégation en Perse, XIII, 1912, p. 24, fig. 116.

³⁹ de Cardi, 1968, *op. cit.*, pp. 151-152; compare also Khurâb Bii (Stein, 1937, *op. cit.*, Pl. XIV Khur. Bii 203, 204) with Mundigak IV, 3 (Casal, 1961, *op. cit.*, fig. 103, No. 498).

Within the class of incised grey ware mentioned above which has a wide distribution extending from Seistân⁴⁰, and the Bampûr area to Shâhî Tump in Pakistani Makrân⁴¹ and across the Persian Gulf into Trucial Oman, shapes and sizes are not constant and so far six different types or groups of vessels can be recognised⁴².

One of the two vases from Cairn II on Umm an-Nâr (fig. 8, 2) and at least one other from Hilî (fig. 9, 5), both decorated with a 'hut'- pattern, belong to the Bampûr Group VI type which is a tall, flat-based jar with almost straight walls converging towards the neck below an everted rim. They are, therefore, comparable in shape to the vase from Katukân, to the east of the Bampûr valley⁴³ (fig. 12, 1). Their 'hut'- pattern, having panels between the doorways consisting of groups of horizontal lines appears on Stein's Bampûr vase (Bam. A. 161) (fig. 12, 3), which falls within Periods V/VI, and also on the Katukân vase. A two-storeyed building comparable to the ones from Umm an-Nâr and Hilî is also represented on a fragment from Bampûr, A. 365^{44 45}.

The second vase Cairn II (fig. 8, 3), with its flat base, everted rim, slightly bulging body and incised decoration consisting of a zone with multilinear chevrons set between two bands of opposed hatched triangles, belongs typologically to Bampû Group III (a squat, flat-based jar with slightly convex walls), which had a similar time span. Its de-

⁴⁰ Sir M.A. Stein, *Innermost Asia*, Oxford, 1928, Pls. CXIII, R.R. VII 01, CXV, R.R. VII. 015.

⁴¹ Sir M. A. Stein, *An Archaeological Tour in Gedrosia*, Memoirs of the Archaeological Survey of India, No. 43, Calcutta, 1931, p. 91, Pl. XIII, Sh.T. iii.9. Diameter base must have been 7.7 cms., remaining height is 3.7 cms. It must be remarked that this vessel from Shâhî Tump erroneously has been described by Durrani as a compartmented vessel. Although approximately half of the base is present, there is no indication of any compartements.

Stein's excavations in apparently the same area produced painted pottery (Stein, 1931, *op. cit.*, p. 91, Pl. XIII, Sh.T. iii.6, Sh.T. iv.1) which could be related to a jar in the Khurâb burial, B.ii (= end Bampûr IV) (Stein, 1937, *op. cit.*, Pl. XVII, Bii. 210), and to pottery in levels from Bampûr IV, 2 - V, 1.

⁴² During Caspers, *Anthropological Papers*, *op. cit.*

⁴³ Stein, 1937, *op. cit.*, Pl. VI, Kat. 019, Pl. XXXII, 12.

⁴⁴ *Ibid.*, Pl. VIII, A.365.

⁴⁵ Two-storeyed buildings are represented on vases from Adab (F.A. Durrani, « *Stone Vases as Evidence of Connection Between Mesopotamia and the Indus Valley* », *Ancient Pakistan* 1, 1964, Pl. IV, 1) and from Sippar (*Ibid.*, Pl. IV, 3).

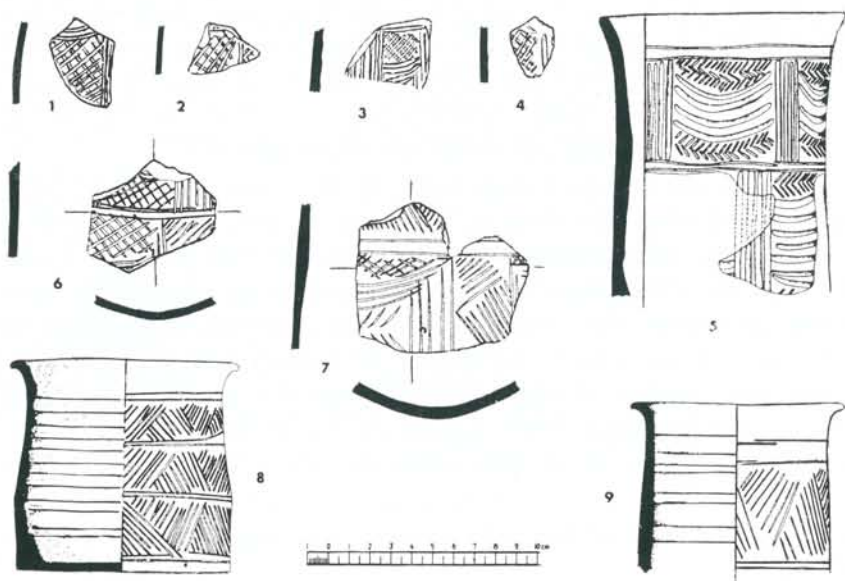


Fig. 9 - 1-9: Hilî Cairn, Buraimî Oasis. Incised grey ware (scale as indicated on the photograph). (Kuml, 1966, fig. 12).

coration recurs on the cylindrical stone vase from Khurâb burial F (transition from Bampûr IV to V) (fig. 12, 2) while zones of opposed, hatched triangles occur on Bampûr incised ware from Periods IV, 2 to VI.

The other incised vessels from the Hilî burial (fig. 9, 1-4, 6-9) also fall within the range of forms noted at Bampûr and bear similar decoration, including herring-bone infill above and below the door lintels (Bampûr V/VI), and rows of opposed triangles set vertically alongside them (Bampûr V/VI)⁴⁶. Of special interest are fig. 9, 8, 9 which belong typologically to Bampûr Group I, which is a small flat-based pot with thin, straight or slightly out-curving walls and everted rim. This appeared in Bampûr Period VI, 2 and continued as the prevailing form to the end of Period VI, bearing exclusively an overall triangle pattern similar to that from Hilî.

⁴⁶ This pattern recurs on some carved stone vases from Khafâjah (Durrani, 1964, *op. cit.*, Pl. III, 4) and Mari (*Ibid.*, Pl. VII, 4 VIII).

Undecorated pottery

The most common shape in the undecorated Umm an-Nâr ware, represented by a dozen more or less complete specimens, is an elongated pear-shaped jar with a small sagging-base or a small flat foot, a long cylindrical neck sometimes with several slight horizontal ribs, and a broad, straight or slightly concave cylindrical rim, which is practically in line with the neck (fig. 10, 3). The jars have a rather coarse sandy or gritty texture, but nevertheless represent a thin-walled and well-fired ware, mostly unslipped (in only one instance could a whitish-yellow coloured slip (?) be recognised) and ranging in colour from pale-buff to red or brownish-red.

The proportions of this type of 'amphora' are not constant; the dimension of neck and rim vary from one specimen to another and the pear-shaped body can also be of different sizes. The jars measure up to ca. 30 cms. in height but while the diameter of the rim can be as great as 11 cms., that of the base does not exceed 8 cms. One exceptionally large specimen in this category which has a very small sagging-base, a short narrow neck and a height of 52 cms, stood against the inner ring-wall inside Cairn VII⁴⁷.

CONNECTIONS WITH PAINTED WARES ACROSS THE PERSIAN GULF

The Bampur connections with Umm an-Nâr and with related cultures in Seistân and south-central Afghanistan

The chronological horizon for the Umm an-Nâr culture with its eastern extension towards the Buraimî Oasis is at this stage still a complex problem. The antecedents, duration, successive stages of development and exact area covered by the culture can at present only be guessed at, and that only with the greatest reserve. We are therefore compelled to rely almost exclusively on such stylistic and typological ceramic comparisons with other cultures in the Gulf area and neighbouring regions as are likely to provide reliable parallels. This provides

⁴⁷ I am greatly indebted to Professor Dr. P. V. Glob for allowing me to publish the description of this undecorated ware.

the only method of building up a justifiable chronological scheme into which this cultural assemblage can be fitted satisfactorily.

The limited extent of detailed surveys and the lack of scientific excavations in other parts of Trucial Oman and adjacent regions make it impossible to suggest a southern or western extension of the Umm an-Nâr culture. The painted wares of the « chain-ridge » and « Barbar » levels at Bahrain which have red or black geometric decoration, occasionally with naturalistic designs, on red or cream unslipped wares or on pottery vessels with a cream or red wash, appear to belong to a different cultural horizon⁴⁸ in spite of the obvious hazards and limitations of a discussion based only on a drawing or a photograph.

Nevertheless, a tentative date for the Umm an-Nâr culture can be set by means of cultural links with the areas across the Persian Gulf. As already demonstrated by the incised grey ware, connections can be seen with the Bampûr IV-VI culture and inter-related cultural assemblages of the southern delta of the Helmand river in Seïstân, and Mundigak and Deh Morasi Ghundai in south-central Afghanistan⁴⁹. In addition, the sites of Shâhî Tump and Kullî in Pakistani Makrân help to place Umm an-Nâr in its chronological setting. To the north-west a firm link with Sumer as well is suggested by certain undecorated pottery forms as well as by the plain steatite 'hut-pot', both of which have their exact counterparts in the South Mesopotamian sites of Ur and Al 'Ubaid (see below).

Comparable pottery designs from the Bampûr Basin, Seïstân, south-central Afghanistan and elsewhere

The table below compares pottery on the basis of either design or design and form. The comparative material has been arranged in such a way that the geographical distribution of each motif and thus the cultural contacts with other cultures can be easily seen. The colour of the fabric has been indicated where possible and is referred to as buff, red, or grey. Surface slips of the Bampûr 1966 material have been described where present and different from the fabric.

⁴⁸ Kulm, 1955, p. 193; 1957, p. 158; figs. 14-15; 1965, p. 147; 1966, p. 92, fig. 5.

⁴⁹ Further evidence for relations between Bampûr and Seïstân is provided by excavations at Shahr-i Sokhta in Iranian Seïstân (Tosi, 1968, *op. cit.*, pp. 9-66; Id., 1969, *op. cit.*, pp. 283-386).

Fig.	Bampur Basin	Seistán	S. C. Afghanistan + Elsewhere
5, 2-4 short pendant lines inside rim	<p><i>Bampur</i></p> <p><i>Period IV, 1 - orange/red</i> de Cardli, '67, fig. 3 b, No. 38 design, form; <i>Period IV, 2 - grey</i> de Cardli, '68, fig. 9, No. 46 design, form; <i>Period V, 2 - grey</i> de Cardli, '68, fig. 10, No. 57, design, form:</p> <p><i>Khuráb - red, grey</i> Burial Bii (<i>end Bampur IV</i>) Stein, '37, Pls. XIII, XVII, Khur. B. ii. 202 design; Khur. B. ii. 205 design, form; Burial D (<i>Bampur V</i>) Stein, '37, Pl. XV, Khur. D. 244 design, form.</p>	<p><i>Gardān Reg. Decor. buff</i> (G. R. 6) Fairservis, '61, Design 31, design.</p> <p><i>Shabr-i, Sokhta grey</i> Tosi, '68, fig. 12 b, design, form.</p>	<p><i>Mundigak</i></p> <p><i>Period IV, 1 - buff</i> Casal, '61, figs. 69-70, 76-77, Nos. 208, 210 b, design: Nos. 236, 261 a design, form; No. 272 design; <i>Period IV, 2 - red slip</i> Casal, '61, fig. 89, No. 385 design; <i>Period IV, 3 - buff</i> Casal, '61, fig. 96, No. 443 design.</p> <p>+ <i>Shabi Tump - grey</i> Stein, '31, Pl. XIII, Sh. T. iii. 6 design, form; Sh. T. iv. 1 design, form; Sh. T. vi. 13 n design (grey?).</p> <p><i>Sur Jangal - RG Red-on-Red Slip</i> (<i>Sur Jangal III</i>) Fairservis, '59, Design 380, design.</p> <p><i>Amri III C - buff</i> Casal, '64, fig. 85, No. 406 design; fig. 86, No. 412 b design; fig. 87, No. 425 design.</p>

Fig.	Bampūr Basin	Seistān	S. C. Afghanistan + Elsewhere
4, 4; 5, 5; 6, 2 multiple chevrons	<p><i>Bampūr</i></p> <p><i>Period IV, 1 - red, grey with cream slip</i> de Cardī, '68, fig. 8, Nos. 34, 39 design; <i>Period IV, 3 - red with buff slip</i> de Cardī, '68, fig. 9, No. 51 design; No. 308 (red with cream slip; to be published) = design; <i>Period V, 1 - orange/red</i> No. 86 (to be published) design; <i>Period V, 1 - grey</i> No. 360 (to be published) design;</p> <p><i>Katukān</i> Stein, '37, Pl. XI, Kat. 4 design;</p> <p><i>Dāmūn</i> Stein, '37, Pl. XI, A. 64 b design; A. 75 design;</p> <p><i>Khurāb-red</i> Burial Bii (<i>end Bampūr IV</i>) Stein, '37, Pl. XVII, Khur. B. ii. 163, 178, design; Burial F (<i>Bampūr IV-V</i>) Stein, '37, Pl. XVI, Khur. F. i. 264 design.</p>	<p><i>Gardān Reg-buff</i> (G. R. 6) Fairservis, '61, fig. 36 a design, form; Designs 57-58, 60-62 design; 135 design, form?</p> <p><i>Shahr-i Sokhta yellowish-orange with cream slip</i> Tosi, '68, figs. 8 b, 52 design; <i>Id., Periods II & III - buff</i> Tosi, '69, fig. 25 b design; fig. 31 d, e design, form ?; fig. 247 design.</p>	<p><i>Mundigak</i></p> <p><i>Period IV, 1 - buff</i> (occ. cream slipped) fig. 66, Nos. 190, 190a, 191 design; fig. 71, Nos. 220, 223 design; fig. 74, Nos. 237-237 c design; fig. 76, Nos. 261, 261 a design; form (261); fig. 81, No. 289 design, form? fig. 82, No. 294 design; fig. 87, No. 362 (bichrome) design.</p> <p>+ <i>Shāhī Tump - red or buff</i> Stein, '31, Pls. XVI, XVIII, XIX, Sh. T. xiv. f. 5, Sh. T. vii. 1.b., Sh. T. vii. 1. 4, Sh. T. ix. 2. f. 3 design.</p>

