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ARCHAEOLOGICAL EXPLORATIONS IN SOUTHERN JHALAWAN AND LAS BELA (PAKISTAN)

Robert RAIKES - Roma

ARCHAEOLOGICAL BACKGROUND

During eighteen months residence in Pakistan in 1955 to 1957 and a subsequent stay of a year during 1960 and 1961 I had occasion to travel fairly extensively in areas previously explored by Sir Aurel Stein¹, Dr. Henry Field² and Miss Beatrice de Cardi³. Parts of the same area have since been visited again by Miss de Cardi⁴ who carried out excavations and by Walter M. Fairservis Jr. who visited the Bela area in 1959-60 under the auspices of the American Museum of Natural History⁵. Miss de Cardi has since published the full results of her 1958 expedition in "Pakistan Archaeology". Her report throws a great deal of light on the problem of Baluchistan cultures in Jhalawan and I do not believe that there is any contradiction between her archaeological conclusions which, based as they are on accurate stratigraphy, must be regarded as definitive for the area concerned (Northern Jhalawan and Southern Sarawan) and the differently derived conclusions that appear in this paper. Where there is any contradiction Miss de Cardi's views must prevail. Such contradictions may well arise out of erroneous

¹ A. Stein, *An Archaeological Tour in Gedrosia*, Mem. Arch. Surv. India, 43 (1931).

² H. Field, *An Anthropological Reconnaissance in West Pakistan, 1955*, Peabody Museum, Cambridge, Mass. 1959.

³ B. de Cardi, *A New Prehistoric Ware from Baluchistan*, Iraq, Vol. XIII, Part 2, 1951, pp. 63-75.

⁴ B. de Cardi, *New Wares and Fresh Problems from Baluchistan*, Antiquity, XXXIII, 1959, pp. 15-24.

⁵ Walter A. Fairservis, Jr., *Possible Light on the Indus Civilisation*, Illustrated London News, 6369, CCXXIX, 1961, pp. 324-327.

identification on my part of some of the ceramics found by me with those recorded by her and from the fact that some of her ceramics do not seem to be represented farther south.

With so much work already done by professional archaeologists it might seem unnecessary for one not trained as an archaeologist to write about this area. However my travels, which were concerned with water resources, took me to many places that had not previously been visited and in the process I explored many ancient mounds, known as *damb*s in Baluchistan, that had not previously been reported. At the same time I visited and re-explored many known sites and made extensive collections of surface finds which are now housed in the Exploration Branch of the Pakistan Government Department of Archaeology. Some references to these activities have already appeared in "Pakistan Archaeology"⁶.

The figures that accompany this article show a representative selection of decorated sherds, a selection of typical pot profiles, flints and the like from material that I picked up.

That this exploration, through repeated visits to sites, has some value even in the case of those already known is well demonstrated by comparing my notes and illustrations of material from Sorak (fig. 6) with those of Stein⁷.

A point of some interest emerges from the means of transport that I used. By far the greater number of the many journeys were made by jeep or landrover but in certain cases it was only possible to travel by camel. The camel journeys were mostly necessary for traversing the north-south trending ridges that separate the few intermontane valleys where cultivation can be carried out today; camels were also necessary for the entire length of the Kud river from Ornach (see sketch maps) to the Bela Plain and for a good part of the Porali river from the Wadh tract (see sketch maps) to where the valley becomes fairly wide some 50 kms north of Bela. Surface indications of early occupation were very rare on all these routes and were in fact limited to a few *gabarbands*, structures that I have described elsewhere⁸, and a few quaternary terrace areas that had plenty of indeterminate potsherds but no sign of a mound. In other words, prehistoric sites appear to be

⁶ Pakistan Archaeology, Vol. 1, 1964, pp. 11-13, 15, 26, 37.

⁷ Stein, *op. cit.*

⁸ R. L. Raikes, *The Ancient Gabarbands of Baluchistan*, East and West, New Series, Vol. 15, 1-2, 1964-65, ISMEO, Rome.

concentrated in those limited areas where cultivation is still carried out today, and to which access is, and always has been, comparatively easy.

The area with which I was concerned is that of the Porali River System and part of the basin of the Windar Dhora immediately south of the former. Parts of the area had been previously explored, as noted above, by Sir Aurel Stein, and also in 1957 by Miss de Cardi who extended her reconnaissance to the Ornach area at my suggestion. Material from Niain Buthi, near Bela, in the custody of the Archaeological Survey of India, was I believe first examined and reported on by D. McCown, and subsequently by Walter M. Fairservis during his exploration of the Bela area already referred to. Prof. J.M. Casal has since carried out excavations at Nindowari in the Ornach tract at the head of the Kud river, a main tributary of the Porali.

It is not always possible to say with certainty which of the sites now described have been visited and reported on previously. This is mainly because the name given to a *damb* depends on the particular informant. For instance I was assured by three informants on three successive visits that the damb that I describe as Karez Damb was called (a) by that name; (b) Kinneru; and (c) Ganjabad. In fact Kinneru is the name of another damb half a mile away and informant (b) was emphatic that the two *damb*s had the same name. This difficulty stems partly from the fact that the language of the informants is Brahui and most of them understand Urdu, the language of one's interpreter, imperfectly if at all.

Sketch maps are attached which should help archaeologists concerned with this area to identify, although perhaps under different names, sites that they have already recorded.

Where sites are known to have been visited previously and reported on, reference to this fact is made and generally only surface finds that may have been overlooked before are referred to in such cases.

All the material that I have illustrated has been collected from the surface so that no stratigraphic context is available and none is inferred. In selecting which potsherds to draw I have first of all limited myself to those bearing distinctive decoration or having enough of the form surviving to indicate the shape of the rim, the base or the carination etc. From among those first selected I had, on account of space limitations, to reject those whose inclusion would have been merely repetitious though I confess to having included more sketches of Nal ware sherds than are strictly necessary. My reason is that they appear

so admirably to fulfil Miss Freya Stark's definition of beauty which "walks along the edge of opposites, between pattern and freedom".

In the notes on individual sites I have, wherever possible, indicated the various wares present with references to the Plates of illustrations. Some of the identifications are easy enough; some are more difficult because the professional archaeologists who have described them are not always in agreement with each other. It is better therefore to start by defining what I mean by the various wares and why, for instance, I intentionally omit reference to Nundara ware in the notes on sites although what has been described as Nundara ware almost certainly occurs. There are other wares, with which I am not familiar that I have not attempted to identify. In a few cases what appear to be hitherto unidentified, or perhaps more correctly, unnamed wares are described.

NAL WARE

Under this description are included fine (sometimes very fine) buff, pinkish or pinkish grey wares having geometric decoration in black on a buff, cream or white slip. The types of decoration and pot forms conform in almost all cases with those illustrated by Hargreaves⁹. Some of the black-on-pale-slip material bears traces of the use of one or more bright colours — bright red, blue, blue-green etc. — that appear to have been applied after firing. Very occasionally the typical Nal geometric decoration is found in black on red.

ANJIRA WARE (*Anjira black-slipped ware*)

This description is used for bowls and other forms having a black, dark grey or dark brown slip with occasionally whitish decoration. I have marked this with a query as I have not seen the original Anjira ware described by Miss de Cardi¹⁰. Some of this dark material seems to merge into Togau and I have almost always found it in surface association with Nal ware. Miss de Cardi notes that the ware may be dark red under certain conditions of oxidation. She makes no specific

⁹ H. Hargreaves, *Excavations in Baluchistan, 1925*, Mem. Arch. Surv. India, 35 (1929).

¹⁰ B. de Cardi, *op. cit.*, (4).

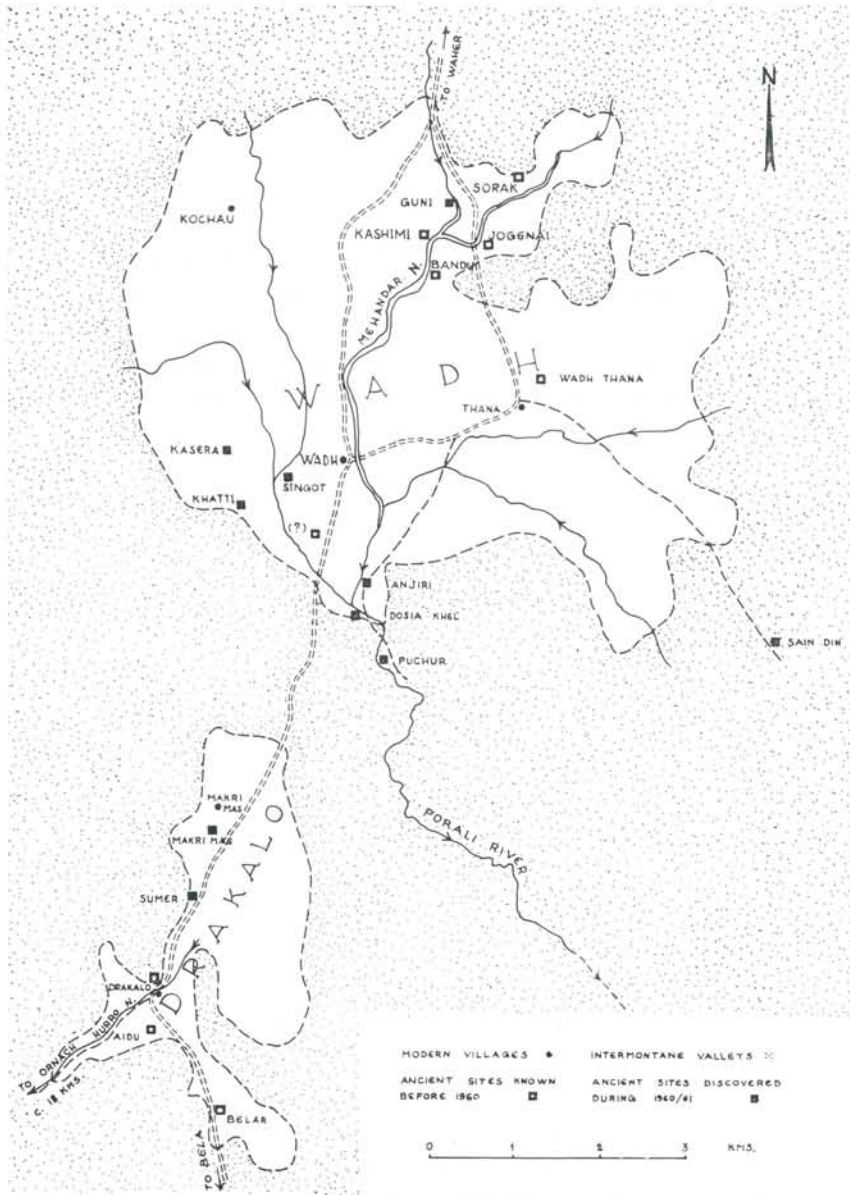


Fig. 1 - Wadh and Drakalo tracts (sketch map).

mention of whitish decoration and I have found, of the pot forms that she illustrates, only one positively identifiable from the sherds — the open bowl shape typified by fig. 7; 9-11 and fig. 9; 1, 2, 11, 12.