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Fig.	Bampûr Basin	Seistán	S. C. Afghanistan + Elsewhere
<p>4, 6 all-over cross-hatching</p>			<p><i>Mundigak</i></p> <p><i>Period IV, 1 - grey with cream slip</i> Casal, '61, fig. 74, No. 238 design (but only on neck).</p> <p>+ <i>Shâbi Tump - buff or red</i> Stein, '31, Pl. XIX, Sh. T. vii. 27 design.</p> <p><i>Quetta - Kechi Beg Polychrome (Sur Jangal III)</i> Fairervis, '56, fig. 53 design; <i>Damb Sadaat II - buff</i> Quetta ware Fairervis, '56, Design 363 design; <i>Damb Sadaat II - Quetta Black-on-Red Slip</i> Fairervis, '56, Design 509 design.</p> <p><i>Dabar Kot - red?</i> Stein, '29, Pl. XV, D.N.b. 5 design.</p> <p><i>Amri III C - buff/grey with red slip</i> Casal, '64, fig. 86, No. 415 design.</p> <p><i>Nal - red with white slip</i> Hargreaves, '29, Pl. XIX, No. 9 design (but only a narrow zone).</p> <p><i>Mohenjo-daro - red</i> Mackay, '38, Pls. LXII, No. 38, CXII, No. 6 design.</p>

Fig.	Bampur Basin	Seistán	S. C. Afghanistan + Elsewhere
<p>6, 1 barred semi circles</p> <p>6, 2 solid humped bulls</p>			<p><i>Mundigak</i></p> <p><i>Period IV, 2 - buff with red slip</i> Casal, '61, fig. 93, No. 420 design (but space in between semi circles not barred); <i>Period IV, 3 - grey</i> Casal, '61, fig. 103, No. 498 design, see No. 420.</p> <p><i>Mundigak</i></p> <p><i>Period IV, 1 - buff with cream slip</i> Casal, '61, fig. 70, No. 215 design.</p> <p>+ <i>Damb Sadaat II - buff</i> Quetta ware Fairservis, '56, Designs 433-435 design (but with infill).</p> <p><i>Kulli - buff or red</i> Stein, '31, Pl. XXII, Kul. V. iii. 1 design.</p> <p><i>Mehi - buff or red slip</i> Stein, '31, Pls. XXVIII, XXX, Mehi. 1.7.2, Mehi. IV.1.1 design.</p> <p><i>Anri IIB - buff with cream slip</i> Casal, '64, fig. 72, No. 301 design (but with infill).</p> <p><i>Nal - Hargreaves, '29, Pl. XVII, No. 59 design.</i></p>

Fig.	Bampūr Basin	Seistán	S. C. Afghanistan + Elsewhere
6, 2 vertical lines containing solid triangles		<i>Gardān Reg Decor. buff</i> (G. R. 6) Fairservis, '61, Designs 29, 84 design (but not very close).	<i>Deb Morasi Ghundai III</i> - Nuzai Black-on-Red Surface Dupree, '63, Design 192 design (but not very close). + <i>Damb Sadaat III</i> - buff Quetta ware Fairservis, '56, Design 200 design (but not very close). <i>Kulli</i> - buff or red Stein, '31, Pl. XXIII, Kul. V. vi. 6 design (but forming a continuous pattern).
5, 2; 7, 5 hatched diamonds	<i>Bampūr</i> <i>Period IV</i> , 2 - grey de Cardi, '68, fig. 9, No. 46 design, form; <i>Period IV</i> , 3 - red with cream slip de Cardi, Nos. 315, 316 (to be published) design; <i>Period V</i> , 2 - red de Cardi, '68, fig. 10, No. 70 design; No. 381 (to be published) design; Stein, '37, Pl. VIII, A. 428 (red or grey/buff?) (Bampūr V?). <i>Khārāb-buff/grey, grey</i> Burial Bii (end Bampūr IV) Stein, '37, Pls. XIII, XVI, XVII, Khur. B. ii. 199 (design, form), Khur. B. ii. 158 (design), Khur. B. ii. 208 (design, form), Khur. B. ii. 210 (design, form).	<i>Gardān Reg Decor. buff</i> (G. R. 6) Fairservis, '61, fig. 45, c; Design 63 design, form? <i>Emir Gray-grey</i> Stein, '28, Pl. 113, K.G. 055 design. <i>Shahr-i Sokhta grey</i> Tosi, '68, fig. 12 b, design, form; <i>Id.</i> , <i>Periods II & III</i> - buff Tosi '69, fig. 27 a design.	<i>Mundigak</i> <i>Period IV</i> , 1 - buff Casal, '61, figs. 71, 72, 77, Nos. 224, 231, 268, 270 design (but crosshatched diamonds), fig. 80, No. 285 design; <i>Period IV</i> , 2 - buff with red slip Casal, '61, fig. 93, No. 420 design (but crosshatched diamonds). + <i>Shābi Tump</i> - grey, light red or buff Stein, '31, Pls. XIII, XVIII, Sh. T. iv. 1, Sh. T. iii. 6 design, form? Sh. T. ix. 2. b design (but crosshatched diamonds). <i>Sukagen-dor</i> - red slip Stein, '31, Pl. IV, Su. 19 design.

Fig.	Bampur Basin	Seistán	S. C. Afghanistan + Elsewhere
5, 2; 7, 5 hatched diamonds (continued)	<p><i>Dámin</i> - grey? Stein, '37, Pl. XI, No. 6.</p> <p><i>Katukán</i> - grey? Stein, '37, Pl. XI, Kat. 22, 26, 27.</p> <p><i>Maulá</i> - buff or red? Stein, '37, Pl. IX, Mau. 8, design.</p>		<p><i>Panódi</i> - buff or grey Stein, '31, Pl. IV, Pan. 5 design.</p> <p><i>Dabar-Kot</i> - red Stein, '29, Pl. XIV, D. 8, D. 9, D.W. i, ii. 39 design (one crosshatched); Pl. XV, D.W. i. 2 design.</p> <p><i>Mehi</i> - red or buff slip? Stein, '31, Pls. XXVII, XXIX, XXX, Mehi. 6, 11, 12, Mehi. II. 9. 2, Mehi. II. 1. 1. a, Mehi. III. 6, 12, Mehi. II. 5. 3, design (but not close and crosshatched).</p> <p><i>Nal</i> - Hargreaves, '29, Pl. XVII, No. 4 design (but not very close).</p>
5, 2 two rows of opposed hatched triangles	<p><i>Bampur</i></p> <p><i>Period IV</i>, 3 - red de Cardi, '68, fig. 9, No. 50 design; <i>Period V</i>, 2 - red de Cardi, No. 364 (to be published) design.</p> <p><i>Khuráb</i> - red Burial L (<i>Bampur V/VI</i>) Stein, '37, Pl. XV, Khur. L. ii. 293 design; Pl. XVII, A. 117 design (red?); <i>Dámin</i> - red? Stein, '37, Pl. XV, DMN. 01 design.</p>		<p>+ <i>Damb Sadaat II</i> - buff? Quetta Polychrome, Fairervis, 56, Design 546, 547 design (but crosshatched triangles).</p> <p><i>Rana Ghundai</i> - RG Red-on-Red Slip (<i>Sur Jangal III</i>) Fairervis, '59, Design 406 design; Stein, '29, Pl. XIII, R.G. 14 (Red-on-Red Slip?) design.</p>

Fig.	Bampûr Basin	Seistân	S. C. Afghanistan + Elsewhere
5, 2 two rows of opposed hatched triangles (continued)			<p>+ <i>Pavôdi</i> - buff or grey Stein, '31, Pl. IV, Pan. 2, design.</p> <p><i>Mehî</i> - red or buff slip? Stein, '31, Pl. XXX, Mehi. 111. 2. 6, 11. 8. 2 design (but without dividing zigzag).</p>
4, 2 solid painted plastic wavy cordon	<p><i>Bampûr</i></p> <p><i>Period IV</i>, 1 - orange / buff, red, grey de Cardi, '68, fig. 8, Nos. 29, 33, 39 design (but cordon with vertical dashes); <i>Period IV</i>, 3 - red de Cardi, '68, fig. 9, No. 52 design (but cordon with vertical dashes); No. 320 (to be published (orange/red)) design (but cordon with vertical dashes); <i>Period VI</i> - red with buff slip, red de Cardi, '67, fig. 3 b, Nos. 46, 47 design; de Cardi, '68, fig. 11, Nos. 73, 80, design; Stein, '37, Pls. VII, VIII, Nos. A. 205, A. 338, A. 347, A. 195, A. 191 (red?) design (A. 195 with vertical dashes); Pl. XIV, Bam. A. 162 (buff) design, form?;</p> <p><i>Katukân</i> - Stein, '37, Pl. XI, Kat. 23, 31, 33 design (but cordon with vertical dashes); Kat. 011 design;</p>		<p><i>Mundigak</i></p> <p><i>Period IV</i>, 2 - buff Casal, '61, fig. 92, No. 404 design (but cordon with vertical dashes).</p> <p>+ <i>Shâhi Tump</i> - red or grey? Stein, '31, Pl. XII, Sh. T. v. 3 design (but cordon with vertical dashes).</p>

Fig.	Bampûr Basin	Seistân	S. C. Afghanistan + Elsewhere
4, 2 solid painted plastic wavy cordon (continued)	<p><i>Dâmin</i> - red? Stein, '37, Pl. XI, Nos. 16, 44-46 design (but cordon with vertical dashes); <i>Khurâb</i> - buff/grey, grey Burial B. ii. (end <i>Bampur IV</i>) Stein, '37, Pl. XIII, Khur. B. ii. 201, 202, 198, design (B. ii. 198 also form?) (but cordon with vertical dashes).</p>		
5, 3 continuous multiple step pattern	<p><i>Bampûr</i> <i>Period IV</i>, 1 - red de Cardi, '68, fig. 8, No. 41 design; <i>Period IV</i>, 2 - grey de Cardi, '68, fig. 9, No. 47 design;</p> <p><i>Katukân</i> - Stein, '37, Pl. XI, Kat. 24 design;</p> <p><i>Dâmin</i> - Stein, '37, Pl. XI, A. 64 b, B. 110 a, B. 110 b, A. 89 design.</p>	<p><i>Emir Gray</i> - grey (G. R. 6) Fairservis, '61, Design 102 design.</p>	<p><i>Mundigak</i> <i>Period IV</i>, 1 - buff with cream slip Casal, '61, fig. 77, No. 262 design, form?</p> <p>+ <i>Shâhî Tump</i> - red, buff, grey Stein, '31, Pls. XII, XIX, Sh. T. iii. 1, Sh. T. vii. 1a, Sh. T. ix. 2. g. 3, Sh. T. ix. 2. c design.</p> <p><i>Kullî</i> - buff or red Stein, '31, Pl. XXIII, Kul. V. vi. 2. a design;</p> <p><i>Mehî</i> - red or buff slip? Stein, '31, Pl. XXIX, Mehi. III. 4. 1, Mehi. II. 7.2, Mehi. III. 4. 3 design.</p>
See for vertical rows of short dashes	<p><i>Bampûr</i> <i>Period V</i>, 1 - red with buff/cream slip de Cardi, No. 82 (to be published) design.</p>		

Fig.	Bampūr Basin	Seistán	S. C. Afghanistan + Elsewhere
5, 4; (not visible) 7, 2-4 hatched upturned triangles	<p><i>Bampūr</i></p> <p><i>Period V</i>, 2 - grey de Cardi, '68, fig. 10, Nos. 57, 58 design, form; No. 363 (to be published) design, form; <i>Period VI</i> - grey, grey with buff slip de Cardi, '67, fig. 3 b, No. 47 (red with buff slip) design; de Cardi, '68, fig. 12, No. 89, design, form; Nos. 476-478 (to be published) design, form;</p> <p><i>Maulā</i> - Stein, '37, Pl. IX, Mau. 4 design.</p>	<p><i>Shabr-i Sokhta</i>.</p> <p><i>Periods II & III</i> - grey Tosi '69, fig. 33 b design, form.</p>	<p>+ <i>Kullī</i> - buff or red Stein, '37, Pls. XXI, XXIII, Kul. I. iii. 1, I. i. 3, i. 7, I. ii. 7, i. 6, a, I. iii. 2, V. vi. 2, a, I. viii. 1 design.</p>
5, 4 sigmas	<p><i>Bampūr</i></p> <p><i>Period IV</i>, 1 - red de Cardi, '68, fig. 8, No. 32 design, form? <i>Period V</i>, 2 - red de Cardi, No. 117 (to be published) design.</p> <p><i>Khurāb-grey</i> Burial Bii (<i>end Bampūr IV</i>) Stein, '37, Pl. XVI, Khur. B. ii. 149 design.</p> <p><i>Dāmīn</i> - Stein, '37, Pl. XI, A. 88, 48, A. 72 design.</p>	<p><i>Gardan Reg Decor</i>, buff (G. R. 6) Fairservis, '61, Designs 57, 75 design, form? Stein, '28, Pl. 113, K.G. 0135, K.G. 011 design.</p> <p><i>Shabr-i Sokhta</i>.</p> <p><i>Periods II & III</i> - buff Tosi '69, fig. 31 e design, form? grey fig. 121 design.</p>	<p><i>Mundigak</i></p> <p><i>Period IV</i>, 1 - buff Casal, '61, fig. 71, No. 264 design; <i>Period IV</i>, 2 - buff Casal, '61, fig. 93, No. 411 design.</p> <p>+ <i>Shābī Tump</i> - grey Stein, '31, Pl. XIII, Sh. T. iv. 1 design, form.</p> <p><i>Damb Sadaat II</i> - buff Quetta ware Fairservis, '56, Designs 403, 406 design.</p> <p><i>Rana Ghundai</i> - Faiz Mohammad Painted (<i>Sur Jangal III</i>) Fairservis, '59, Design 473 design.</p>

Fig.	Bampūr Basin	Seistán	S. C. Afghanistan + Elsewhere
5, 4 sigmas (continued)			<p><i>Sur Jangal</i> - Faiz Mohammad Painted (<i>Sur Jangal III</i>) Fairservis, '59, Design 472 design; Kechi Beg Polychrome (<i>Sur Jangal III</i>) Fairservis, '59, Designs 189, 191 design.</p> <p><i>Kulli</i> - buff or red Stein, '31, Pl. XXII, Kul. 9 design.</p> <p><i>Nundara</i> - buff or red? Stein, '31, Pl. XXVI, Nun. 31 design.</p> <p><i>Amri IIIC</i> - buff with cream slip Casal, '64, fig. 90, No. 455 design.</p>
5, 4 opposed hatched triangles enclosing plain diamonds	<p><i>Bampūr</i></p> <p><i>Period V</i>, 2 - red de Cardi, No. 117 (to be published) design (but interdivided).</p>		<p>+ <i>Kulli</i> - red or buff Stein, '31, Pls. XXI, XXII, Kul. I. iv. 3, I. iv. 4, Kul. 4, Kul. IV. 1, design;</p> <p><i>Mehi</i> - red or buff Pls. XXVII, XXVIII, XXIX, XXX, Mehi. 2, 4, Mehi. 1. 1, 6, Mehi. II. 5, 2, II. 4, 2, II. 4, 3, III. 13. 1, IV. 1, 1, II. 9, 13 design.</p>
7, 1-2, 4-5 rows of caprids	<p><i>Bampūr</i></p> <p><i>Period IV</i> - red de Cardi, '67, fig. 3 b, No. 22 design; <i>Period V</i>, 1 - buff de Cardi, No. 337, (to be published) design; <i>Period V</i>, 2 - orange/red de Cardi, '68, fig. 10, No. 62 design; <i>Period VI</i> - red with orange/buff slip, grey</p>		

Fig.	Bampur Basin	Seistán	S. C. Afghanistan + Elsewhere
7, 1-2, 4-5 rows of caprids (continued)	<p>de Cardi, '68, figs. 11, 12, Nos. 75, 79 (design), 88, 89, 90 design, form; No. 479 (to be published) design, form; Stein, '37, Pl. VII, Pl. IX, A. 333 design;</p> <p><i>Khuráb</i> - red or grey Burial B.i. (<i>Bampur V</i>) Stein, '37, Pl. XVII, Khur. B. i. 122 design;</p> <p><i>Katukán</i> - grey? Stein, '37, Pl. XI, Kat. 20 design;</p> <p><i>Dámin</i> - Stein, '37, Pl. XI, A. 75 design;</p> <p><i>Maulá</i> - Stein, '37, Pl. IX, Mau. 4, 5, 12.</p> <p><i>Bampur</i></p> <p><i>Period IV</i>, 3 - grey de Cardi, '68, fig. 9, Nos. 44, 45 design;</p> <p><i>Period VI</i> - grey de Cardi, '68, fig. 12, No. 89, design, form;</p> <p><i>Khuráb</i> - grey Burial Bii (<i>end Bampur IV</i>) Stein, '37, Pls. XVI, XVII, Khur. B. ii. 132, 156, 136, 147, 137, 153, 161, B. ii. 205 (greyish-brown) design; Burial C (<i>Bampur IV</i>, 2-3?) Stein, '37, Pl. XII, C. 235 (grey) design.</p>	<p><i>Emir Gray</i> - grey (G. R. 6) Fairservis, '61, Design 114 design;</p> <p><i>Shahr-i Sokhta</i> grey Tosi, '68, fig. 13 c, d design.</p>	<p>+ <i>Nundara</i> - buff or red Stein, '31,</p> <p><i>Nundara</i> - buff or red Stein, '31,</p>
7, 3 stylized caprid heads			

Fig.	Bampūr Basin	Seistán	S. C. Afghanistan + Elsewhere
7, 1-2-4 squiggly lines	<p><i>Bampūr</i></p> <p><i>Period V</i>, 2-grey de Cardi, No. 378, (to be published) design;</p> <p><i>Period VI</i> - red, red with buff slip, grey de Cardi, '67, fig. 3 b, No. 46, design; Nos. 392, 402, 480, 482 (to be published) design (482 design, form?).</p>	<p><i>Gardan Reg Decor. buff</i> (G. R. 6) Fairservis, '61, Design 77 design; <i>Emir Gray-grey</i> (G. R. 6) Fairservis, '61, Design 115 design.</p> <p><i>Sharb-i Sokhta</i>.</p> <p><i>Periods II & III</i> - grey Tosi '69, fig. 33 g design, form.</p>	<p>+ <i>Shāhī Tump</i> - red slip? Stein, '31, pls. XI, XII, Sh. T. ii. 7, Sh. T. v. 2 design.</p> <p><i>Damb Sadaat II</i> - buff Quetta ware Fairservis, '56, Designs 253, 406 design.</p> <p><i>Periano Ghundai</i> - P. Black-on-Red Slip (<i>Rana Ghundai III</i>) Fairservis, '59, figs. 43 h, i, k, 47 L design;</p> <p><i>Rana Ghundai</i> - Kechi Beg Polychrome (<i>Sur Jangal III</i>) Fairservis, '59, Design 190 design;</p> <p><i>Rana Ghundai</i> - P. Black-on-Red Slip (<i>Rana Ghundai III</i>) Fairservis, '59, Design 325 design;</p> <p><i>Sur Jangal</i> - Kechi Beg Polychrome (<i>Sur Jangal III</i>) Fairservis, '59, Design 187 design;</p> <p><i>Sur Jangal</i> - P. Black-on-Red Slip (<i>Sur Jangal III</i>) Fairservis, '59, Design 266 design; <i>Sur Jangal</i> - Rana Ghundai Red-on-Red Slip (<i>Sur Jangal III</i>) Fairservis, '59, Design 374, design; <i>Sur Jangal III</i>.</p> <p>+ P. Black-on-Buff Slip Fairservis, '59, Design 216 design.</p>

Fig.	Bampūr Basin	Seistán	S. C. Afghanistan + Elsewhere
7, 1-2-4 squiggly lines (continued)			<p><i>Amri IIIA</i> - red slip Casal, '64, figs. 75, 78, Nos. 318, 322, 341 design (but combined with other elements);</p> <p><i>Amri IIIC</i> - yellow slip Casal, '64, fig. 86, No. 418 (but combined with other elements).</p> <p><i>Nundara</i> - buff or red? Stein, '31, Pl. XXVI, Nun. 30 design.</p>
7, 3 hatched apex-to-base triangles	<p><i>Bampūr</i></p> <p><i>Period IV</i>, 1 - grey de Cardi, '68, fig. 8, No. 35 design; <i>Period V</i>, 1 - red de Cardi, No. 354 (to be published) design; <i>Period V</i>, 2 - red de Cardi, No. 93 (to be published) design; Stein, '37, Pl. IX, C. 67, A. 133, A. 383+176 design.</p> <p><i>Khurāb</i> - greyish/brown Burial Bii (end <i>Bampūr IV</i>) Stein, '37, Pl. XVII, Khur. B. ii. 207 design; Burial Bi (<i>Bampūr V</i>) Stein, '37, Pl. XVII, Khur. B. i. 122 design.</p> <p><i>Katukān</i> - Stein, '37, Pl. XI, Kat. 28 design.</p>	<p><i>Gardan Reg Decor. buff</i> (G. R. 6) Fairservis, '61, Design 66 design; Stein, '28, R. R. III. 018, Md(R.R.)I. 011 design; <i>Emir Gray</i>-grey (G. R. 6) Fairservis, '61, Designs 99, 100 design.</p>	<p><i>Mundigak</i></p> <p><i>Period IV</i>, 1 - greyish with white slip Casal, '61, fig. 76, No. 253 b design.</p>

Fig.	Bampur Basin	Seistán	S. C. Afghanistan + Elsewhere
7, 3 stylised trees	<p><i>Bampur</i></p> <p><i>Period IV</i>, 1 - <i>red</i> de Cardé, '68, fig. 8, No. 30, design; <i>Period IV</i>, 3 - <i>red/grey</i> de Cardé, '68, fig. 9, No. 49 design; <i>Period V</i>, 1 - <i>grey</i> de Cardé, '68, fig. 10, No. 65 design (but double tree line); <i>Period V</i>, 2 - <i>red, orange / red</i> de Cardé, '68, fig. 10, Nos. 61-62 design (but with triangle on top); de Cardé, No. 382 (red with cream slip) (to be published) design; Stein, '37, Pl. IX, A. 133, A. 383 + 176 (red?) design, (but with triangle on top).</p> <p><i>Maulá</i> - Stein, '37, Pl. IX, Mau. 3 + 6 design.</p> <p><i>Dámin</i> - Stein, '37, Pl. XI, A. 60 design.</p>	<p><i>Shahr-i Sokhta</i>.</p> <p><i>Periods II & III</i> - <i>grey</i> Tosi '69, fig. 33 e design, form.</p>	<p><i>Mundigak</i></p> <p><i>Period IV</i>, 2 - <i>buff with cream/buff slip</i> Casal, '61, fig. 93, Nos. 414, 415 design (but tree with double line).</p> <p>+ <i>Kulli</i> - <i>buff</i> or <i>red</i> Stein, '31. Pl. XXI, Kul. I. iv. 2.</p>

It is clear from the catalogue of comparative painted designs given above that Umm an-Nâr shared certain stylistic elements with some of the painted pottery centres across the Persian Gulf. Moreover, red-slipped pottery with black decoration also had a certain popularity at sites such as Mundigak⁵⁰, Rana Ghundai IIIC and Nal occupation levels⁵¹, and the frequent use of a black-on-grey ware on Umm an-Nâr can also be correlated with the regions across the Gulf; Bampûr Periods IV-VI, Seistân (Emir Gray Painted ware and Shahr-i Sokhta Black-on-Gray Ware Periods II and III), and Mundigak IV, 1-3.

It seems unlikely that the Umm an-Nâr painted wares were derived wholly from one centre across the Gulf. The occurrence of various combinations of zigzag patterns, rows of sigmas and of hatched or crosshatched diamonds throughout Balûchistân as far north as Afghanistan, makes comparison solely on the basis of these motifs highly unreliable. It is clear, however, that the Umm an-Nâr contacts were strongest with the Bampûr area, during Periods IV-VI, and with related sites in Seistân, Mundigak IV, 1-3 and Deh Morasi II C - III. Therefore, Umm an-Nâr seems to have lain on the outskirts of a complex of inter-related cultural assemblages which extended from the Bampûr Basin eastwards across the southern delta of the Helmand river in Seistân, to Mundigak and Deh Morasi Ghundai in south-central Afghanistan⁵².

Kullî - Bampûr influence in the Umm an-Nâr black-on-grey ware

The black-on-grey jars of canister type which were encountered at Umm an-Nâr and in the Hilî burial are hybrid in character since they combine elements of the Kullî culture of southern Pakistani Balûchistân with the Bampûr culture.

The Kullî culture is still ill-defined geographically, stratigraphically and chronologically; nor is its internal development yet worked out. Its characteristic painted pottery (see below) is known from various sites in the Kolwa district (the type-site Kullî, Bâzdâd-kalât, Âwarân,

⁵⁰ Casal, 1961, *op. cit.*, Fig. 89, No. 381, Mundigak IV, 2.

⁵¹ G. F. Dales, « A Suggested Chronology for Afghanistan, Baluchistan, and the Indus Valley », in: Ehrich, R. W., *Chronologies in Old World Archaeology*, Chicago, 1965, pp. 265-266.

⁵² See note 49.

Siâh- damb of Jhau)⁵³, at Nindowari in the Ornach valley⁵⁴, and at Mehî in the Mashkai valley⁵⁵ and an outlying Kullî settlement has been noted by Piggott at Shâhî Tump in the Dasht valley⁵⁶, lying beneath the remains of the cemetery⁵⁷.

The Kullî pottery is characterised by a wheel-thrown buff or pinkish to terra cotta red ware, most of which has a pale to bright red or a creamy-white slip, with a black or dark brown decoration which often has a red in-filling. Grey ware is present only in small quantities.

An individual and distinctive shape among the variety of forms is a squat, straight-sided jar with carinated shoulder. Like the other pottery types, this canister form bears the typical Kullî patterns; for example, zones of wavy hatched bands, rows of hatched triangles placed apex-to-base, or bands of pendant loops which in most cases frame a continuous frieze of naturalistic representations which form the main decoration of the vessel. This main scene shows humped cattle — and occasionally felines also — with exaggeratedly long, solid, or banded bodies which have been tethered either to a tree or an indeterminate object in front of them. The humped bulls (possibly alternating with cows) have been placed in a landscape with formalised trees and rows of small stylised goats with curved, swept-back horns, while the other empty spaces have been filled with various « fill » motifs.

Canisters of a similar form were discovered at Bampûr, where they range from Period V, 2 into Period VI (fig. 8, 1, while they also have been found at Shahr-i Sokhta in Seistân in Periods II and III⁵⁸. They have a slightly convex profile or tapering walls, an everted rim on a short straight neck and a more sharply accentuated shoulder even resulting in the beginning of a plastic ridge.

It has been noted by the excavator⁵⁹ that a definite break, both stratigraphically and stylistically, occurred in Bampûr Period V when new ceramic wares of hybrid character were introduced, combining elements of the Kullî culture on the one hand and the kaleh and subsequent Shoghâ assemblages of south-western Iran on the other.

⁵³ Stein, 1931, *op. cit.*, pp. 118-132, 135-136.

⁵⁴ J. M. Casal, « Nindowari, A Chalcolithic Site in South Baluchistan », Pakistan Archaeology 3, 1966, pp. 10-21.

⁵⁵ Stein, 1931, *op. cit.*, pp. 154-163.

⁵⁶ Ibid., pp. 88-103.

⁵⁷ S. Piggott, *Prehistoric India*, Hardmondsworth, 1950, p. 97, fig. 6.

⁵⁸ de Cardi, 1967, *op. cit.*, fig. 3 b, No. 43; Id., 1968, fig. 10, Nos. 57-58, fig. 12, No. 89; Tosi, 1969, *op. cit.*, Fig. 33 b, c, g.