TOGAU WARE

This ware is described by Miss de Cardi¹¹ and only sherds agreeing with her descriptions and illustrations have been so described by me. All the Togau material collected by me has consisted of fragments (generally from the rim) of rather shallow open bowls having a form strongly resembling that of some of the dark slipped Anjira bowls referred to above. A single sherd, from Kashimi *damb*, carried the resemblance a stage further by having the hook pattern in greyish white on a black slip. The resemblance between the two wares may be fortuitous, but it is worth noting that while Togau ware is nowhere common as a surface find at any of the chalcolithic sites visited its occurrence is generally limited to single sherds except at sites having a preponderance of Nal material, where it is comparatively plentiful.

KULLI WARE

Piggott¹² refers to two strains in the culture: painted wares and plain wares having affinities with the Harappan culture.

In the report on the activities of the Expeditions of the American Museum of Natural History, that forms part of the section on Exploration in *Pakistan Archaeology*¹³, two strains are again recognised but each contains both decorated and plain wares: the reference is specifically to Niain Buthi. I have not attempted to identify plain wares as without stratigraphic context it would be useless. The painted wares present a confusing picture, that seems to correspond more closely with the Niain Buthi strains.

Similar styles of geometric decoration occur on both buff and red slips; the typical friezes of caprids occur on untypical red slip as well

¹¹ *Op. cit.* (4).

¹² S. Piggott, *Prehistoric India*, Pelican Books, 1950, p. 96 et seq.

¹³ *Pakistan Archaeology*, Vol. 1, 1964, p. 33.

as on the more normal buff; the typical Kulli bull (everywhere so exactly like that illustrated by Piggott as to suggest mass production or the use of a pattern) occurs on typical Harappan red slip as well as on buff slip; pot forms occur that are exactly like those in the reserve store at Mohenjo-daro as regards form but quite unlike as regards colour and pattern. The whole assemblage of surface finds from sites such as Sorak, Aidu and Niain Buthi (but in the latter case excluding the Nal and Togau ware that was present in large quantities) gives a general impression of resemblance to Harappan material but, on comparison with sherds from Mohenjo-daro or Bala Kot, presents striking differences. For example the Harappan treatment of such animal forms as goats and fish is quite different from that used on Kulli ware, and the stylised bulls found on "late" Harappan wares do not seem to fit into the same stylistic sequence of degeneration as those found on Kulli ware. Piggott¹⁴ refers to the degeneration of the Kulli bull as going on "until one reaches the absurdities of the balloon-bodied stag-beetles which seem to peer out in distress from an atmosphere thick with disintegrating goats and 'sigma' motifs".

I am describing tentatively as "Kulli ware" all decorated ware that complies with Piggott's description; or with material illustrated by Stein¹⁵ from Mehi that is clearly not Nal or the so-called Nundara ware; or with the description referred to in *Pakistan Archaeology*. The description is therefore mainly one of convenience and may cover an assemblage of culturally and/or stratigraphically distinct wares. For instance the wares may represent cultures that existed side by side with more or less interaction; some of them may represent either an early or a late phase of the Harappan culture adapted to conditions different from those in the Indus valley; or there may have been some combination of these and hitherto-unidentified influences. There is some reason to think that some of the material described here as "Kulli" bears a resemblance to wares from the "later" levels at Mohenjo-daro, but in the absence of full and definitive stratification at that site this can only be a tentative suggestion. The designs and pot-forms illustrated on fig. 6; 5, fig. 9; 21, and fig. 13; 16, and found elsewhere are mutually similar as regards design and are like a "late" pot form seen by me at Mohenjo-daro. However one has a fish design

¹⁴ S. Piggott, *op. cit.* (12).

¹⁵ N. C. Majumdar, *Explorations in Sind*, Mem. Arch. Surv. India, 48.

similar to one reported by Majumdar from the lowest levels of Ghazi Shah. It is also similar to a sherd from Kulli illustrated by Stein.

The justification for describing such a varied assemblage as Kulli ware is that the same assemblage, of typical Kulli and of what may be called Kulli-Harappan, complete with fragments of "offering stands", perforated pots, clay and shell bangles, painted animal figurines etc. occurs at so many sites.

UNNAMED WARE

It might be more accurate to describe this as possibly a many-named ware. Majumdar¹⁶, quoting Sir John Marshall, refers to a Hybrid Baluchistan Ware. This seems to be best exemplified by Nos. 1, 4, 5, 7, 8, 9, fig. 11, and seems to demonstrate some affinity with Nal ware as regards the form and the fineness of the pots and with Amri and occasionally geometric Kulli as regards decorative design. There are some resemblances too between it and some early Mundigak (Period I) ware on the one hand and with Period IV Zari ware from Anjira on the other hand, and there are such similarities with Amri ware that it may well be only a variant of this or vice versa. I am using the expression "Unnamed ware" simply because it is non-committal although for reasons that appear below it might be more correct to call it early basic geometric ware.

- I. The designs and forms appear to occur scattered throughout Southern Baluchistan on so many early prehistoric sites that the description ware seems justifiable even if that of culture is not.
- II. It appears on sites in Sind where it was identified by Majumdar as "hybrid", and in Northern Baluchistan, with local variations that may indicate adaptations to local conditions and local styles.
- III. It may be hybrid, as Majumdar thought, in that Amri-type designs appear on pot-forms associated with Nal ware and having the typical thinness and fineness of Nal ware; and it is possibly a distinct (hybrid) ware in that similar basic hybrid designs occur on sites that are predominantly Kulli and on those that are

¹⁶ N. C. Majumdar, *Explorations in Sind*, cit.

predominantly Nal, while on others it occurs to the virtual exclusion of Kulli and Nal.

- IV. The polychrome (really bichrome) "Unnamed" ware occasionally has Nal type designs but with the more subdued additional colour associated with Amri or with Nundara, the latter being generally yellowish white, buff, dark red, red-brown or purple¹⁷. The Amri-Nundara colour seems, so far as surface sherds are concerned, to be less fugitive and, in some cases at least, appears to have been applied before firing.
- V. It is necessary to distinguish between this "Unnamed" ware and so-called Nundara which itself appears to be a hybrid, but of different parentage, between the simple geometric patterns of Kulli and the far more evolved patterns of Nal.
- VI. The resemblances with some Mundigak I and Amri I of considerably different dates may be relevant.

NUNDARA WARE

Much of what has been described by Piggott as Nundara ware could serve as models for what I have described as "Unnamed" ware. I am avoiding the term in these notes, however, because the implied association of Nundara and Nal wares either as derivations one of the other or as different aspects of the same ware does not seem to me to be proved. I could have used the description Nundara instead of "Unnamed" but it would then have been necessary to redefine Nundara eliminating those frequent elements in it that show strong affinities with either Kulli or Nal. Having eliminated these, what is left is what Majumdar described as Hybrid. There may be a case for considering some of the generally accepted Nundara assemblage as a further hybridisation between Kulli and Nal on the one hand and Majumdar's Hybrid on the other hand.

The following notes may help to clarify the reasons for avoiding the description Nundara.

¹⁷ A. Stein, *An Archaeological Tour in Gedrosia*, cit., Pls. XXV, XXVI, Nos. 8, 10, 12, 13, 27, 37.

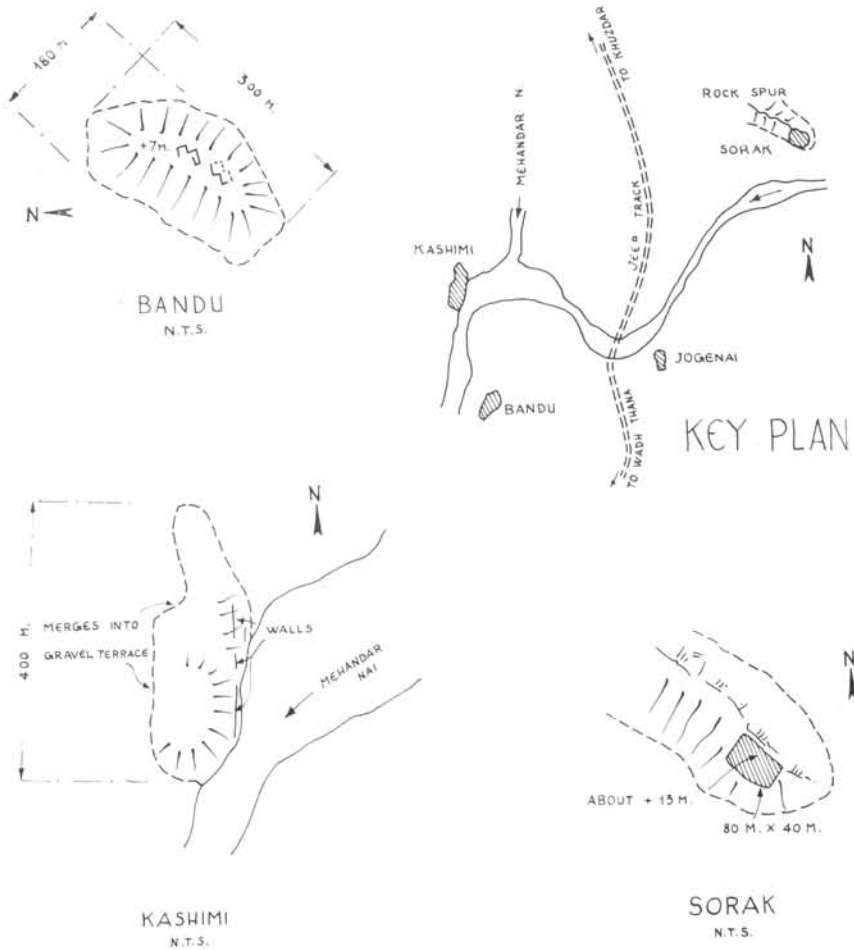


Fig. 2 - Some Wadh sites.

- (a) The additional colour in Nundara Polychrome is generally one of the subdued ones mentioned above in contrast to the bright colours of Nal Polychrome. The material illustrated as Nos. 4, 5, 7 and 8 (fig. 11) from Channal Kund resembles some material that has been described as Nundara, although not exhibiting typical Nal designs. (It equally resembles Amri material as regards some patterns, but not as regards pot forms and fineness, while some pot forms approach certain Quetta forms).
- (b) The additional colour (or colours) on Nundara ware appears to be less fugitive than that applied to Nal ware, and may thus have been applied before firing. The validity of this statement is supported by the *lack* of mention by Stein of the colour being fugitive, and by my observation of bichrome sherds described above as "Unnamed". There appears therefore to be the possibility of a cultural link "Unnamed" and "Nundara".
- (c) Nundara ware as illustrated comprises partly ware similar to that ascribed to Amri and partly a ware combining simple geometrical motifs and the more intricate Nal designs. The Nundara ware is less attractive, less artistic, less well made than Nal: there is more crowding of designs, less proportion. Nal is very much more graceful and delicate, often much thinner and finer and has a freedom of execution that makes it virtually unique in this region. But here again there seems to be a cultural link.

AMRI WARE

Amri ware was first described by Majumdar¹⁸ and the decoration consists of hatched diamonds, sigmas, loops, hatched or filled-in chequers, within panels formed by parallel lines and bands etc. It never has the typical Nal-type decoration. Amri decorative style appears to be allied to some examples illustrated by Fairservis¹⁹ from sites in Northern Baluchistan and occurs with both Kulli and Nal and by itself in Southern Baluchistan. I have found similar designs in areas normally associated with Quetta ware (in particular at

¹⁸ N. C. Majumdar, *Explorations in Sind*, cit., Pl. XVIII etc.