⁵⁹ de Cardi, 1967, *op. cit.*, p. 40.



Fig. 10 - 1: Umm an-Nâr Island. Cairn VI. Incised greyish-red ware (remaining Ht. 11.8 cms.). (Thorvildsen, 1962, fig. 24 top row left); 2: Umm an-Nâr Island. Cairn V. Undecorated « cooking-pot » (Ht. 15.6 cms.). (Thorvildsen, 1962, fig. 24, top row right); 3: Umm an-Nâr Island. Cairn I. Undecorated 'amphora' (Ht. 29.6 cms.). (Thorvildsen, 1962, fig. 24, bottom row left); 4: Umm an-Nâr Island. Cairn V. Undecorated cup (Ht. 7.5 cms.). (Thorvildsen, 1962, fig. 22, top row).

It can be suggested therefore that during Bampûr Period V, 2 when this connection with the Kullî ceramic tradition, discernible in certain distinctive designs — e.g. hatched and banded fish inside a platter, upturned hatched triangles and simple bands of double festoons⁶⁰ — becomes apparent, the Bampûr pottery industry also received an impulse towards the manufacture of the black-on-grey ware ca-

⁶⁰ de Cardi, 1968, p. 146.

nisters. There was a difference in fabric, however, which in itself is not surprising since grey ware had some popularity in the earlier Bampûr Periods I-IV too, although restricted to certain types of vessels⁶¹, and continued its existence alongside the red wares of Period V. There were also certain alterations in the original Kullî shape. It is clear, though, that these jars with their rows of stylised caprids, the stylised palm tree with hanging leaves, and bands of upturned hatched triangles on the shoulder and at the base, are related to the squat, straight-sided Kullî canisters.

It is of interest to note a black-on-grey Bampûr canister which belongs stratigraphically to Period VI bears on the shoulder a zone of stylised goat heads which resemble those of Bampûr Period IV, 3 in addition to the upturned hatched triangles, solid vertical triangles and a row of over-balancing caprids. This has led Miss de Cardi to regard this canister as an heirloom from Period V or even late Period IV⁶². Consequently, we may assume that a certain infiltration of Kullî elements had already started as early as Bampûr IV, 3 — early V, most probably, heralding the beginning of the Kullî « invasion » which became apparent in Period V, 2⁶³.

This possible dating of the earliest Bampûr canisters to Period IV, 3 is of paramount importance in helping to date the Umm an-Nâr sequence.

The close resemblance of the Bampûr canisters, both in fabric, form and decoration to those from Umm an-Nâr and Hilî, is self-evident and does not need much emphasis. Among the recognisable Bampûr motifs — at Bampûr itself on other types of pottery as well as on canisters — are caprids in various stages of stylisation or 'short-hand', stylised caprid heads, formalised palm trees, solid or hatched, elongated or apex-to-base triangles, squiggly lines and hatched diamonds.

The Kullî culture has so far remained largely unrelated to the Indus Civilization, notwithstanding the general opinion that this important culture may be contemporaneous with at least part of the Harappan Culture; probably not the final stages of the latter⁶⁴.

The relation of Kullî to the Bampûr sequence (Period V, 2).

⁶¹ Ibid., p. 141.

⁶² Ibid., p. 148.

⁶³ Ibid., p. 144.

⁶⁴ Dales, 1965, *op. cit.*, p. 272.

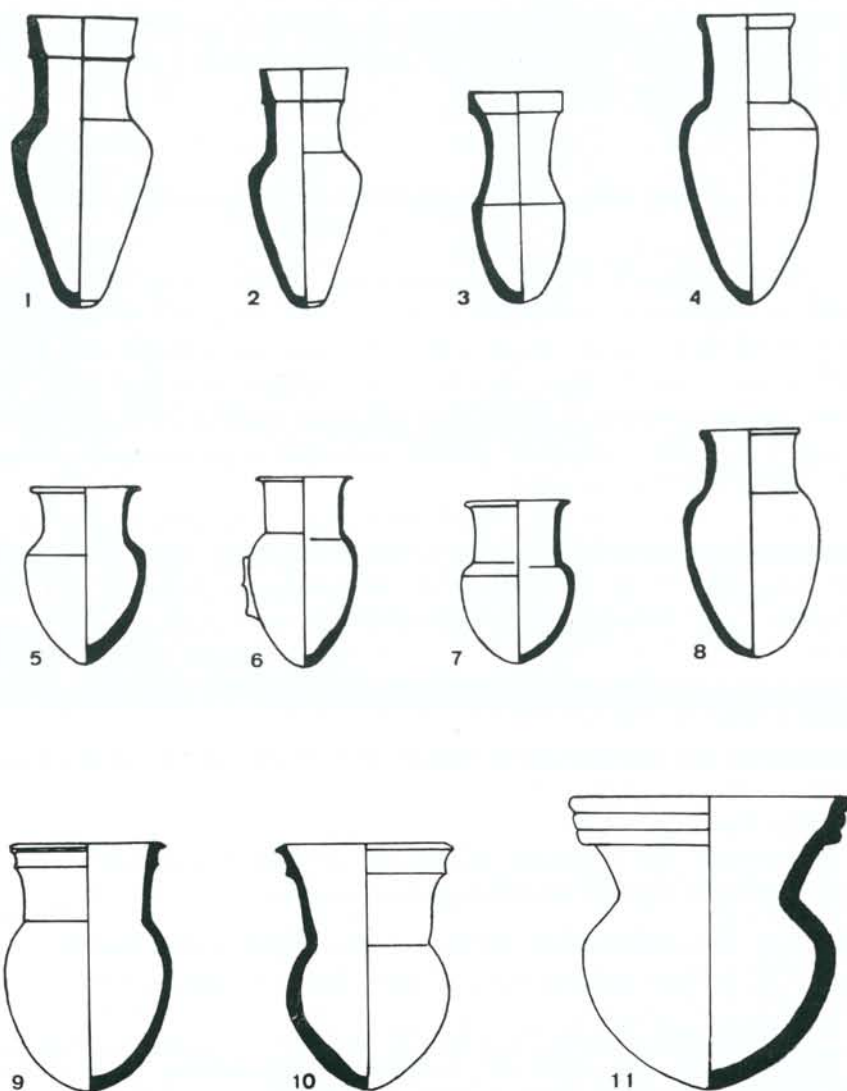


Fig. 11 - 1-11: 'Amphorae' and derived shapes from Mesopotamia. (1: *Ur*, Royal Cemetery, Ht. 30 cms., Woolley, 1934, Pl. 254, Type RC 61; 2: *Ubad*, Cemetery, no scale, but recorded heights are 30-32 cms., Hall and Woolley, 1927, Pl. LVII, Type XXXIII; 3: *Kish*, «A» Cemetery, No scale, Mackay, 1929, Pl. LIV, No. 57; 4: *Ur*, Royal Cemetery, Ht. 30 cms., Woolley, 1934, Pl. 254, Type RC 62; 5: *Tell Asmar*, Ht. 18.5 cms., Delougaz, 1952, Pl. 183, C. 546.640; 6: *Tell Asmar*, Ht. 20 cms., *Ibid.*, Pl. 185, C. 557.640; 7: *Tell Asmar*, Ht. 17 cms., *Ibid.*, Pl. 185, C. 565.540; 8: *Ur*, Royal Cemetery, Ht. 23.5 cms., Woolley, 1934, Pl. 254, Type RC 60; 9: *Tell Asmar*, Ht. 13 cms., Delougaz, 1952, Pl. 160, B. 556.540; 10: *Nuzi*, Ht. 12.7 cms., Starr, 1937-39, Pl. 52 G; 11: *Uruk*, Ht. 9 cms., UVB XVII (1961), Pl. 18 d).

therefore, helps to set some sort of a chronological framework for the Kullî culture. This may provide the Kullî culture with a ca. 2000 B.C. date as a terminus ante quem⁶⁵.

CONNECTIONS BETWEEN SUMMER AND UMM AN-NÂR

The framework a tentative chronology for the Umm an-Nâr culture, as suggested by the relations between the Umm an-Nâr black-on-red, black-on-grey and incised grey wares and the painted and incised pottery from Bampûr Periods IV-VI, Seistân, Mundigak IV, 1-3, Deh Morasi Ghundai II C, III and Pakistani Makrân - i.e. the Kullî culture, is further and more reliably supported by a correlation with the Mesopotamian sequence.

A connection between Trucial Oman and Mesopotamia, Southern Mesopotamia in particular, is not in itself surprising and is indeed to be expected during this period of Mesopotamian influence in the Persian Gulf. Nevertheless, archaeological evidence tends to point to a decrease in the influence which Sumer has in Trucial Oman around 3000-2900 B.C. This is suggested by the presence of a possible Jamdat Nasr 'colony' in the neighbourhood of Buraimi⁶⁶. In the period under discussion the connections of Sumer with Umm an-Nâr were apparently limited to mere mercantile contacts as a result of the regular Persian Gulf trade.

However, the following objects are sufficiently distinctively Mesopotamian to warrant an assumption of contact:

- a) The undecorated 'amphorae' of category 4 (see above);
- b) A plain steatite 'hut-pot' from Cairn I (fig. 13, 1)⁶⁷.

Undecorated 'amphorae' (figs. 10, 3; 11).

A definite link with the Southern Mesopotamian sites of Ur (Royal Cemetery), Al 'Ubaid (ED IIIA Cemetery) and to a lesser extent Kish (« A » Cemetery) is provided by a distinctive group of plain, well-fired, thin-walled and wheel-thrown pottery with a rather

⁶⁵ However, the fact that Dales (1965, *op. cit.*, p. 277) gives a radio-carbon date of 1900 ± 65 for a Kullî site at Niai Buthi, Las Bela, seems to point to a terminal (?) date of ca. 1900 B.C. for at least one site of the Kullî culture.

⁶⁶ During Caspers, (in press), *op. cit.*

⁶⁷ Thorvildsen, 1962, *op. cit.*, fig. 21 bottom row right.



Fig. 12 - 1: Katukán. Incised grey ware (Ht. 20.5 cms.). (Stein, 1937, Pl. VI Kat. 019); 2: Khuráb Burial F. Incised steatite (Ht. 11.4 cms.). (Stein, 1937, Pl. VI Khur. F. i. 263); 3: Bampúr. Incised grey ware (Ht. 9.8 cms.). (Stein, 1937, Pl. VI Bam. A. 161); 4: Talli kaleh (Fárs). Steatite 'hut-pot' (Ht. not recorded). By courtesy of Professor Dr. L. Vanden Berghe, Gent, Belgium.

coarse, sandy texture varying from straw or buff-coloured to light-red or red, and either slipped or wet-smoothed, or left unslipped.

The basic characteristic of these 'amphorae' is a pear-shaped form with a small sagging-base or a small flat foot and a long cylindrical neck. They can measure up to 30 cms. high and some variations in details and measurements can be found (fig. 11, 1-3)⁶⁸. There is a development of this type of vessel which has a wider distribution (Ur Royal Cemetery)⁶⁹. It extends northwards into the Diyala region (Tell Asmar)⁷⁰ and is found, for example, at Nuzi⁷¹ and Tell Brak⁷². It is placed mainly in the Akkadian period. It is usually less pear-shaped, tending towards a more globular profile with a pointed or rounded base and a longer neck (fig. 11, 5-8). There is a similar form, but having a somewhat more elaborate rim (fig. 11, 9), which develops into further elaborations (fig. 11, 10-11) typical of the Akkadian and Ur III periods and useful for comparative dating. This is found, for example, at Ur (Royal Cemetery)⁷³, Uruk⁷⁴, Tello⁷⁵, Nippur⁷⁶, Tell Asmar⁷⁷, Gawra VI⁷⁸ and Nuzi⁷⁹.

⁶⁸ Sir C. L. Woolley, *Ur Excavations*, Vol. II: *The Royal Cemetery*, London, 1934, Pl. 254, Types 61, 62, 63; H. R. Hall & Sir C. L. Woolley, *Ur Excavations*, Vol. I: *Al-'Ubaid*, London, 1927, Pls. LIII, middle row, LVII, Types XXXI, XXXIV, XXXV; E. J. H. Mackay, *A Sumerian Palace and the «A» Cemetery at Kish, Mesopotamia*, Part II, Field Museum of Natural History, Anthropology Memoirs, Vol. I, No. 2, Chicago, 1929, Pls. XLIV, 11, No. 1891 B, LVI, No. 57.

⁶⁹ Woolley, 1934, *op. cit.*, Pl. 254, Types 46, 60.

⁷⁰ P. Delougaz, *Pottery from the Diyala Region*, Oriental Institute Publications, Vol. LXIII, Chicago, 1952, Pls. 183, No. C. 546.640, 185, Nos. C. 557.640, C. 556.640, C. 565.540.

⁷¹ R. F. S. Starr, *Nuzi, Report on the Excavations at Yorgan Tepe near Kirkuk, Iraq...*, 1927-1931, Cambridge, Mass., 1937-39, Pl. 52 F, G.

⁷² M. E. L. Mallowan, «*Excavations at Brak and Chagar Bazar*», Iraq IX, 1947, Pls. LXVIII, No. 13, LXXXI, No. 7.

⁷³ Woolley, 1934, *op. cit.*, Pl. 253, Nos. 44 a, 44 b, 44 c.

⁷⁴ *Vorläufiger Bericht über die von dem Deutschen Archäologischen Institut und der Deutschen Orient-Gesellschaft aus Mitteln der Deutschen Forschungsgemeinschaft unternommenen Ausgrabungen in Uruk-Warka*, XVII, 1961, pp. 38-42, Pls. 18 d, 23 b.

⁷⁵ A. Parrot, *Tello, vingt campagnes de fouilles (1877-1933)*, Paris, 1948, fig. 56, Nos. 3769, 606.

⁷⁶ D. P. Hansen, «*The Relative Chronology of Mesopotamia. Part II. The Pottery Sequence at Nippur from the Middle Uruk to the End of the Old Babylonian Period (3400-1600 B.C.)*». In: Ehrich, R. W., *Chronologies in Old World Archaeology*, Chicago, 1965, fig. 41 b.

⁷⁷ Delougaz, 1952, *op. cit.*, Pls. 160, No. B. 556.540, 163, No. B. 645.540 a.

⁷⁸ E. A. Speiser, *Excavations at Tepe Gawra*, Vol. I: Levels I-VIII, Philadelphia, 1935, Pl. LXIX, No. 130.

⁷⁹ Starr, 1937-39, *op. cit.*, Pl. 52 F, G.

A correlation between the 'amphora'-shaped vessels from Umm an-Nâr and those from Ur and 'Ubaid (figs. 10, 3; 11, 1-2) seems beyond doubt. This is the more so since this shape is not known from the cultures across the Persian Gulf and this form is so distinctive that the close resemblance in shape, dimensions and even to a certain extent in texture⁸⁰, cannot be purely fortuitous.

This correlation with Mesopotamia is of prime importance since it enables us not only to give a firmer date to the Umm an-Nâr culture, but also to consolidate or correct, if necessary, the chronological background of some of the cultural assemblages which can be linked up with Umm an-Nâr on stylistic grounds (see above).

Returning to the 'amphora'-shaped vessels from Ur, 'Ubaid and Kish, it is now time to examine their stratigraphical and chronological position in the Mesopotamian sequence in order to reach as accurate a date as possible to serve as a basis for a correlation of their Umm an-Nâr counterparts.

Thirty five graves of the Royal Cemetery at Ur have provided 'amphorae' of form (fig. 11, 1)⁸¹. Nissen's recent dating of the Royal Cemetery graves⁸² has given the following result. Out of these 35 graves⁸³, 11 graves have been dated to the Early Dynastic period; 13 graves have been placed by Nissen in the 'Meskalamdug phase' (i.e. the second phase of the Early Dynastic III period), while three more graves are to be dated in Nissen's 'Ur I Lugalanda phase' (i.e. the third and final phase of the Early Dynastic III period). Only two graves appear to be transitional between the final phase of Early Dynastic III and Akkadian (in one case early Akkadian).

Eight graves of the 'Ubaid cemetery, where a finer classification following Nissen's conclusions could probably be made satisfactorily,

⁸⁰ On examination of a vessel belonging to this category (Ur RC Type 60) in the British Museum a general resemblance with the Umm an-Nâr ware in texture could be noted. However, only a proper examination of this pottery from Ur and 'Ubaid and preferably a ceramic analysis of both the South Mesopotamian as well as the Umm an-Nâr specimens could verify whether or not the Umm an-Nâr 'amphorae' are proper Sumerian articles of trade, probably containers of oil or unguents or perhaps another liquid, or whether they are copies of a Mesopotamian prototype.

⁸¹ Graves Nos. 8, 89, 92, 111, 159, 163, 168, 170, 173, 177, 211, 213, 220, 221, 423, 424, 437, 448, 466, 468, 777, 800, 1236, 1321, 1327, 1554, 1563, 1564, 1586, 1591, 1618, 1631, 1648, 1664 and 1689.

⁸² H. J. Nissen, *Zur Datierung des Königsfriedhofes von Ur. Unter besonderer Berücksichtigung der Stratigraphie der Privatgräber*, Bonn, 1966.

⁸³ 6 graves could not be dated.

have provided an identical type of 'amphora' (fig. 11, 2). In Woolley's classification of the 'Ubaid graves into early, middle and late, this type of 'amphora' is found throughout these three phases (twice in an early grave, three times in a middle grave and three times in a late one). A second type of 'amphora' (not found at Umm an-Nâr) with a more everted disc rim occurs three times in middle and late 'Ubaid graves only and appears therefore to be slightly later in date than



Fig. 13 - 1: Umm an-Nâr Island. Cairn I. Undecorated steatite 'hut-pot' (Ht. 9.6 cms.). (Thorvildsen, 1962, fig. 21, bottom row right); 2: Ur, Royal Cemetery, PG. 1503. BM. 123755 (U. 13545) (Ht. 7.5 cms). Undecorated steatite 'hut-pot'. By courtesy of the Trustees of the British Museum, London.

fig. 11, 2⁸⁴. A similar situation was encountered in the Royal Cemetery at Ur, where an identically shaped vessel was found in only 6 graves^{85 86} which range from Early Dynastic III or 'Meskalamdug phase' into Akkadian/late Akkadian and therefore also appear to be of slightly later date than fig. 11, 1.

Ur Royal Cemetery Type 60 (fig. 11, 8) which seems to have developed out of the earlier 'amphorae' occurs only once in a grave of the 'Meskalamdug phase'; it appears three times in 'Ur I Lugalanda' graves (ca. 2400 B.C.), twice in early Akkadian graves, and two specimens were



⁸⁴ Hall & Woolley, 1927, *op. cit.*, Type XXXIV.

⁸⁵ Woolley, 1934, *op. cit.*, Pl. 254, Type 63.

⁸⁶ Two graves could not be dated by Nissen.

reported from late Akkadian- Neo Sumerian graves, while one vessel of this type belongs to an Ur III grave.

From the foregoing it may be surmised that the 'amphora' fig. 11, 1 from Ur flourished in the first half of the Early Dynastic III period, after which date its popularity declined until this type of vessel fell out of use shortly after the start of the Akkadian period. Ur Type 63⁸⁷, which shares certain similarities with fig. 11, 1, may have approximately the same date of inception as the latter, but appears to have been still in use during late Akkadian times when fig. 11, 1 had already gone out of fashion. Ur Type 60 (fig. 11, 8) however, although first appearing in Early Dynastic times, seems to have reached its greatest popularity in Akkadian times and only declined and finally gone out of fashion during the transition from Akkadian to Ur III.

The proximity of 'Ubaid to Ur makes it possible to suggest that a similar situation obtained there, Type XXXIII (fig. 11, 2) covering the whole duration of the cemetery and Type XXXIV⁸⁸ being present only in the later stages of the cemetery. However, this cemetery does not seem to contain any graves belonging to the Akkadian period. This is supported by the fact that there is no sign of a decline in the popularity of Type XXXIII (fig. 11, 2) (it occurs three times in 'middle' graves against three times in 'late' graves). Moreover, to the writer's knowledge no other sites have produced these two particular 'amphora' types, apart from one comparable example from the «A» Cemetery at Kish which is also of pre-Akkadian date. Thus we cannot be certain whether the time span for these two types as encountered at Ur is completely in conformity with their actual duration. On the other hand, the occurrence of new and more elaborate types of 'amphorae' at various sites (see above) during the Akkadian and Ur III periods is likely to reflect a change of fashion which makes it improbable that fig. 11, 1, 2, the closest parallels to the Umm an-Nâr vessels, were still fashionable elsewhere in Akkadian times while no longer being used by the those buried in the Royal Cemetery at Ur.

For these reasons it seems feasible to suggest that the first appearance of fig. 11, 1, 2 at Umm an-Nâr, either as articles of trade from Mesopotamia or as a result of knowledge of Mesopotamian craftsmanship, cannot but precede the period in which they ceased to be fashionable in Sumer, that is to say, before the transition from Early Dynastic III to

⁸⁷ Woolley, 1934, *op. cit.*, Pl. 254.

⁸⁸ Hall & Woolley, 1927, *op. cit.*, Pl. LVII.

Akkadian. Whether this ED IIIB date falls at the beginning or at the end of the period in which the Umm an-Nâr cairns were in use cannot be ascertained due to the absence of stratigraphy, but connections with the Bampûr culture Periods IV-VI point almost certainly to the beginning of the Umm an-Nâr culture for this event.

Plain steatite 'hut-pot' (fig. 13, I)

An ED IIIB date (ca. 2450 B.C.) for some stage of Umm an-Nâr burial group, suggested by the presence of the 'amphora'-shaped pottery which ranges in Mesopotamia from ED IIIA-early Akkadian (ca. 2600-ca. 2350 B.C.), agrees with the time-range given for the steatite 'hut-pots' in Mesopotamia and it also provides a cross-dating for the start of the manufacture of grey ware 'hut-pots' at the end of Bampûr Period IV which was clearly influenced by the stone prototypes apparently still current (see above). The end of Bampûr Period IV can therefore be estimated at ca. 2400 B.C. by cross-dating with the Mesopotamian sequence. It has been shown that the Bampûr grey ware imitations of Sumerian or Elamite 'hut-pots' traded down the Gulf during late ED II and ED III times, even as far as the Indus, to appear in the earliest levels at Mohenjo-Daro (-28-40 ft.)⁸⁹ are associated first with Bampûr IV, 2. It has therefore been assumed that these first imitations must pre-date the decline of the stone prototypes, and they are accordingly assigned to the period ED IIIB or (possibly) to early Akkadian at the latest. The presence of a grey ware 'hut-pot' at Susa which most probably belongs to Susa Dd (late ED IIIB or transition from ED IIIB to protoimperial) adds further support to this date (see above).

Cairn I, on the island of Umm an-Nâr also yielded a cylindrical vase of black steatite with slightly concave walls and flat base (fig. 13, I). The height is 9.6 cms. and the rim and base diameters 12 cms. No attempt had been made to decorate this vase and since the surface has been polished carefully, it is unlikely that it was meant to bear any decoration.

Plain stone vessels of a similar form are known from the Royal Cemetery at Ur (PG. 800, ED IIIA; Pit X in a plundered grave PJ/B,

⁸⁹ Mackay, 1938, *op. cit.*, Pl. CXLII, No. 45.

ED III, possibly early Akkadian because of its indecisive ED III context; PG. 1503, ED IIIB)⁹⁰ (figs. 13, 2; 14).

Part of an undecorated steatite vase was found at Mundigak in in south-east Afghanistan⁹¹ in a context (IV, ?3) which suggests some degree of contemporaneity with Bampûr Period V, 1, and the related cultures of Umm an-Nâr and Kullî.



Fig. 14 - Ur, Royal Cemetery, PG. 800. BM. 121695 (U. 10520) (Ht. 19.3 cms.). Undecorated steatite 'hut-pot'. By courtesy of the Trustees of the British Museum, London.

The occurrence of an undecorated 'hut-pot' at Umm an-Nâr which is similar to the larger specimens from Ur supports the late ED III date of the 'amphora'-shaped pottery on the one hand and provides at the same time a cross-dating for the incised grey ware from Cairn II at Umm an-Nâr and the cairn-burial at Hili. These imitation 'hut-pots' from Trucial Oman emphasize anew the existence of a relationship between the cultures of Persian Balûchistân and the opposite side of the Persian

⁹⁰ Nissen, 1966, *op. cit.*

⁹¹ Information kindly provided by J.-M. Casal (MG. B.31.N (1)).

Gulf during the latter part of the Third Millennium B.C. (Bampûr IV-IV).

The fact that the contemporary settlement nearby on Umm an-Nâr appears to have had only two occupation levels and that there were no indications for a subdivision into different cultural phases would suggest a relatively short period of existence of the coastal phase of the Umm an-Nâr culture. The duration can only be estimated, of course, but it may not have exceeded ca. 300 years which seems to suggest a pre-2000 B.C. date as a terminus ante quem for the Umm an-Nâr burial mounds.

POSSIBLE CONTACT WITH THE HARAPPAN CIVILIZATION

Contacts between Umm an-Nâr and the Indus Valley appear surprisingly, to be rather elusive, and the reasons for this are difficult to perceive, but there is as yet little actual evidence that the coastal region of the Umm an-Nâr culture was intimately connected with the Indus Basin during the latter part of the Third Millennium B.C. Umm an-Nâr's favourable geographical location could have made her either the terminal of the overland trade route which via Buraimî connected the Persian Gulf and the Gulf of Oman⁹², or a suitable servicing station for a possible sea route along the coasts of Musandam peninsula. One would therefore expect to find many traces of a commercial intercourse between the island and the Indus Valley.

It is possible that during the coastal phase of the Umm an-Nâr culture (ED IIIB - post-Akkadian (?)) political powers as yet undetected were at work, which could be held responsible for the meagre traces of Harappan influence at the entrance of the Persian Gulf. Nevertheless, there is at present, no evidence to connect this curious phenomenon with the proposed growing control over the Gulf trade by the country of Magan towards the close of the Third Millennium B.C. At that time, this sea-faring nation most probably encompassed both the mainland areas at or near the entrance to the Gulf⁹³, yet, intervention by Magan is not a satisfactory explanation when it is noted that the Danish re-

⁹² During Caspers, (in press), *op. cit.*

⁹³ During Caspers, *Archaeological evidence for maritime trade in the Persian Gulf in the Third Millennium B.C.*, Ph. D. thesis, University of London, 1969, pp. 146-157.

ports⁹⁴ suggest the existence of a closer contact possibly at a slightly later period than Umm an-Nâr itself between the inland phase of the Umm an-Nâr culture at Hilî and the Indus Valley (see below). This apparently coincided with an intensification of Kullî relations with Hilî resulting in the export of Kullî compartmented vessels to the inland part of Trucial Oman⁹⁵.

Dales' suggestion⁹⁶ that the Kullî people were hostile towards the Harappan trading posts along the Makrân coast which had to be fortified as a result could indicate, although with the greatest reserve, that the Kullî sites in the Kej valley of Pakistani Makrân were possibly allied with or had an association of some kind with the country of Magan. It is only from the Ur III period onwards that one finds the first indications in the cuneiform texts of a decline in the direct Harappan-Mesopotamian sea connection, perhaps as a result of Magan's growing power and expansion. However, Indian products still reached Sumer, although now apparently through a third party which acted as interme-

⁹⁴ Kuml, 1966, p. 94.

⁹⁵ Both stone and incised grey ware vases have been found on Kullî sites in Pakistani Makrân. The former included squat cylindrical vessels with flat bases marked by either a protruding foot or beading. These, together with some square vases, were sometimes divided into four compartments. Their decoration was restricted to purely geometric patterns and no true 'hut-pots', bearing architectural designs, have yet been found on Kullî sites.