¹⁹ W. A. Fairservis Jr., *Archaeological Surveys in the Zhob and Loralai Districts, West Pakistan*, Anthropological Papers of Amer. Mus. Nat. Hist., Vol. 47, Pt. 2, 1959.

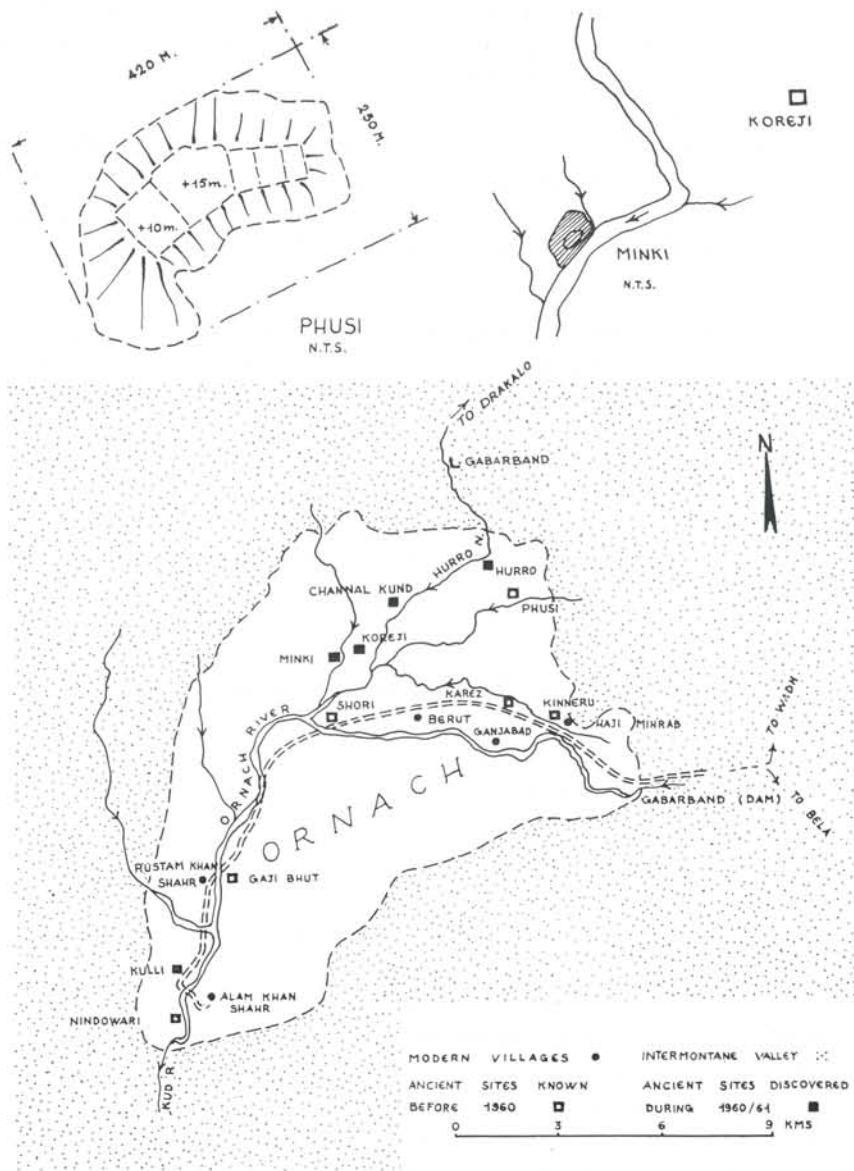


Fig. 3 - Ornach tract (sketch map).

Isplinji II)²⁰. In general I have not classified any of these surface-find sherds as Amri ware. Instead sherds that have Amri-type decoration are grouped as "Unnamed" because they are not in any other respect like material from the type site. I had the pleasure of visiting twice the excavations carried out by M. and Mme. Casal at Amri and of examining material found. The sherds showing typical Amri designs are superficially very similar to what I have called "Unnamed" ware but in fineness and skill of execution they are not comparable with material made under the influence of, perhaps, Nal. It is tempting to think of Amri ware as being one of the many parents (or conversely derivatives) of "Unnamed" ware.

LONDO WARE

This has been described by de Cardi²¹ and is apparently in some, but not all, cases what Stein refers to as "late prehistoric pottery" in *Gedrosia*²². I have submitted drawings of Londo-type sherds from Wadh, Drakalo and Ornach to Miss de Cardi who considers that they represent a local variant. I have used the description Londo ware for this local variant and the description Londo-type for what may possibly be a later derivative or degeneration of the ware.

DESCRIPTION OF SITES

The descriptions of sites and of their surface finds, grouped into three intermontane tracts and the Bela Plain, are given in descriptive appendices. Appendix I describes the sites; Appendix II lists the finds.

The sketch maps appearing as Figures 1 to 4 indicate the locations of all the sites that will be described later. All the sites to which the figures, illustrating surface finds, refer are shown on these maps.

So far I have only given, as far as it is possible for a layman to do so, the archaeological background directly relevant to the sites described. When one looks at a map of Baluchistan it would appear that the areas explored represent a very small fraction of the whole country,

²⁰ One of two sites found by me 50 miles south of Quetta.

²¹ B. de Cardi, *A New Prehistoric Ware from Baluchistan*, cit.

²² A. Stein, *op. cit.* (1).

but I hope to show that this is misleading. For the area fills a gap between Mekran and the Jhal Jhao area, intensively explored by Stein, and the area from Khuzdar to Surab, more recently and scientifically explored by Miss de Cardi. She has subsequently explored much of the area described by me but has not, so far as I know, published any surface finds from it. Indeed, such surface finds would be of insufficient consequence to justify publication by a professional archaeologist and such importance as they have lies in the clue that they may afford to an environmental factor that has not so far been taken seriously into account when considering the distribution of prehistoric wares and cultures. It is this environmental factor that provides the kernel of this paper.

THE ENVIRONMENTAL SETTING

That part of Baluchistan which contains most of the enormous quantity of prehistoric sites that have been explored can be divided into five main parts of which all except the first directly concern this paper. They are:

1. Duki area - a little-known and barely explored transitional zone south of the Zhob Valley and separated from it by the Suleiman range; some sites around Loralai and the immense mound of Dabar Kot, near Duki, are in this area.
2. The high plateau area known as *Sarawan* that extends from the area around Quetta to Surab and includes the Isplinji tract. Valley altitudes vary from 1700 to about 2000 metres above sea level. It can be considered as extending into Northern Baluchistan (Zhob Valley) and Afghanistan.
3. The medium altitude area known as *Jhalawan* which is a deeply intersected plateau draining east, south and southwest with its valleys at altitudes of 1000 to 1300 metres above sea level.
4. The southwestern area known as *Mekran*, characterised by narrow barren valleys with altitudes generally below some 300 metres above sea level and containing a virtually negligible area of lowland plain.

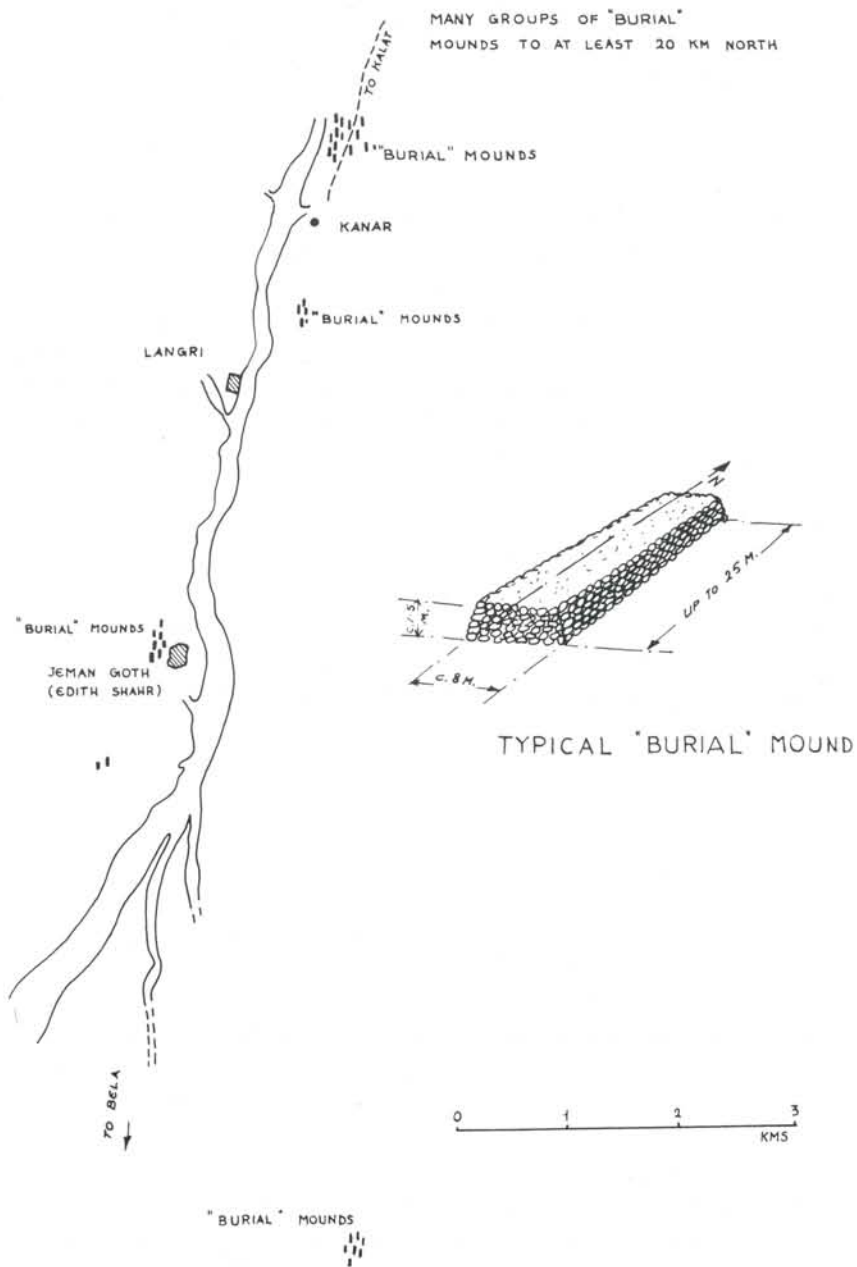


Fig. 4 - Sketch of location of some of the hundreds of "burial" mounds in Las Bela.

5. The lowland plains that form the western margin of the Indus Valley (including the Kacchi plain between Jacobabad and Sibi) and reappear as the Las Bela plain a little to the northwest of Karachi.

Each of these areas is geomorphologically and climatically quite distinct. All are what may fairly be called inhospitable as far as nature is concerned and demand different responses to the problem of existence. However these rather rigid distinctions between them must not be allowed to obscure the fact that there are transitional zones between them. Brief descriptions of them will show what I mean.

The *Duki* area is one of wide intermontane valleys, with several relatively large perennial rivers, which shares many of the characteristics of both Jhalawan and Mekran. It has a distribution of mountains and valleys very similar to that Jhalawan, but its valley altitudes are generally low.

Although it has a slightly warmer climate and slightly higher and less variable rainfall than Jhalawan the ecological effect is not so different as to require an entirely different human response. It has been described here as a separate environmental area for two main reasons: (a) it is close to, and indeed partly integral with, the high wooded country of the Suleiman range on the north; and to the mountains flanking the Indus Valley around Fort Munro; and (b) it is geographically cut off from Jhalawan by Sarawan to the west and the Kacchi plain to the southwest. In some of the higher parts of this area true dry-farming would be just feasible.

Sarawan is an area of high intermontane valleys which receive most of their rather inadequate rainfall (200-250 mm mean) in winter. Some of the often abundant snow that falls on the high mountain ranges (that reach approximately 3000 metres) melts, infiltrates and provides groundwater in the valleys and their flanking alluvial fans. While much of the snow is lost by direct evaporation (sublimation) the proportion of snow-covered area to total area is sufficient to make the contribution of snow significant. The winters are too cold throughout Sarawan for the growth of crops but spring comes early and cereals are normally harvested in about June. Sowing of crops is undertaken during the winter or early spring in open weather. Low evaporation losses and low intensity rainfall in the mid-winter months ensure fairly efficient soil moisture storage but direct rainfall alone, averaging about 170 mm in the winter, is not sufficient most years for the raising of a crop.

Recourse has therefore to be had to diversion of the small floods that result from late winter/early spring rainfall of convective type and relatively high intensity: but this does not apply along major valley bottoms where there still is, in spite of the introduction of the *karez*, some perennial flow in places. In prehistoric times, before the introduction of the *karez*, but with the same rainfall as today, perennial flow would have been considerably greater. There would have been therefore irrigable strips along the valley bottoms which could have been used throughout the growing season from about April to September.

Jhalawan, owing to its lower altitude, experiences far less severe winters and benefits from less snow and less sublimation losses: in fact, snow occurs but rarely on the mountains flanking the rare and isolated areas of intermontane plain. Cultivation would have been, and is, restricted to those areas of good soil in the absence of terracing to trap silt and create fields. Most of the intermontane plains have small perennial rivers that could have made possible a very small amount of irrigation. The outstanding characteristic of *Jhalawan*, however, is the manner in which its scanty rainfall (200-250 mm mean) is distributed in time. Approximately half the mean rainfall occurs in winter; rather more than half in the north, rather less than half in the south. The other half occurs sporadically and with erratic distribution, in the summer. Neither winter nor summer rainfall, in terms of depth precipitated, is sufficient on the average for raising a crop and the dry months that intervene would ensure that a crop partly raised on winter rain would perish before the possible occurrence of a summer storm. Apart from that, such summer storms as occur are of high intensity and the greater part runs off as flood water. Without somewhat sophisticated techniques and ingenuity the life of a peasant cultivator in prehistoric times would have been virtually impossible except along the very small rivers. He could however have existed on a pastoral economy because bi-seasonal rainfall of the *Jhalawan* type can support a considerable growth of perennial browse vegetation and certainly one and sometimes two flushes of annual vegetation. Cultivation could only become a reliable source of livelihood when ingenuity and a capacity for organising the building of structures had made it possible to store part of the summer run-off to supplement the otherwise inadequate winter rain. Whatever people lived in *Jhalawan* as its original cultivators must have solved this very difficult problem and must have adapted the whole rhythm of their lives to it. This would



Fig. 5 - Waher. Surface finds.

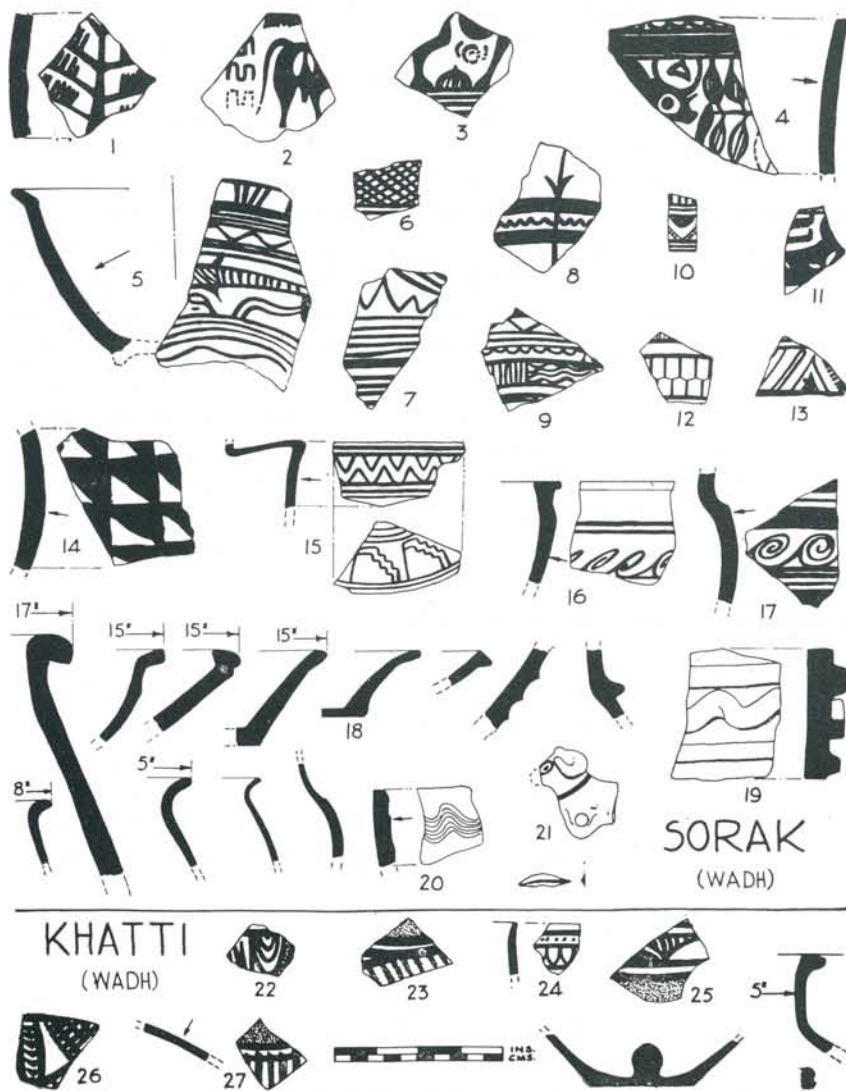


Fig. 6 - Wadh tract. Surface finds.

at once culturally distinguish them from Sarawan farmers or those of Mekran. So much so that it would probably have taken a Jhalawan peasant several generations to adapt himself to the conditions of elsewhere or for the peasants of elsewhere to learn the sophisticated techniques (still in use today) of Jhalawan.

The statement that biseasonal rainfall of the Jhalawan type can support considerable perennial growth requires elaboration. Perennials fall into two main classes in an arid area of this kind: xerophytes that are adapted to making use of groundwater in the vadose zone as and when it is available; and phreatophytes that depend on a regular supply of water from the water table or the capillary zone above it. Both in effect, but in different ways, are dependent on groundwater. They are therefore essentially dependent on the mean annual rainfall or rather on that proportion of it that infiltrates. Where two seasons are involved whose rainfall is due to climatologically distinct phenomena, the statistical probability of a whole year of a certain degree of total rainfall deficit is of a different order of magnitude (less) than the probability of the same degree of deficit from a single season of rainfall having the same long-term mean. Variations in groundwater availability are therefore reduced.

Mekran presents a totally different picture. Its rainfall occurs almost entirely in summer and autumn and varies from about 75 mm to 125 mm. This is totally inadequate for dry-farming and can only sustain a meagre xerophytic vegetation except in valley bottoms where phreatophytes can flourish. To compensate for this its valleys are in a sense the terminal drains of much of Sarawan's and Jhalawan's groundwater so that there are several quite substantial perennial rivers. Strip irrigation along these rivers would always have been possible although always subject to the hazard of occasional enormous floods, and low-grade desert grazing would never have been subject to its most stringent limiting factor — lack of drinking water. Cultivable soil occurs in very limited areas of which the prehistorically most important — the Kulli tract — has now almost certainly been robbed of its original perennial river — a former Mashkai river — by the capture of the latter into the Hingol-Nal system. The whole of Mekran is exceedingly hot in summer.

The Plains differ from Mekran principally in enjoying enormous areas of fertile soil and perennial rivers. They are all therefore ideally suited to irrigation and could scarcely have been occupied except seasonally along strips of gallery forest without a knowledge of irrigation techniques, for all the areas away from the rivers are desert. It must

be noted too that irrigation could only be practised easily during winter, for summer floods are of such violence that even today their use poses an almost insuperable economic problem. It must be remembered however that, in the case of the Indus, crops could have been raised on flooded back swamps, annually irrigated naturally.

It is worth recapitulating the type of prehistoric economy that each of these areas would impose before and after the introduction of irrigation of one kind or another.

In the first-mentioned area which for convenience I have called the Duki area, dry-farming could have been practised in favoured situations either as something which had developed *in situ* or as an introduced reversion to their original farming methods by people who, traversing Sarawan or the plains, had in the meantime learned and adapted themselves to other methods. With the introduction of simple diversion irrigation the cultivable area could have been extended to that irrigable by perennial winter flow. The use of enormous summer floods can be discounted absolutely. Farming could very easily have been supplemented by, even secondary to, herding. It seems reasonable to infer as a working hypothesis that any settlements based entirely on dry-farming were most probably local developments while mixed economy settlements based on a combination of herding and flood irrigation were probably importations. The hypothesis justifies an intensive exploration of the area.

In Sarawan dry-farming would not have been possible for there are virtually no pockets of cultivable soil in the higher areas where winter rainfall might conceivably have been sufficient. In the valleys a partially adequate (approximately half the requirement) winter rainfall would have required diversion of late winter/early spring moderate floods to supplement it. This would be essentially storage of moderate rainfall, requiring no specialised technique in the prevailing winter conditions of very low evaporation, followed by a "booster" dose of limited run-off. Again farming could have been supplemented by, or secondary to, herding. The fact that the grazing season would have been later, where growth of annuals was concerned, than in the preceding case is probably not important. The chief difference would have been between pure dry-farming and partially irrigated farming. So, before the introduction of flood irrigation techniques, the emphasis would have been mainly on herding and secondarily on perennial river irrigation.

I propose to abandon the originally listed order at this point and deal next with Mekran and the Plains.

In Mekran settled existence would have been virtually impossible to people not already in possession of knowledge of at least perennial irrigation from relatively small streams. Herding, although possible, could not have been a major element in the economy for it could only have been practised within range of drinking water. The conditions are not, because of high temperatures and deficient rainfall, those in which farming of any kind could have developed from collection of the grains of wild cultigens because the ecological habitat is not and never was (if only on temperature grounds) suitable for these. The area could, it seems, only be settled therefore by people from a similar climatic habitat and already having some knowledge of the way in which perennial run-off could be diverted. The mind leaps immediately (but perhaps wrongly) to the western piedmont or plains margin of the Zagros.

On the Plains two kinds of situation were available. One was climatically indistinguishable from Mekran, the difference lying in the availability of virtually unlimited areas of good soil adjacent to small perennial rivers. The other, still climatically indistinguishable from Mekran, enjoyed not only vast areas of good soil but a major perennial river, the Indus. This second habitat has its nearest parallel in Mesopotamia. This does not mean that I am advocating colonisation from Mesopotamia (which would make more sense in a more recent context - say 2300 B. C.): it can mean that the same stimuli that led to dependence on major rivers in Mesopotamia could equally have operated along the Indus. However the main point that I wish to stress both for the Plains and Mekran is that the inhabitants of Sarawan would obviously not have found them congenial for settlement and that the colonisation of the Indus Valley from the Baluchistan mountains could only have been a result of an almost incredible parallelism not merely of stimuli (population pressures, transhumance etc.) but also of technical progress.