Lack of stratification of the Kullî culture and inadequate information concerning these stone vases and incised ware prevents us at the moment from placing them in their proper relation to the carved stone vases from Sumer and Elam on one hand and the incised ware from Bampûr, Umm an-Nâr and Hilî on the other. However, the decoration of the Mehî vases consisting merely of rows of opposed, hatched or single triangles or horizontal multiple zigzag lines, as well as their form, — either cylindrical or square and of varied size — and often with four compartments, show only a remote affiliation with the Sumerian and Elamite carved stone vases or with the hardware imitations from the Bampûr region. The fact that not one of these carved stone prototypes has been encountered so far on the Kullî-Mehî sites, emphasises the supposition that these vessels were not derived directly from the ones from Mesopotamia or Elam. More likely, they are free copies of a group of stone or incised ware vases which acted as an intermediary. The preference in the decoration for opposed, hatched triangles may well point to the Bampûr culture as such an intermediary. This supposition may well be supported by the occurrence at the Kullî site of Mehî of a straight-sided pot of incised grey ware decorated with zones of opposed, hatched triangles, the flat base edged with a herring-bone design. This latter feature occurs also on the Kullî stone vases but is not found on the Bampûr pots. This could suggest a local manufacture and this vessel may well represent a transition to the steatite vessels of the Kullî culture (Piggott, 1950, *op. cit.*, fig. 10, top row right).

⁹⁶ Dales, 1965, *op. cit.*, p. 272.

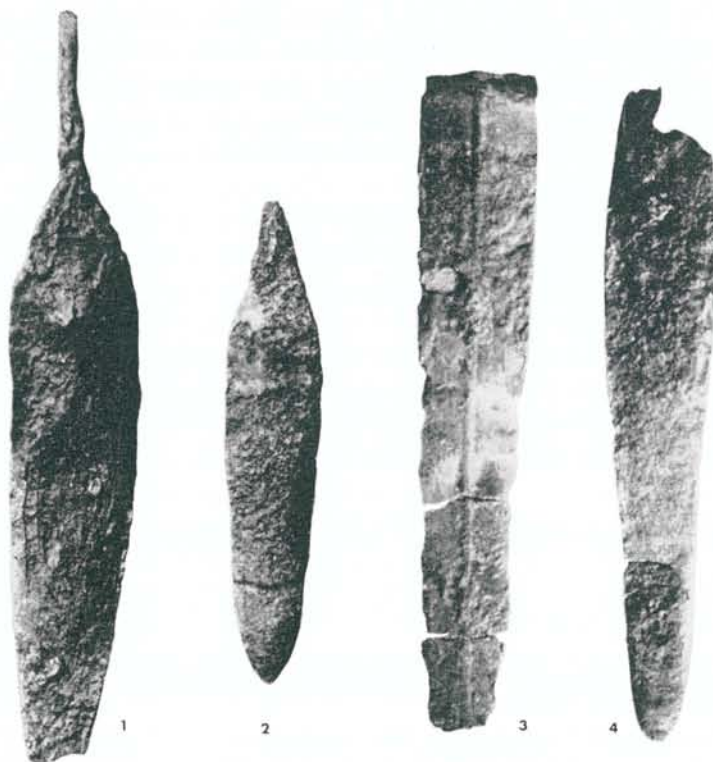


Fig. 15 - 1: Umm an-Nâr Island. Cairn V. Copper/bronze (?) dagger or spearhead (Length 20 cms.). (Thorvildsen, 1962, fig. 19, bottom one); 2: Umm an-Nâr Island. Cairn V. Copper/bronze (?) dagger or spearhead (Remaining Length 12.8 cms.). (Thorvildsen, 1962, fig. 19, top one); 3: Umm an-Nâr Island. Cairn II. Copper/bronze (?) dagger (remaining Length 19 cms.). (Thorvildsen, 1962, fig. 18, bottom one); 4: Umm an-Nâr Island. Cairn II. Copper/bronze (?) dagger (remaining Length 18 cms.). (Thorvildsen, 1962, fig. 18, middle one).

diary. In other words, Magan, possibly connected in some way with the Kullî settlements became, at the close of the Third Millennium B.C., the intermediary for goods coming from farther east that is, the products from Meluhha referred to in the cuneiform texts of the Ur III and the earlier part of the Larsa periods. For these reasons, an early-middle Ur III date could be suggested as a *terminus ante quem* for the presence of Harappan influence and Kullî traits together in the burial mound of Hilî which was undoubtedly connected with the overland route to and from the Persian Gulf.

To return to Umm an-Nâr; although Harappan influence was most probably established through trade contacts, it is most clearly present in a small number of bronze or copper⁹⁷ weapons which were encountered in Cairns II, V and the burial mound of Hilî and which allow a limited typological classification (figs. 15, 16).

Type 1 (fig. 15, 1-2)

Three simple tanged daggers, perhaps better identified as spearheads on account of their fairly long narrow tangs, were found in Cairn V. The blades are pointed and have slightly convex outlines. They are only slightly curved in section and have no midrib. The shoulders slope to a thin and narrow tang without rivets. The two specimens illustrated are 12.8 and 20 cms. long.

The three daggers belonging to Cairn II which are now discussed show a more developed type of weapon than those of Cairn V and can be classified as follows:

Type 2 (fig. 15, 4)

A flat and thin dagger (?) without a midrib — the tang is missing — with two rivet holes at the lower end of the blade and presumably originally a third one in the missing tang, ensuring a firmer grip for the hilt. The remaining length of the illustrated blade is 18 cms.

Type 3 (fig. 15, 3)

A this and flat dagger with a slight narrow midrib which flattens out towards the tip of the blade. The tang is missing and the remaining length is 19 cms.

Type 4 (fig. 16, 1)

A 25 cms. long tanged dagger with a raised midrib and shoulders sloping down to a solid hilt of square section. This type has a shape

⁹⁷ No results of laboratory analyses of metals have been published so far.

closely similar to that of two swords which were buried in the cairn at Hilli, the only difference being in the dimensions and in the presence of three rivet holes in the tang of the latter, which are now described.

Type 5 (fig. 16, 2, 3)

Short tanged swords with raised ridges, 35 cms. and 43 cms. long respectively. The tangs are presumably of flat rectangular section and each has three rivet holes for securing the hilt.

The tanged daggers or spearheads of Type 1 (fig. 15, 1, 2) provide a very unreliable basis for a comparative study. In general appearance this type does not differ from the simple type of dagger with relatively long and narrow blade which had a wide distribution all over Western Asia during the early Third Millennium B.C. Only in the fairly long and narrow tang without rivets and in the more sloping shoulders does this Type 1 differ from this Western Asiatic dagger (fig. 17, 1, 2). This would imply that Type 1 is to be identified as a spear or javelin-head, although it is difficult among such early types to distinguish between certain of the spearheads and the larger knives and daggers.

The Harappans used comparable bronze or copper daggers, varying in length from 18-35 cms., with fairly square or even slightly concave shoulders, and a short tang without rivets, which were probably cut from sheet metal and subsequently shaped by hammering, to judge from their thin and flat section (fig. 17, 3-6). These daggers were apparently encountered both in the lower and in the upper levels at Mohenjo-daro and their use may therefore have extended throughout the occupation of the city⁹⁸.

In addition, the Indus Valley cities used a type of weapon usually described as a « knife », although sometimes called a « dagger » or « spearhead », which can measure up to ca. 25 cms. or slightly longer, with a pointed blade, either rounded or more sloping shoulders and a relatively short, rivetless tang. Several of the more slender specimens resemble the Umm an-Nâr spearheads quite closely, the only marked

⁹⁸ Mackay, 1938, *op. cit.*, Pls. CXX, Nos. 2-3, CXXIII, Nos. 3, 8, CXXIX, Nos. 3, 5, CXXXIII Nos. 33, 35; Id., *Chanhudaro Excavations, 1935-36*, New Haven, 1943, Pl. LXXI, No. 8; M. S. Vats, *Excavations at Harappa*, Calcutta, 1940, Pl. CXXIII, Nos. 26, 27.

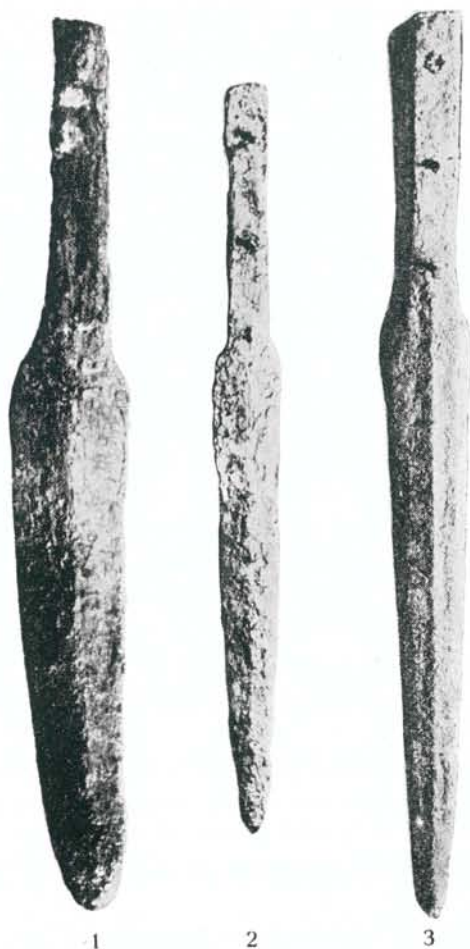


Fig. 16 - 1: Umm an-Nâr Island, Cairn II. Copper/bronze (?) tanged dagger (Length 25 cms.). (Thorvildsen, 1962, fig. 18, top one); 2: Hili Cairn, Buraimi Oasis. Copper/bronze (?) short tanged sword with raised ridge (Length 35 cms.). (Kuml, 1966, fig. 12); 3: Hili Cairn, Buraimi Oasis. Copper/bronze (?) short tanged sword with raised ridge (Length 43 cms.). (Kuml, 1965, fig. 4).

difference being in the method of manufacture, since the Harappan « knives », like many of the Indus daggers and spearheads, are remarkably thin and flat without any perceptible thickening down the centre of the blade. This may be attributed to the fact that most of them were made from sheet metal and not cast. They were most

probably prevented from bending by having the shaft in which they were set prolonged as a tapering midrib along the axis of the blade. On the other hand it is most likely that the Umm an-Nâr spearheads were cast and finished by hammering like most of the simple spears, knives and daggers in early Sumer.

It is clear that it would be unwise to press any comparison of these dagger types at this stage, since it would be difficult to say from whence the invention of this type of weapon could have come. Moreover, in view of the great probability that the Oman peninsula was itself an early metal working centre by virtue of the presence of copper deposits in the Jabal Akhdhar⁹⁹, this simple type of weapon might easily have been invented independently in each of these regions.

A greater similarity between the weapons of Umm an-Nâr and those of the lower reaches of the Indus is probably apparent in the position of the rivet holes on the blade of Type 2 (fig. 15, 4). This thin and flat blade, without midrib, has two rivet holes at the lower end of the blade, one of them well below the tang (now missing) showing that the handle must have extended some way along the blade itself.

A similar method of hafting¹⁰⁰ can be seen in some «knives» from the early as well as the late levels at Mohenjo-daro and Chanhudaro (fig. 18, 1-4), where the location of the second rivet hole well along the blade clearly indicates that the wooden (?) handle must have enclosed a considerable portion of the blade. It is quite likely that this handle also served as a kind of midrib to support the thin blade on to which it was secured by means of thongs which passed through the holes.

Although there is at present no evidence that weapon Type 2 was imported from the Indus Valley, the thinness of the blade combined with the position of the rivet holes well up the blade — a feature not encountered among Iranian or Mesopotamian blades — may well provide an Indian correlation. Although perhaps not a direct import, this dagger (or knife) might, in any case, be considered a local product in which Indian features are strongly present.

Continued trade with the Indus Civilization may be evidenced by the two narrow, short-tanged, copper swords or dirks of Type 5

⁹⁹ During Caspers, (in press), *op. cit.*

¹⁰⁰ See also several of the spearheads, e.g. Mackay, 1938, *op. cit.*, Pl. CXXIII, No. 4; Id., 1943, *op. cit.*, Pl. LXX, No. 31.

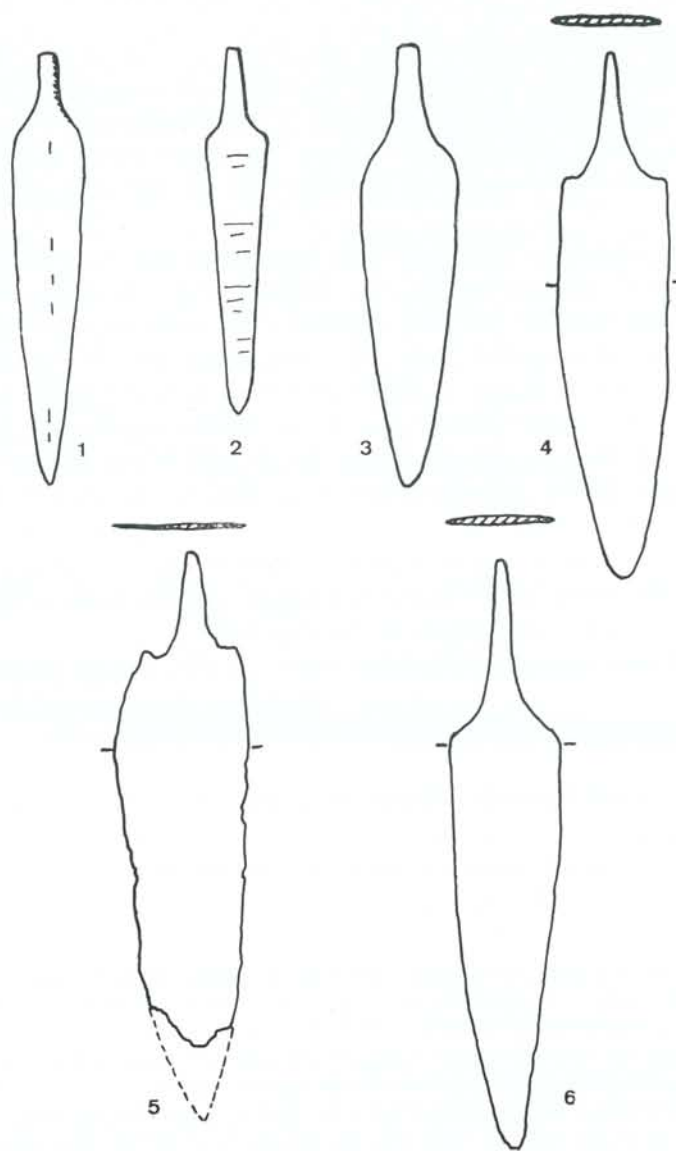


Fig. 17 - 1: Sialk III. 5. Copper flat dagger without midrib (Length 18 cms.). (After Ghirshman, 1938, Pl. LXXXV, S. 127); 2: Ur, Royal Cemetery. Copper or bronze dagger without midrib (Length 19 cms.). (After Woolley, 1934, Pl. 228, Type 7 f (U. 12679); 3: Chanhudaro. Copper or bronze knife or dagger without midrib (Length 18.4 cms.). (After Mackay, 1943, Pl. LXXI, No. 8); 4: Mohenjodaro. Copper or bronze dagger without midrib (Length 22 cms.). (After Mackay, 1938, Pl. CXXIII, No. 3); 5: Mohenjodaro. Copper or bronze dagger without midrib (remaining Length 20.6 cms.). (After Mackay, 1938, Pl. CXXIX, No. 3); 6: Mohenjodaro. Copper or bronze dagger without midrib (Length 24.4 cms.). (After Mackay, 1938, Pl. CXXIX, No. 5).

from the burial mound at Hilî (fig. 16, 2, 3). Three rivet holes at regular intervals for securing the hilt, pierce their tangs, which probably have a flat rectangular section, while a fairly sharp ridge runs down the axis of the blade¹⁰¹. The narrow rapier-like shape of the latter suggests that this weapon was probably used for thrusting rather than slashing.