Let us examine finally Jhalawan. Here the basic agricultural economy can only have been based on artificial storage of summer moisture, supplemented by winter rainfall in second place: the exact opposite of the economy in Sarawan. The technique which I will describe a little later is sophisticated. Where did it come from? Or did it come from outside? I think not. I find it difficult to believe that migrant people who had adopted either the Sarawan techniques, by

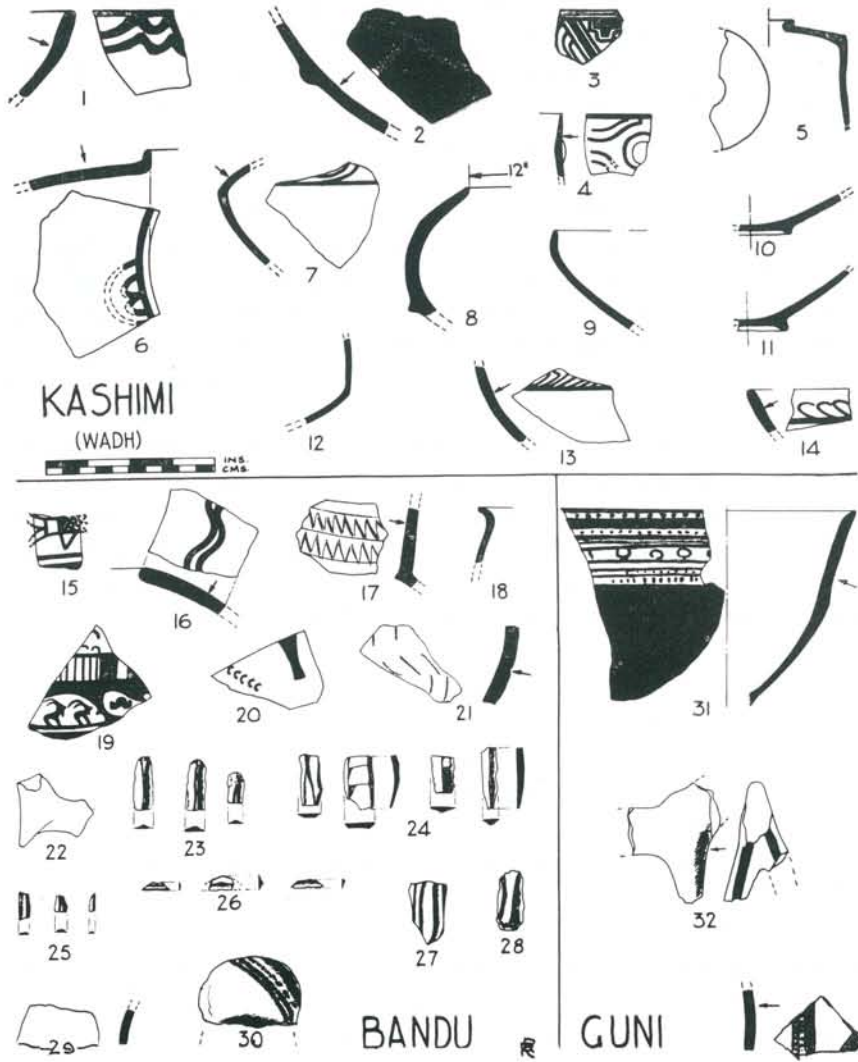


Fig. 7 - Wadh tract. Surface finds.

passage through northern Iran, or the Mekran techniques, by passage through southern Iran, would have been able to overcome their innate agricultural conservatism. But indigenous people, originally based on a pastoral economy and with little if any preconceived ideas about cultivation beyond having seen their fairly near neighbours practise it, could have developed it. Probably it started by accident and took generations to develop. Two things are typical of modern Jhalawan, one of which, the gabarbands²³, almost certainly existed in pre-historic times. *Gabarbands* are essentially a means of both creating soil and of ensuring its saturation by flood water: the vast majority of the remains of the gabarbands are found today where their modern equivalents (earth banks) are found — in Jhalawan. The other thing typical of modern Jhalawan is the sophisticated method of retaining soil moisture. It depends initially on partial diversion of flood water onto the *sailaba* field which is the modern equivalent of the gabarband terrace; so to that extent a knowledge of diversion irrigation — either imported or acquired *in situ* — was a prerequisite. Thereafter the technique is unique and dictated by the imperative need to conserve moisture from the end of the summer rains, which could be as early as August, until the first winter rains, which could be as late as November. It is because this technique represents a complete reversal of the Sarawan technique and the use of a commodity — rain — practically unknown in usable and reliable quantities in Mekran, that I believe that it may well have been an indigenous development. The process sounds simple. Flood water is diverted where, when, and if it occurs — in June, July, August — and stored on the surface to a depth of from 150 to 300 mm, according to the configuration of the ground and the terrace and to the efficiency of the diversion. It is allowed to stand until infiltration and evaporation have resulted in a moist but firm surface. The ground is then ploughed, with a shallow primitive plough, to a depth of perhaps 10 cm and left long enough for the surface to dry out. The surface is then flattened by the use of a board drawn by draught animals, the driver adding his weight to the board: the result is a thin layer of dusty mulch which, with surprising efficiency, insulates the underlying moist soil from evaporation. Unless another flood can be diverted, in which case the whole process is repeated, the ground is then left untouched until about October/

²³ R. L. Raikes, *op. cit.* footnote (8).

November depending on the altitude and the season. The period can therefore be as long as four months. At the end of it the surface is again ploughed but this time the plough is used more or less as a drill as sowing follows immediately. Then once again the surface is smoothed with a board. Soon afterwards the grain germinates *on the stored moisture* and, in favourable circumstances, a crop can be obtained even if the winter rains fail. Late winter rains are the most beneficial as they arrive at the right moment for swelling the grain. Nowadays the method is used also for Karez- and spring-watered land, but is in fact sophisticated and it is the only way in which the peculiar hydrology of Jhalawan can be turned to good account without resort to heavy capital expenditure.

ENVIRONMENT AND PREHISTORIC DISTRIBUTION

If a map is drawn indicating the approximate boundaries of Sarawan, Jhalawan, Mekran and the Plains and if, on that map, one plots the surface occurrences of various wares, some interesting correlations appear. This can be tabulated either by taking each zone in turn and listing the wares or, more strikingly, by listing the wares and noting the zones. I have preferred the latter.

Quetta ware — Restricted almost exclusively to Sarawan. Sporadic occurrences down river lines and at terminal oases indicate possibly trade connections or, more probably, transhumance.

Nal ware — The main concentration of this extremely sophisticated ceramic coincides very closely with Jhalawan. The relative absence of flint implements supports the idea of a sophisticated culture.

Anjira ware — The main concentration covers Jhalawan but extends into the south of Sarawan. It is so often associated with Nal, Togau and the distribution so similar that one is tempted to think of it as a different *ware* of the same *culture*.

Kulli ware — The main concentration coincides with Mekran until the (presumably) late Harappan-influenced ceramic when a partial incursion into Jhalawan seems to have occurred.

Togau ware — More widespread than Nal but having roughly the same "centre of gravity". It occurs in Sarawan to near Quetta and sporadically in Mekran. In its latest phases it is found at the

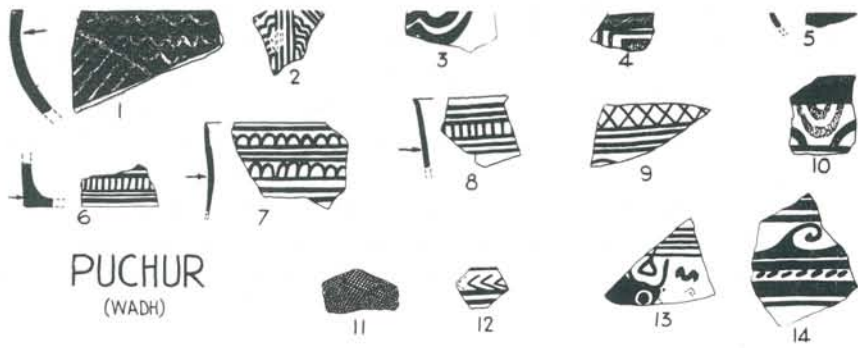


Fig. 8 - Wadh tract (1-14) and Drakalo (15-43). Surface finds.



Fig. 9 - Drakalo tract. Surface finds.

lower end of transhumance routes to the Indus Plain and the Las Bela Plain.

"Unnamed" ware — This is the most widespread of all if the superficial evidence of illustrated material can be accepted. It appears to be concentrated in its most elegant and refined form in Jhalawan but almost certainly related material is found in the Indus plain, Las Bela, Jhal Jhao, Mekran, Sarawan, Afghanistan and Zhob.

Kile Gul Mohamed, Damb Saadat and other northern wares are not dealt with here because there is no convincing evidence of their occurrence in Jhalawan.

Harappan ware (Indus civilisation) — The Kulli ware with Harappan affinities which, on the latest Harappan evidence available including that from Amri, is comparatively late, appears in Mekran and to the limits of Kulli penetration in Jhalawan.

Nundara ware — The ware so described occupies, as I would expect, almost exactly the overlap area between Kulli and the Nal transhumance (?) extension to the southwest. For the reasons stated earlier reference to this ware has been avoided in describing sites.

Of the above wares, Quetta, Togau, Kile Gul Mohamed and Damb Saadat have, one way or another, been accorded northern links with Iran.

Kulli is generally, if not always, placed after Nal in those sites where both occur.

The "Unnamed" ware in southern Sarawan begins at about the same time as K.G.M. and earliest Togau.

Nal is most often regarded as unique but is sometimes linked with Quetta. I personally think it was a fairly temporary and localised flowering from the "Unnamed" ware.

Nundara ware does not call for further comment in the context of the area covered by these notes. This is because I am arbitrarily restricting use of the term to what appears to be a straight hybrid between Kulli and Nal, found only in the transition zone between Jhalawan and Mekran. Much of what has previously been described as Nundara ware, so described presumably because it was found in association with the Kulli-Nal hybrid ware, appears to be classifiable provisionally as "Unnamed" ware.



Fig. 10 - Typical Nal sherds.

SOME GENERAL OBSERVATIONS

In this area there are, if one omits the doubtful cases of Bandu, Belar, Karez and Hurro Dams, 18 chalcolithic sites including the mainly Harappan site at Bala Kot. It is always dangerous to infer much from surface finds even when the site is comparatively free of mud-brick debris: it is impossible to infer anything with safety from the level at which finds are made unless they are exposed in a vertical section, and even then only usefully when the section is stratigraphically related to the whole. It seems at first sight impossible for a sherd to be found at a higher level than that at which it was originally dropped, but a moment's consideration will show that it is indeed possible. A sherd outwashed onto surrounding land from the lowest level of a *damb* may have been later incorporated in mud-brick or mud-plaster used by later occupants of the site at a much higher level. This may account for the single sherd of Nal ware reported from the Jhukar level at Lohumjo Daro.

The reference to "even when the site is comparatively free of mud-brick debris" may seem obscure. At least eight of the chalcolithic sites reported on are on rocky ridges or outcrops where stone appears to have been a major material of construction. The collapse of the stone of the superstructure (even if it was not entirely of stone) has created a series of rough terraces through which mud-brick and mortar debris can be washed easily enough but which must have tended to retain potsherds.

The material that one finds on the surface of a *damb* can derive from almost any level of it owing to the fact that gullying removes material from lower layers to mix with the more-to-be-expected material from upper layers. In the case of those early prehistoric sites that were originally constructed largely of mud, erosion by wind and rain has entirely removed any mud or mud-brick structures from the upper layers so that the potsherds of several layers of occupation — perhaps spanning a great period of time — lie together on the top and the slopes. They are mixed, as regards the slopes and surrounding land, with earlier material derived from gullying.

There tends inevitably to be a higher proportion of later material but over the whole area of any one site it must be rare for there to be no trace at all of material from occupation levels that are still above the surrounding country.

In the case of early prehistoric sites that have been subjected

to erosion for 4,000 years or more the chance of finding most of the wares represented among surface debris is fairly good while in the case of *dambas* that are covered with stone ruins close to bedrock the chance is even better. There is of course a tendency for later wares to preponderate, but this tendency becomes less marked as the age of the settlement increases. When one is dealing with a considerable number of sites as in this case the risk of not finding representatives of earlier wares is unchanged but so far as the 18 older sites are concerned it seems worthwhile to make an analysis.

The following analyses are tentative and based on too small a population to be statistically valid. They do however appear to indicate a trend.

Kulli or Kulli-Harappan

Sites yielding only Kulli-Harappan material	2
Sites yielding predominantly Kulli-Harappan in association with Nal and/or Anjira and/or "Unnamed" and/or Togau	7
Total of Kulli-dominated sites	9

Nal and Anjira

Sites yielding only Nal and Anjira	1
Sites yielding predominantly Nal and Anjira in association with "Unnamed" and Togau	2
Sites yielding predominantly Nal and Anjira in association with "Unnamed", Togau and Kulli	2
Sites yielding predominantly Nal and Anjira with Togau and Kulli	1
Total of Nal/Anjira-dominated sites	6

"Unnamed" Ware

Sites yielding predominantly "Unnamed" in association with Nal and Togau	2
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Fig. 11 - Ornach tract. Surface finds.

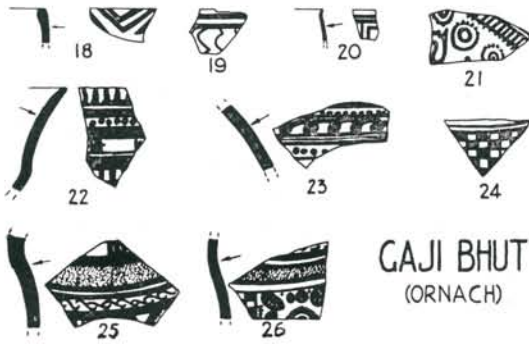
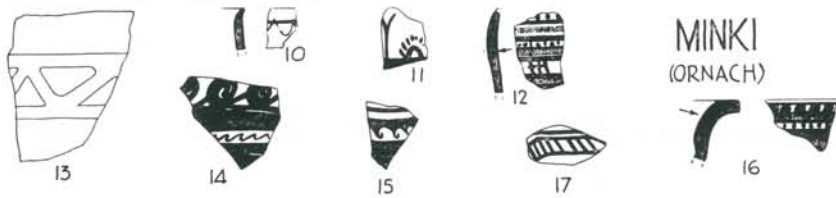
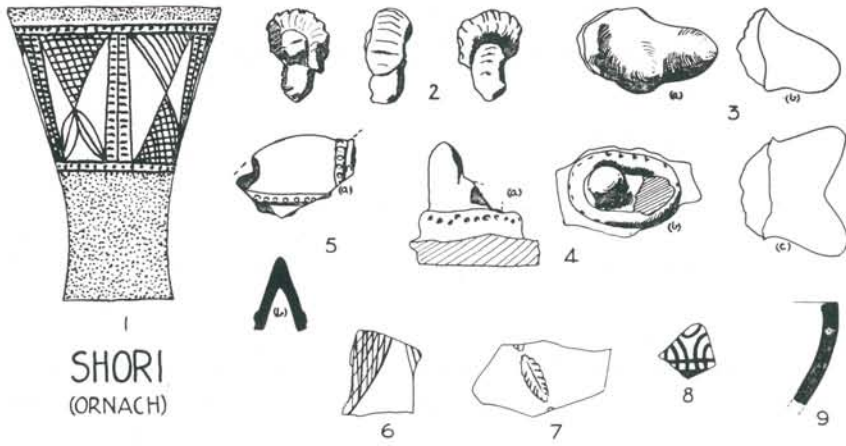


Fig. 12 - Ornach tract. Surface finds.

In addition there is Bandu Damb where the very small amount of decorated material appeared to be equally Kulli and Nal.

- a) The total number of sites yielding Kulli or Kulli/Harapan material is: 13
- b) The total number of sites yielding Nal and Anjira ware is: 12
- c) The total number of sites yielding Togau ware is: 9
- d) The total number of sites yielding "Unnamed" ware is: 9

Whether the results are analysed into totals of occurrences of single wares or into totals of predominance of certain wares, the frequency of occurrence of Kulli ware is greatest followed closely by Nal-Anjira and less closely by "Unnamed" ware. This is not definite evidence but rather an indication that the dating of these wares may be, in order of increasing age, Kulli, Nal and "Unnamed". Togau is in every case seen a minority ware in terms of the proportion of Togau sherds to the whole.

What may be of more than incidental interest is the frequency with which Nal-Anjira, Togau and "Unnamed" wares are found together: 9 cases out of a total of 11 in which at least two of these wares are found in surface association.

This tentative conclusion that Kulli ware is later than the others, even if there were some overlap, follows from the statement made earlier that there tends inevitably to be a higher proportion of later material and from the probability that some at least of the Kulli sites are exclusively Kulli. In this connection the finding of Londo ware on a Kulli site does not invalidate the statement as Londo is a very much later ware: 'exclusively' is used in the context of early prehistoric occupation.

The one exclusively Nal site does not justify awarding a later date as the site is very small indeed and might already have virtually disappeared before the advent of later people.

Consideration of the visible evidence of the methods of construction used are interesting and perhaps illuminating.

In general the methods of construction used by the builders of prehistoric settlements were dictated partly by the availability of materials and partly by whether there was need for defence. Excluding the

three plains sites of Bala Kot, Niain Buthi and Ghulam Moh'd Goth, none of which have stone, apart from river-bed boulders, easily available for construction, all the sites reviewed have both suitable mud and stone within easy reach. Indeed had they not had mud in the form of arable soil near at hand they would probably not have existed at all.

Of the seven preponderantly Kulli sites in the hills, five are built on rocky outcrops and two on boulder alluvium terraces. Five of the sites (not the same five) have enormous quantities of irregular or rounded rubble masonry indicating extensive use of rough masonry in superstructures: on the other two, masonry appears to have been confined more or less to foundations. In most cases there are indications that the foundation courses were of naturally square or artificially squared stone blocks. There appears to be some correlation between Kulli ware and the use of rough rubble masonry in superstructures.

Of the six preponderantly Nal sites in the hills all are built on alluvial terraces of gravel or soil: all except one show very little masonry apart from foundations and retaining walls of square or artificially squared blocks. Even the exception is not comparable, as regards quantities of rough rubble, with the majority of Kulli sites. There appears therefore to be some correlation between Nal ware and the use of mud brick or pisé on neatly squared foundations.

There are not sufficient preponderantly "Unnamed" ware sites for any conclusions to be drawn, except perhaps that the paucity of the remains is consistent with relatively great age!

The overall impression gained from comparative study of the various chalcolithic sites in the hills is that while all the sites were selected to be close to water and arable land, the people who occupied the Kulli sites were more preoccupied with defence than were the Nal people.

The spacing of the sites indicates that their inhabitants were pastoralists as well as cultivators. The distances between neighbouring sites on which the same ware predominates is of the order of 12 km. This is roughly twice the grazing range of cattle. This spacing, whether selected consciously or not, would have obviated grazing disputes between the inhabitants of neighbouring settlements. Examples of this spacing are: Sorak - Singot (Kulli); Kashimi - Dosia Khal (Nal); Kinerneru - Nindo (Kulli); Niain Buthi - Ghulam Moh'd. Goth (Kulli).

For the same reason it is highly improbable that sites less than about 10 kms apart were occupied simultaneously. There may be exceptions to this in the cases of Dosia Khal — Puchur where the latter



Fig. 13 - Las Bela Plain. Surface finds.

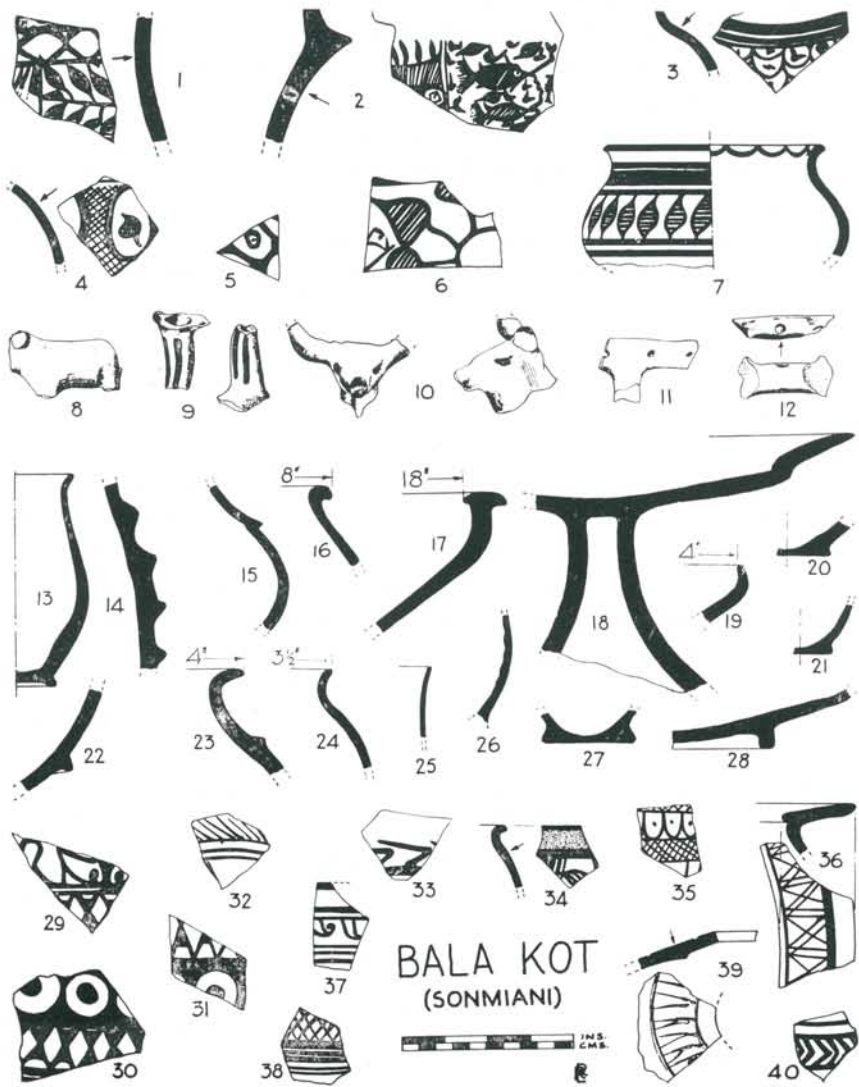


Fig. 14 - Windar Dhora. Surface finds.

may have been a small caravanserai, satellite to the former; and of Aidu — Drakalo where the latter may have been a defensive outpost of the former. It is not at all likely that the following pairs of sites were occupied simultaneously: Kashimi (Nal) and Sorak (Kulli), three kms apart; Singot (Kulli) and Dosia Khal (Nal), five kms apart; Makri Mas ("Unnamed") and Sumer (Nal), five kms apart; Sumer (Nal) and Aidu (Kulli), five kms apart; Channal Kundu ("Unnamed") and Phusi (Nal), three kms apart; Phusi (Nal) and Kinneru (Kulli), five kms apart, etc.