Cast swords of this type were apparently not manufactured in Mesopotamia or Iran during the period under discussion, since no comparable material has been reported from these regions¹⁰² and the nearest parallels further west, both chronologically and typologically are with a type of dagger or short sword from Tell el Ajjûl in southern Palestine (Maxwell-Hyslop, Types 18, 19: Middle Bronze I or Kenyon's EB-MB, ca. 2000 \pm 100 B.C.) (fig. 19, 3, 6)^{103 104} and further with a sword from Byblos (Middle Bronze I, ca. 2000 \pm 100 B.C.)¹⁰⁵. But the resemblance between the Hilî sword and the weapons from Tell el Ajjûl and Byblos is only of a general character and differences can be seen in the shape of the blade, the length and the form of the tang and the number and position of the rivet holes.

It is clear that this comparison which involves certain geographical implications must not be stressed, although a date around 2100-1950 B.C. would appear to be reasonable for these objects.

In addition, two swords and two shorter weapons (possibly daggers) from the upper levels at Mohenjo-daro (fig. 19, 1-2, 4-5) seem to bear some resemblance to the ones from Hilî¹⁰⁶. The two swords (fig. 19, 1, 5) are cast in copper and measure 40 cms. and 46.6 cms. respectively.

¹⁰¹ It has not been stated whether this ridge is present on both faces, providing this weapon with a diamond-shaped section, or whether the reverse is flat, thus forming a triangle-shaped section.

¹⁰² Rachel K. Maxwell-Hyslop, « *Daggers and swords in Western Asia* », Iraq VIII, 1946, does not mention the presence of this type of sword.

¹⁰³ Sir Flinders Petrie, *Ancient Gaza II, Tell el Ajjûl*, British School of Archaeology in Egypt, London, 1932, Pls. IX, No. 60, X, L 52, XII, 060 (tomb 1517), XIII, No. 64 (tomb 1569); Kathleen M. Kenyon, *Tombs of the Intermediate Early Bronze - Middle Bronze Age at Tell Ajjul*, Annual of the Department of Antiquities of Jordan III, 1956, fig. 10, pp. 51-52.

¹⁰⁴ See also Maxwell-Hyslop, 1946, *op. cit.*, Type 19.

¹⁰⁵ Illustrated by C.F.A. Schaeffer, *Stratigraphie Comparée et Chronologie de l'Asie Occidentale (III^e et II^e Millénaires)*, London, 1948, fig. 61, T. (Building II, hoard d, Syrian Temple).

¹⁰⁶ Mackay, 1938, Pls. CXIII, No. 3, CXVIII, No. 9, CXX, Nos. 17-19, CXXIII, Nos. 6-7.

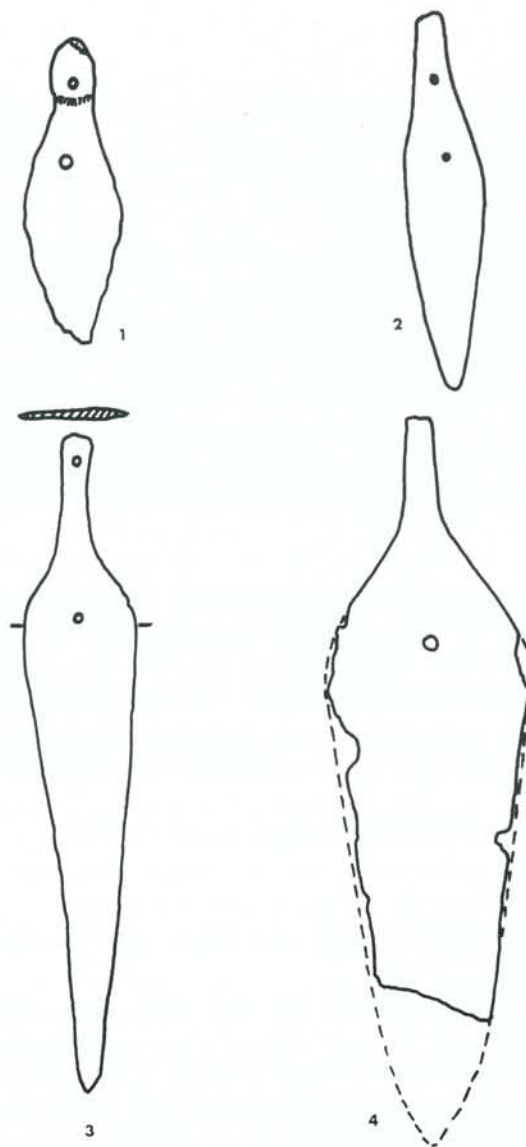


Fig. 18 - 1: Mohenjo-daro. Copper short leaf-shaped knife with short broad tang with one rivet hole. A second rivet hole well up the blade. No midrib (Length 11 cms.). (After Mackay, 1938, Pl. CXV, No. 11); 2: Chanhudaro. Copper or bronze short leaf-shaped knife with broad tang with one rivet-hole. A second rivet hole well up the blade. No midrib (Length 13.6 cms.). (After Mackay, 1943, Pl. LXXI, No. 7); 3: Mohenjo-daro. Copper elongated leaf-shaped knife with one rivet hole on the tang. A second rivet hole well up the blade. No midrib (Length 23.6 cms.). (After Mackay, 1938, Pl. CXXVII, No. 3); 4: Chanhudaro. Copper or bronze leaf-shaped knife with short tang without rivets. One rivet hole well up the blade. No midrib (Length 21.8 cms.). (After Mackay, 1943, Pl. LXIX, No. 1).

Fig. 19, 1 has a blade whose cross-section is diamond-shaped, while that of the tang is rectangular. There are two rivet holes at the junction of tang and blade. Fig. 19, 5, although broader and less tapering in shape and with a tang which has an almost pointed tip, falls into the same category as fig. 19, 1.

The two other blades (fig. 19, 2, 4) have been described by the excavator as daggers¹⁰⁷ on account of their general shape and size (28 cms. and 24.6 cms. respectively). Nevertheless, these two bronze weapons have been included first because their definite midribs clearly indicate that they have affinities with this late group of more advanced Indus weapons — they too came from the upper levels — and secondly because the position of their rivet holes on only the tang and not at the junction of the latter and the blade closely resembles that of the Hili swords.

Regarding the dagger on fig. 19, 4 Mackay states¹⁰⁸ « The rather sharp and uneven midrib, which is some 0.17 in thick, is only prominent along some four-fifths of the blade and gradually disappears into the blade of the latter ». One wonders whether this dagger could not represent a transitional form between the flat, slender « knives » (fig. 18, 3) with rivet holes well up the blade for securing a handle which extended down the axis of the blade and the two swords with true midribs, which run along the whole blade up to the tang. The handle of this suggested transitional dagger could well have extended down the blade to the point where the cast midrib disappears. This could, in turn, suggest that the Indus sword was ultimately derived from this transitional form of dagger and might, therefore, be regarded as a local invention.

The Hili swords could fit into this typological range, placed between the daggers fig. 19, 2, 4 and the later development, the narrow sword fig. 19, 1. This may perhaps indicate contact between Hili and the Harappan Civilization during Period Late Ib or Late II which would lead to roughly the same date for the Hili swords as that given to the Palestinian weapons, namely ca. 2000-1900 B.C., since recent C₁₄ results¹⁰⁹ for the late Indus levels have suggested dates of ca. 2000 and later.

¹⁰⁷ Ibid., p. 466.

¹⁰⁸ Ibid., p. 466.

¹⁰⁹ Dales, 1965, *op. cit.*, p. 277; B. & R. Allchin, *The Birth of Indian Civilization*, Harmondsworth, 1968, pp. 335-338.

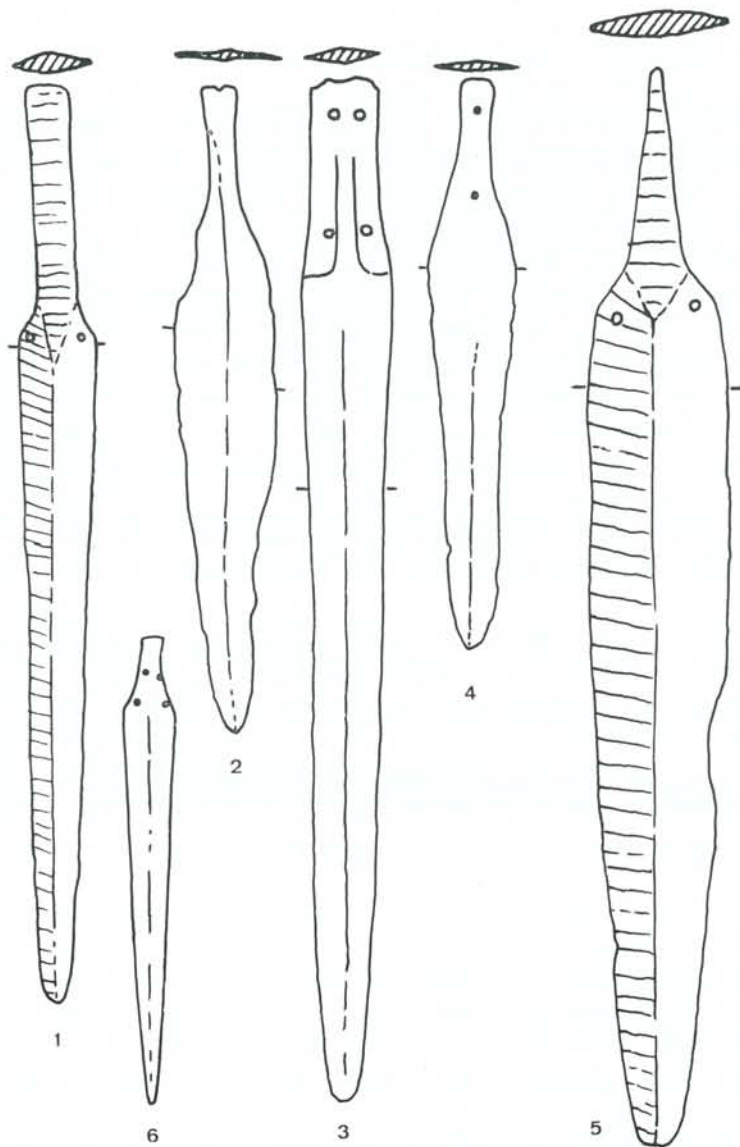


Fig. 19 - 1: Mohenjo-daro. Copper narrow sword or dirk with two rivet holes at the junction of the rectangular tang and the blade. The latter has a raised ridge (Length 40 cms.). (After Mackay, 1938, Pl. CXIII, No. 3); 2: Mohenjo-daro. Bronze short, leaf-shaped dagger with one broken off rivet hole on the thin, flat and short tang. Uneven midrib (Length 28.2 cms.). (After Mackay, 1938, Pl. CXXIII, No. 6); 3: Tell el Ajjûl, Gaza. Copper dagger or short sword with four rivet holes and a raised ridge down the centre of the blade (Length 33.6 cms.). (After Petrie, 1932, Pl. X, L 52 (1569); 4: Mohenjo-daro. Bronze short leaf-shaped dagger with two rivet holes on the short, flat tang. Uneven midrib (Length 24.8 cms.). (After Mackay, 1938, Pl. CXXIII, No. 7); 5: Mohenjo-daro. Copper elongated, leaf-shaped sword or dirk with two rivet holes on the blade close to the tang. Sharply raised ridge down to blade (Length 46.8 cms.). (After Mackay, 1938, Pl. CXIX, No. 9); 6: Tell el Ajjûl, Gaza. Copper or bronze dagger or short sword with four rivet holes. Raised ridge down the blade (Length 30.6 cms.). (After Petrie, 1932, Pl. IX, No. 60).

Comparison of the Hilî swords with those from late levels at Mohenjo-daro suggests a (terminal (?)) date for this cairn which is almost certainly later than that of the Umm an-Nâr cairns. The occurrence of Kullî compartmented vessels in the same cairn would also seem to imply a somewhat later date for the Hilî cairn and this combined evidence seems to point to a date roughly equating with Akkadian- end Ur III in the Mesopotamian sequence. On the other hand comparison of the Umm an-Nâr dagger with rivet holes well on the blade with similarly equipped blades from both early and late levels at Mohenjo-daro and Chanhû-daro appears to substantiate the pre-2000 B.C. date proposed as a terminus ante quem for the Umm an-Nâr burial mounds.