The foregoing information supplements, and may to some extent support, the conclusions drawn on environmental grounds.

SUPPLEMENTARY NOTE ON NAL WARE

Of the wares described in these notes all, with the exception of the "Unnamed" ware and Nal ware, seem to show a progressive degeneration both as regards the type of decoration used and the quality of the execution. It is quite easy to think of "Unnamed", Togau and Kulli continuing in a gradually degenerating form even for many centuries. The same cannot be said of Nal. It is difficult in face of the known history of degeneration of other wares, generally in the form of stylisation carried to the point of meaninglessness and accompanied by increasingly careless workmanship, to believe that Nal ware reversed the process by gradually evolving from something less excellent. It seems more likely that there was a sudden artistic flowering. Perhaps its flowering was helped by the enlightened patronage of a tribal Sardar of those days. In any case it does not seem at all likely that the style could have endured for a long time, unless it had some hitherto unsuspected religious or ritualistic significance that would have helped to preserve it. One gets too used to thinking of several hundred years as representing quite a short period archaeologically: even if the Nal style persisted for only 150 years it would have lasted for as long as the period that separates us from the battle of Waterloo - six or seven generations. Even having regard to the conservatism of primitive people and their slower tempo of life, pottery was just as easily broken then as now and would have required constant replacement. It is difficult to imagine several generations of potter-artists continuing to produce wares of such unvaryingly high quality. It seems to me that the fine Nal pottery was

probably only produced for a very short period. We shall probably never know whether this ware was produced at one central pottery or studio or whether it was made in a number of places by pupils of the original master potter: the uniformity of quality and pattern favours the former.

TENTATIVE CONCLUSIONS

The above arguments apply only to a part of the wares discovered and described, for there are undoubtedly other so far unidentified elements present. If however one accepts a certain degree of environmental determinism as inevitable with people lacking sophisticated techniques, it is tempting to suggest a possible sequence on environmental grounds.

Omitting wares with obvious Iranian origins and affinities it seems reasonable to see the makers of the "Unnamed" ware as those who originally overcame the technical difficulties of life in Jhalawan, later spreading to and mixing with the people of Sarawan, Zhob, the plains (Amri) and Mekran. Diffusion to the last two could have been through transhumance. On this argument they could have developed from more primitive origins in Jhalawan itself and would have met and mixed with K.G.M. and Togau in that order. Out of this original "Unnamed" ware, Nal ware could have developed as a local flowering of ceramic genius.

Simultaneously immigrants from the foothills and plains bordering the Zagros would have been settling in Mekran and later, probably much later, towards the end of Nal times, they spread into parts of Jhalawan. By the time of Harappan penetration into Baluchistan, the Nal culture had disappeared and been replaced by Kulli in the south and various Sarawan cultures in the north.

This tentative reconstruction would make the "Unnamed" ware an indigenous product developing to a fair degree of evolution in Jhalawan from unknown but local ancestors. The possible existence of such ancestors is indicated by the sites known as Karez, Bandu and Hurro Dams. It is quite impossible without excavation even to guess that the rough hand-made pottery was associated with the abundant microlithic flints but these represent a genuine microlithic industry, including lunates, which is not paralleled anywhere on the chalcolithic sites. These flints are concentrated in great numbers on well-defined mounds of which two bear clear traces of stone hut foundations: in the

case of Bandu Damb, the complete floor plan of several small buildings is clearly visible. The mounds indicate settled existence almost certainly based, because of Jhalawan conditions, on a herding plus hunting economy. Stein refers to similar sites: they are all in Jhalawan. It would be extremely rash to infer that these sites are evidence of the kind of nuclear development that Braidwood infers for Jarmo for instance: indeed, I believe it would be quite wrong because the environment is not that of the wild cultigens. If climate change is postulated to justify the assumption of appropriate environmental conditions when these mounds were occupied, then a similar climate change must be postulated for Jarmo (for secular climate change is world-wide not local) and one is left trying to explain why the wild barley found in the earliest Jarmo levels still grows in the same area. I think rather that they represent a different and probably much later evolution from unsettled mesolithic to an early herding plus hunting neolithic and that they may have further evolved into the first sophisticated Jhalawan farmers. Possibly against this idea of direct evolution is the fact that Channal Kund Damb is far too close to Hurro Damb for them to have been occupied simultaneously and one wonders why evolution did not proceed at the earlier site. Channal Kund is one of the sites where the "Unnamed" ware preponderates. Of course it is possible that this ware and the people who produced it were immigrants but the evidence of Surab, Mundigak and Amri suggest a centrifugal spread.

Some mention should be made of transhumance as a possibly qualifying factor in these tentative conclusions. The only areas where transhumance must have been an essential element of existence would have been Sarawan and Mekran. The fact that transhumance is practised today from Jhalawan is mainly due to the extreme poverty of the area, brought about by the inevitable infiltration of "civilisation" and high prices. From Sarawan transhumance would have been (and still is) an escape from extreme cold and a search for midwinter forage on the plains. From Mekran it would have been an escape from extreme heat and a search for summer forage in Jhalawan and Sarawan. In fact, there is not much transhumance today from Mekran.

Its social and technological effect would have been a slow exchange of ideas and techniques and politically it would have indicated possible areas into which to expand.

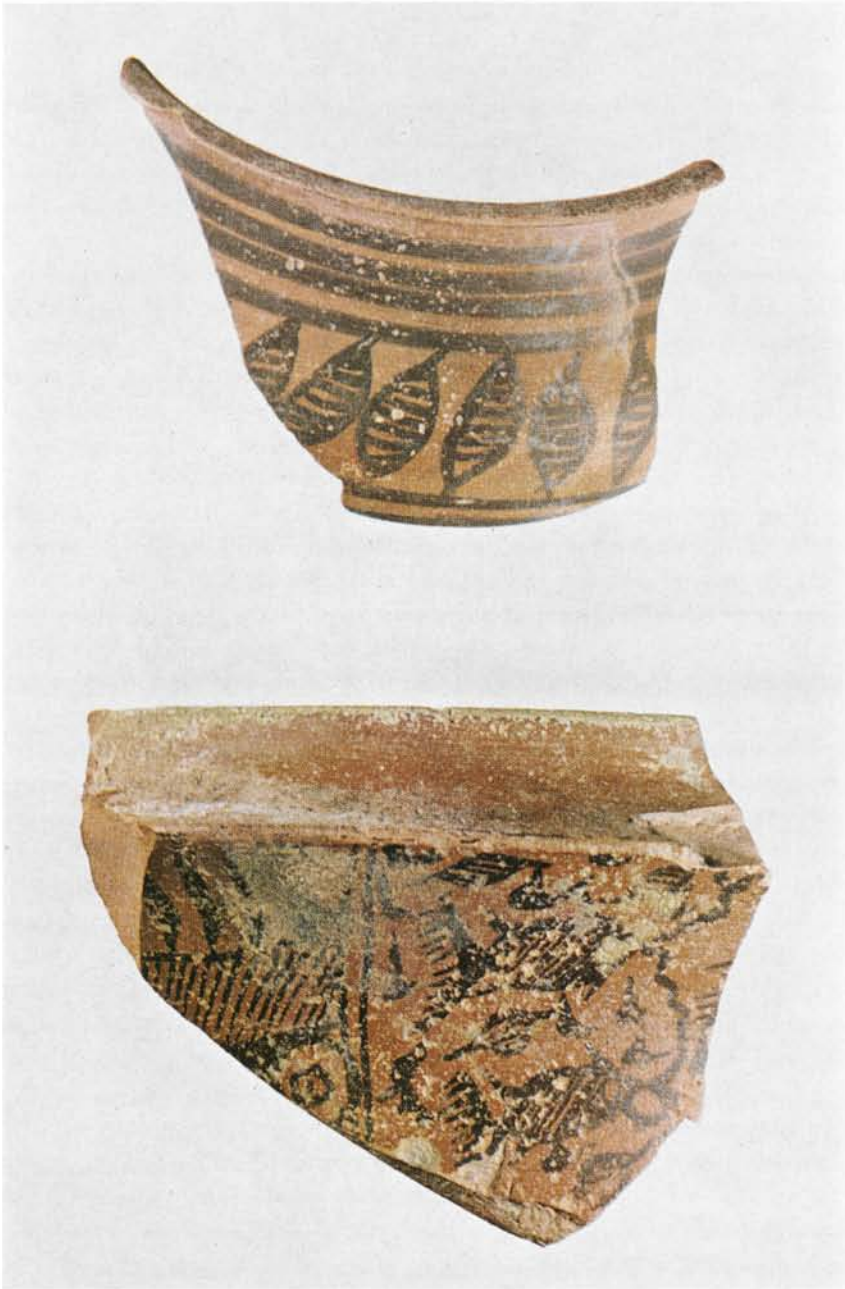


Fig. 15 - Typical Harappan sherds.

Since the foregoing was written I have been able to study, in the recently published second volume of *Pakistan Archaeology*, Beatrice de Cardi's "Excavations and Reconnaissance in Kalat, Pakistan" previously only seen by me in the form of preliminary notes. I do not think that there is any conflict of substance between Miss de Cardi's conclusions, based on carefully stratified excavations, and mine based on environmental factors. There is one matter, however, of nomenclature which makes this postscript necessary. I have used the expression "unnamed" ware from motives made up partly of agnostic diffidence and partly of a hunch that there existed an indigenous Jhalawan ware that antedated Nal and Kulli and possibly also Togau (at least Togau B) in *Jhalawan*. This "unnamed" ware exhibits many variations within what can only be described as a family likeness. In Miss de Cardi's report it does not appear to occur in Siah I or the contemporaneous Anjira II. It seems however to begin to appear as "early bichrome ware" in Siah II phase 1 in company with Togau B and certain fragments resembling Zari-ware of the same period have been given by me the same anonymous classification. Zari ware is so unlike Kile Gul Mohamed and Togau B and C, while resembling the "unnamed" ware both in design and forms, that it seems pertinent to wonder whether Zari is simply a local variant of an indigenous Jhalawan unnamed ware. In the succeeding period, Siah II phase 2, Miss de Cardi notes Amri-like wares which I regard as closely related to the "unnamed" ware, and her illustrations indicate very close similarities with the latter, found (as my material was) on the surface, with Togau C and D. Siah II phase 3 repeats the same story but with the first appearance of Nal designs and forms.

Siah III shows both Nal and Quetta with possibly Kulli.