Finally a word remains to be said about the Indus Civilization itself. The dating of this Civilization to the latter half of the Third Millennium B.C. and the earlier centuries of the Second Millennium B.C. was previously based largely on its contacts with Mesopotamia. However, recently published C_{14} datings for the Harappan sites Mohenjo-daro, Kalibangan and Lothal (Phase III) suggest a terminal date for the main or mature period of the Indus Civilization of 2000 B.C.¹¹⁰, although one aspect of this mature phase seems to have lasted at Lothal until 1900 B.C.¹¹¹ For the late phase of the Harappan Civilization, which is characterised by the decline and finally by the abandonment of the main Indus Valley cities, only one C_{14} date from Mohenjo-daro is as yet available — ca. 1800-1700 B.C.¹¹². Late Harappan occupation at Kalibangan (160 kms. south-east of Harappa) has provided a C_{14} result of 1900 B.C. ± 105 ¹¹³ and it also lingers on in the area south-east of the Indus Valley proper, in Gujarat (Lothal IVA - 1900 B.C. ± 115 , 1895 B.C. ± 115)¹¹⁴. For the early phases of this Civilization there are as yet no C_{14} datings available;

¹¹⁰ S. R. Rao, « A « Persian Gulf » Seal from Lothal », *Antiquity* XXXVII, 1963, p. 97; A. Gosh, « *Archaeology in India* », Expedition, 6, 1964, p. 16; B. B. Lal, « A Picture Emerges - an Assessment of the Carbon - 14 Datings of the Protohistoric Cultures of the Indo-Pakistan Subcontinent », *Ancient India* 18 and 19, 1962-1963, pp. 212-214, 219; Dales, 1965, *op. cit.*, p. 277; Sir R.E.M. Wheeler, *The Indus Civilization*. Supplement to The Cambridge History of India, 3r. ed., Cambridge, 1968, p. 124; Allchin, 1968, *op. cit.*, p. 337.

¹¹¹ Dales, 1965, *op. cit.*, p. 277; Wheeler, 1968, *op. cit.*, p. 123; Allchin, 1968, *op. cit.*, pp. 336-337.

¹¹² Dales, 1965, *op. cit.*, p. 277, TF-75, 1760 ± 115 ; Wheeler, 1968, *op. cit.*, p. 125.

¹¹³ Wheeler, 1968, *op. cit.*, p. 122.

¹¹⁴ Dales, 1965, *op. cit.*, p. 277; Wheeler, 1968, *op. cit.*, p. 123.

nevertheless they are almost certainly of a pre- Akkadian date¹¹⁵, as suggested by the presence of etched cornelian beads in Sumer in an Early Dynastic context.

The available C_{14} dates for the Harappan Civilization, i.e. the mature and late phases, fall within the average extremes of 2400 and 1850 B.C., thus corresponding to the end of ED IIIB/Akkadian — Isin-Larsa periods. This span of time ties in satisfactorily with archaeological and textual evidence from Mesopotamia, but recent borings at Mohenjo-daro by Dales have clearly demonstrated the presence of about 12 metres of occupation levels which still await excavation. One may in this context quote Wheeler¹¹⁶: «...it is fair to affirm that the evidence now suggests a very appreciable accumulation of occupation-debris at Mohenjo-daro beneath the levels which yielded Indus materials of the kind recognised in Akkadian and perhaps pre-Akkadian strata at Tell Asmar and other Mesopotamian sites. We may have to be prepared to find that the Indus Civilization was a going concern well before 2400 B.C. ».

Allchin¹¹⁷, on the other hand, has suggested that a critical reassessment of the dates ascribed to seals and other objects from the Indus Valley found in Mesopotamia would tend to confirm the validity of the recently proposed Indian radiocarbon chronology which indicates that the fullest extent of trade contacts between Mesopotamia and the Indus Valley cities occurred during the Third Dynasty of Ur and the subsequent Larsa period (ca. 2130-1770 B.C.).

The divergence between the Mesopotamian chronology and the Indian sequence based only on a radiocarbon chronology for the Indian sites (2150-1750 B.C.), poses serious problems and appears to disregard the late ED III — Akkadian archaeological and textual evidence which agree generally with the above-mentioned C_{14} span

¹¹⁵ Quoting Dales, 1965, *op. cit.*, pp. 271-272: « The hypothetical Early Harappan period has yet to be clearly defined. Although what may be described as proto-Harappan elements are present at many of the sites from Afghanistan to the Indus Valley, one still gets the impression that at stratigraphically excavated sites such as Amri and Kot Diji the mature Harappan imposes itself on the long-established pre-Harappan settlements. Even at Kalibangan, where there is an "Overlapped" period between "Antecedent" and Harappan, the Harappan objects in the mixed contexts seem to be of mature Harappan character as known from the large Indus Valley sites ».

¹¹⁶ Wheeler, 1968, *op. cit.*, p. 120.

¹¹⁷ Allchin, 1968, *op. cit.*, p. 141.

of 2400-1860 B.C. Certainly, the Harappan seals found in Sumer are unstratified and are of little help for dating purposes, but on the other hand the etched cornelian beads found in stratified contexts at several Mesopotamian sites — the Royal Cemetery at Ur, the « A » Cemetery at Kish, and at Tell Asmar — and other Indus imports discovered in the latter town, supply convincing evidence for Sumerian-Indian contacts from ED IIIA to the late Akkadian period. This complements the Indian evidence for contacts with Early Dynastic Sumer in the form of the stone 'hut-pot' from Mohenjo-daro. Also, it must be stressed that no C_{14} dates are as yet available for the early period of the Indus Civilization and another factor which warns us to be cautious in using only C_{14} results for dating purposes is the fact that current cross-checks between the radiocarbon method and dendrochronology suggests that the C_{14} calculations may be as much as 200 years too low for the period around 2000 B.C.¹¹⁸.

Thus the archaeological findings even seem to emphasize a lively commercial intercourse between the two great civilizations in late ED III times. In addition, the fact that Sargon of Akkad also said that ships came from Meluhha¹¹⁹ is of considerable significance; if Meluhha is India and there is little doubt that this country is synonymous with the Indus region and north-western India¹²⁰, it proves that the Civilization of the Indus Valley was already in existence in early Akkadian times.

There is therefore good reason to suggest that Meluhha came into existence at a much earlier time, because the span of time and complexities involved in the establishment of trade connections between such widely separated regions as Mesopotamia and the Indus Valley would be considerable, and the existence of a sophisticated civilization with a well-organised economic structure would certainly be essential for the successful operation of such long distance trade.

¹¹⁸ Personal communication G. Dales, University Museum, Philadelphia.

¹¹⁹ H. Hirsch, « *Die Inschriften der Könige von Agade* », Archiv für Orientforschung, XX (1963): 3.

¹²⁰ W.F. Leemans, *Foreign Trade in the Old Babylonian Period*, Studia et documenta ad iura orientis antiqui pertinentia, Vol. VI, Leiden, 1960, pp. 159-165; Id., « *Old Babylonian letters and economic history. A review article with a digression on Foreign Trade* », Journal of the Economic and Social History of the Orient XI, 1968, p. 164; During Caspers, 1969, *op. cit.*, Chapter III.

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RIASSUNTO

La cultura di Umm an-Nâr sembra essersi sviluppata ai margini meridionali di un complesso culturale chiaramente omogeneo diffuso verso nord-est dal bacino del Bampûr nel sud-est dell'Iran (Periodi di Bampûr IV-VI), attraverso il Seistân fino all'Afghanistan centro-meridionale (Mundigak IV, 1-3 sino all'inizio del V (?)). Tale cultura, forse largamente estesa, dal tardo Dinastico Antico III giunge a circa il 2000 a.C. e può essere distinta in una fase costiera dal Dinastico Antico III B al post-Accadico (?) nell'isola Umm an-Nâr e in una fase continentale forse leggermente più tarda a Hilî nell'oasi di Buraimi (Accadico antico-tardo Ur III).

La cronologia di Umm an-Nâr scaturisce da molteplici elementi. La presenza ivi di recipienti a forma di « anfora » e di un « vaso-capanna » di steatite non decorato con precisi confronti dal periodo Dinastico Antico III A all'Accadico antico a Sumer, aiuta a fissare una data precisa per la cultura stessa. Tali rinvenimenti provano inoltre che vi furono contatti tra Oman e Mesopotamia, forse probabilmente più per commercio che in base a relazioni di natura più stretta.

Le affinità della ceramica dipinta di Umm an-Nâr con quella di Bampûr (periodi IV-VI) fornisce ulteriori elementi per una datazione allo scorcio del III mill. a.C. della cultura in oggetto, considerando che il termine del periodo IV di Bampûr, mediante *cross-dating* con la sequenza mesopotamica, può essere collocato intorno al 2400 a.C. A Bampûr le imitazioni in ceramica grigia dei « vasi-capanna » sumeri o elamiti smerciate nel tardo Dinastico Antico II e nel Dinastico Antico III attraverso il Golfo anche sino all'Indo, dove appaiono nei più antichi livelli, sono associate inizialmente con Bampûr IV, 2. Queste imitazioni dovrebbero precedere il declino dei prototipi di pietra e vengono assegnate al periodo dal Dinastico Antico III B (?) all'Accadico antico al più tardi. La presenza di un « vaso-capanna » in ceramica grigia a Susa Dd (tardo Dinastico Antico III B o transizione al protoimperiale) aggiunge un ulteriore elemento a sostegno di questa datazione. Contrariamente alla tesi esposta, la più recente cronologia basata sul radiocarbonio da Allchin per la sequenza indiana non consente la possibilità di contatti tra il Vicino Oriente e la Valle dell'Indo prima del tardo periodo Accadico, cioè prima del 2150 a.C. circa.

Da ultimo la presenza a Hilî di armi in rame o bronzo di un tipo simile a quelli trovati nell'ultimo periodo della civiltà di Harappa e datati con il C₁₄ al 2000-1900 a.C. fornisce un possibile *terminus ante quem* per la cultura di Umm an-Nâr.

SUMMARY

The Umm an-Nâr culture appears to have lain on the southern fringe of a fairly homogeneous culture stretching north-eastwards from the Bampûr Basin in south-east Iran (Bampûr Periods IV to VI), across Seîstân to south-central Afghanistan (Mundigak IV, 1-3 to early V (?)). This possibly widespread culture was active from late ED III times down to ca. 2000 B.C. and may be divided into a coastal phase of ED III B to post-Akkadian (?) on Umm an-Nâr island, and a possibly slightly later phase inland at Hilî in the Buraimi Oasis (early Akkadian to late Ur III).

A chronology for Umm an-Nâr is provided by several pieces of evidence. The presence here of 'amphora' — shaped vessels and an undecorated steatite 'hut-pot' which have exact parallels of ED III to early Akkadian times in Sumer help to set a firm date on the Umm an-Nâr culture. These finds also prove that there was some contact between Oman and Mesopotamia, probably rather through trade alone than by virtue of some closer relationship.

The similarities of the Umm an-Nâr painted wares to those of Bampûr Periods IV-VI provide further evidence for a date in the latter part of the Third Millennium B.C. for the Umm an-Nâr culture, because the end of Bampûr Period IV can be estimated at ca. 2400 B.C. by cross-dating with the Mesopotamian sequence. The Bampûr grey ware imitations of Sumerian or Elamite 'hut-pots' traded down the Gulf during late ED II and ED III times, even so far as the Indus, appearing in the earliest levels there, are associated first with Bampûr IV, 2. These imitations must pre-date the decline of the stone prototypes, and are assigned to the period ED III B (possibly) to early Akkadian at the latest. The presence of a grey ware 'hut-pot' in Susa Dd (late ED III B or transition to protoimperial) adds further support to this date. Contrary to this argument, Allchin's most recent radiocarbon chronology for the Indian sequence does not allow for contact between the Near East and the Indus Valley antedating the late Akkadian period, i.e. before ca. 2150 B.C.

Finally the presence at Hilî of copper or bronze weapons of a type similar to those found in the late period of the Harappan Civilization and dated to 2000-1900 B.C. by C_{14} method provide a possible *terminus ante quem* for the Umm an-Nâr culture.

POSTSCRIPT

This manuscript had to go into print before the issue of the preliminary report on the first three seasons' excavations at Tepe Yahyâ in S. E. Iran (C.C. LAMBERG-KARYOVSKY, *Excavations at Tepe Yahya*, 1967-1969 *Progress Report I*, published as *Bulletin No. 27, American School of Prehistoric Research Peabody Museum, Harvard University*, Fall 1970).

Although this is not the place in which to pursue the validity of a possible re-examination of the chronological framework of Iran in the Fourth and Third Millennia B.C. as suggested by the new findings at Tepe Yahyâ, it would seem wise to keep an open mind on the subject and consider a possible re-assessment of several chronological factors within Iran as well as its repercussion on the datings of cultural assemblages outside Iran proper as a result of this.

It is not difficult to imagine that a re-evaluation of the Bampur sequence would evoke serious consequences for our present dating of the Umm an-Nâr culture; but this, of course, would not affect the latter's indubitable relationship with either Early Dynastic Sumer or the Harappan Civilization. We have proposed in the light of the present evidence that the contact with Sumer must have taken place at the end rather than at the beginning of the Umm an-Nâr culture, whereas the presence of Late Harappan influence would seem to fit the final stages of its existence.

The discovery on Bahrain of Umm an-Nâr cordoned ware under the « Barbar » and « chain-ridge » levels, though mixed with « chain-ridge » sherds (Communication K. Frifelt) and the occurrence of Umm an-Nâr pottery in the Barbar Temples II and (more plentiful) III with C₁₄ dates for Temple III of 2050 ± 100 and 2080 ± 100 (Communication P. Mortensen) seem to point to an early Third Millennium date as a possible *terminus post quem* on the one hand and to emphasize the validity of the assumption that the Umm an-Nâr culture was still in existence towards the close of the Third Millennium B.C. on the other, thus in the latter case coinciding with the suggested Late Harappan contacts. The Sumerian connections can, in fact, be placed at any stage of Umm an-Nâr's existence and their proposed coincidence with the early stages of the Umm an-Nâr culture were to fit Miss B. de Cardi's Bampur sequence.

Although in terms of chronology there are many important unknown factors in all this, we may have to be prepared to find that the Umm an-Nâr culture was already in existence well before the end of the Third Early Dynastic period, i.e. before 2600 B.C.