Since Miss de Cardi deduces on sound archaeological arguments that Kile Gul Mohamed and Togau had north-Iranian affinities and can only, for geographical reasons, have reached Surab from farther north, it seems probable that the Surab area, containing Siah and Anjira, was a meeting ground for northern and Jhalawan cultures. Surab climatologically is in the northern Baluchistan province typified by Quetta which imposed, as we have seen, certain inevitable human responses as regards the agricultural and pastoral economy followed by its inhabitants. It is however at the northern limit of the comparatively short transition zone that ends at Khuzdar. The latter belongs environmentally to Jhalawan

where the climate imposed its different agricultural response. As the impetus towards transhumance from Jhalawan, never very strong, must always have been rather south and east than north, and as inhabitants of Sarawan on the contrary must have felt a southward impulse during the very cold winter, it seems probable that transhumance into Jhalawan by K.G.M. and Togau people would have come first. Later there would inevitably have been cultural exchange. The people who produced the "unnamed" ware were possibly therefore already well established in their special environment during or before Siah I and, because of their quite different transhumance needs, they may well have established transhumance terminals on the plains by that time. Those more familiar than I am with K.G.M. may be able to identify this ceramic from my illustrations as evidence of early transhumance into Jhalawan by its makers.

Nothing in this or in my earlier text (except the timid use of the word "unnamed") conflicts with Miss de Cardi's findings. Rather her work may perhaps lend weight to the fascinating possibility that a series of ceramics from monochrome to early bichrome to Zari and Nal evolved, first in isolation and later with increasing outside influence, from Jhalawan indigenous beginnings.

It is suggested that the opinion of Dales²⁴ should be critically examined in the light of Miss de Cardi's discoveries and of the environmental factors described in this paper.

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²⁴ G. F. Dales, in *Relative Chronologies in Old World Archaeology*, University of Chicago Press, 1965.

APPENDIX I

DESCRIPTION OF SITES AND TENTATIVE IDENTIFICATION OF WARES FOUND ON THE SURFACE

It is convenient to consider the sites under four groups:

- A. - The intermontane plains of Wadh (Fig. 1) and Waher.
- B. - The intermontane plain of Drakalo (fig. 1).
- C. - The intermontane plain of Ornach (fig. 3).
- D. - The Bela plain and flood plain of the Windar Dhora.

A. - WADH AND WAHER

1. *Kashimi Damb* (fig. 7).

This site was visited by Stein and described by him on p. 176 of *Gedrosia*. It is situated on the right bank of the Mehandar Nai just below its junction with the Tuk Nala. There are traces of massive stone wall foundations at various levels, the lowest being just above, and along the present edge of, the Mehandar Nai. The material illustrated includes Nal, Nos. 1 and 3-7; dark- or black-slipped Anjira, Nos. 2 and 9-12; Togau, Nos. 13 and 14; No. 8 is Hargreaves' type 8 (*Excavations in Baluchistan*, Pl. XVI). On an earlier visit a fragment of perforated pot was collected which might indicate Kulli but equally might be recent. The site is still occupied by two huts and the upper part has a lot of glazed Islamic ware.

2. *Guni Damb* (fig. 7).

A small site on a rock ridge overlooking the village of Mehandar with ruins of stone walls. Very little pottery was found but the large sherd illustrated as No. 31 appears to be in the Londo tradition, probably late. Of the coarse gritty hand-made ware found at other sites where Londo ware is reported and at Kanar etc. (q. v.) a few sherds were found. No. 32 appears to be part of a terra cotta horse figurine. Some plain red-brown burnished ware was found similar to that described under Sorak Damb.

3. *Sorak Damb* (fig. 6).

This was explored by Stein and briefly described by him on p. 176 of *Gedrosia*. He referred only to "late prehistoric pottery", which was often his description of Londo ware. The site consists of stone ruins

on the crest and the south-west of a rock ridge overlooking the Tuk Nala. The highest occupation level is about 15 metres above the present valley level, and the area covered by the ruins about 80 metres by 50 metres. Of the material illustrated Nos. 1-5, 7, 9, 11 are Kulli and most are Kulli-Harappan; No. 15 is Nal; No. 12 is Togau; Nos. 6, 10, 13 appear to be "Unnamed" ware; Nos. 16 and 17 are Londo ware. In addition to the material illustrated there were fragments of "offering stands" and of perforated pots: there was also some plain fine red-brown burnished material similar in general appearance to the Scytho-Parthian pottery found at Bambhor.

No. 3, depicting what may be a camel, is worthy of note. The object between the camel's legs appears on a sherd from Shahi Tump (*Gedrosia*, Pl. XXVII, Shah. 13). Nos. 2 and 4, showing a typical Kulli bull, pipal leaves, sigma signs etc. might almost have been the model for the sherd illustrated in *Prehistoric India*.

4. *Bandu Damb* (fig. 7).

This was visited by Stein and described by him on p. 176 of *Gedrosia* under the name of the "ridge of Abdul But". My impression is that the greater part of the ridge is artificial as erosion gullies show typical mud-brick disintegration material. Of the material illustrated No. 19 is Kulli and Nos. 15 (fish design) and 16 are Nal ware. The somewhat similar fish design illustrated by Stein in *Gedrosia*, Pl. XXIX, Mehi iii, 3.4 was black on red and may have been Kulli. No. 15 was of typical Nal fineness. These were found on the lower slopes and at the foot of the mound. The remaining material was nearly all found high up on the mound. It included more than three hundred flint blades and gouges, including a number of very small, very fine, unbacked blades, and a number of cores and lunates. It also included a quantity of rough hand-made pottery which was particularly plentiful on the lee side of the stone hut foundations in association with many flints.

The exposed stone hut foundations are all at the top of the mound and particularly at the north-west end. In one case a two-roomed cottage is indicated, 4 metres by 7 metres, with wall foundation 50 cm thick of neatly laid, roughly squared blocks. About 75 metres away is a natural rock outcrop that appears to have been the quarry.

5. *Jogenai Damb* (not illustrated).

This was visited by Stein and a sherd was referred to by him on p. 176 of *Gedrosia* as Jog. 1 but illustrated as Jag. 1 on his Pl. XXXIII. Some Islamic sherds were collected by me with other unidentifiable material. The sherd illustrated by Stein appears to be Londo-type.

6. *Mehandar* (not illustrated).

This was visited by Stein who called it Panju Damb on p. 176 of *Gedrosia*. In order to avoid confusion with Bandu Damb I have preferred to use the name Mehandar. Stein did not mention the plentiful glazed sherds that are scattered all over the considerable area of the site.

7. *Wadh Thana* (not illustrated).

Visited by Stein and referred to by him, in *Gedrosia*, among "other remains of Wadh". It lies about half a mile. E.N.E. of the rest house. Most of the decorated sherds were of glazed ware. A fragment of perforated pot might be Kulli but could equally be recent. One or two sherds show some similarity to Kulli and Nal material but cannot be ascribed with certainty.

8. *Kasera Damb* (not illustrated).

This is about 10 km west of Wadh village and appears to consist of the ruins of a mosque and *gabaristan* (grave-yard). It is mentioned only to save future visitors to the area an unnecessary journey as it is described locally as a damb.

9. *Khatti Damb* (fig. 6).

This lies about 1.5 km south of the preceding site. Traces remain of a stone wall 1.5 metres thick enclosing a space of about 40 metres square. No. 24 is very similar to sherds found among predominantly Londo-type material at Shori Damb (q. v.). All the remaining material appears to be comparatively recent: it includes thin brittle porous pottery with black and buff bands on red, and material similar to Scytho-Parthian pottery from Bambhor.

10. *Puchur Damb* (fig. 8).

Credit for discovery of this site and for most of the material collected must go to Mehboub Ali, a stream-gauge reader at a gauge established by me in complete ignorance of having selected an ancient site. The site is on a gravel terrace above the infant Porali, about five km south of Wadh village and overlooked by Baddi mountain. The foundations are clearly visible of a square layout having what appear to be rooms around a courtyard, the whole area being of the order of 30 metres square. The stone foundations are only one course thick. It may have been a caravanserai used in connection with Dosia Khal Damb. It lies on a modern pack-animal migration route to the south down the Porali river to the Las Bela Plain. Of the material illustrated, Nos. 2 and 3 are Nal; No. 13 is Kulli ware; Nos. 4 and 6-9 are "Unnamed" ware; No. 12 is Togau, and No. 14 Londo ware. No. 10 is probably recent. Nos. 1 and 5 are black-slipped ware, pro-

bably Anjira. Some glazed sherds were collected and some black and buff on red similar to those from Khatti.

11. *Dosia Khal Damb* (not illustrated).

This site was not discovered until all the plates for this article had been prepared. I was directed to it by the stream-gauge reader referred to above during a routine inspection visit on which I was accompanied by M. and Mme. Casal and their team (fresh from completion of their excavations at Amri). Preliminary indications are that this is an exceptionally large and important site, the area — at least 300 metres by 300 metres — covered by stone foundations and artifacts being very much greater than that of any other hill site that I have seen. There are abundant traces of stone foundations, mostly executed in roughly squared and neatly laid stone. One foundation, about two metres thick, surrounds a considerable circular area with indications of a door or gateway at one side: some of the stone used in this foundation appears to have been quarried from a nearby outcrop. A feature of the foundations seen is the use of whitish limestone and a black sandstone (black from “desert varnish”) together, perhaps to achieve a decorative effect. Surface finds of decorated pottery included a preponderance of Nal ware with some “Unnamed” and Togau and a little Kulli. A few animal figurines and worked flints were also found. This site is about two km from Puchur with which it was perhaps associated: it is close to the right bank of the Porali river whereas Puchur is on the left bank.

12. *Singot Dumb* (not illustrated).

This may be one of the sites visited by Stein but credit for its re-discovery must go to Sardar Ata Ullah Khan Mengal. The stone ruins are on a rocky outcrop and its surrounding slopes, and at the foot of the slope the Sardar has also discovered and cleared an ancient well, lined with carefully cut curved masonry, that still reaches water at two metres depth. Finds include several fragments of offering stands, clay bangles, perforated pots. The decorated pottery is mainly Kulli. Several fragments are of the type illustrated as No. 16 of fig. 13, and one sherd has the hammer-head rim shape shown as No. 17 of fig. 14. One sherd is possibly Togau.

13. *Anjiri Damb* (not illustrated).

This is another of Mehboub Ali's discoveries. It lies on the left bank of the Porali, about three km upstream of Dosia Khal, on an isolated rocky outcrop perhaps 25 metres high. There are indications of a ramp leading spirally to the summit where a few ruins of rough stone boulders survive. The only identifiable decorated pottery is local Londo of a probably late type.

14. *Sain Dinn Damb* (not illustrated).

This is not a dam in the accepted sense of the word. There is a stone ruin but no pottery. The site is indicated on the map of Wadh area.

15. *Chasma Murad Khan Damb - Waher* (fig. 5).

This was visited by Stein and described on p. 174 of *Gedrosia* but not named. He referred to it as being near the spring (chasma) of Wahir (sic).

Stone-built ruins cover the top and the slopes of a mound that appears to be entirely artificial. The site appears, from surface indications, to be predominantly Nal. Of the material illustrated Nos. 1 - 10 and 12 are Nal; Nos. 19, 20 are black-slipped Anjira ware; Nos. 13 - 18 appear to be "Unnamed" ware; Nos. 22 - 30 are Togau. No. 21 is not identified as the fish is quite unlike any that I have seen illustrated. No. 33 resembles some coarse wares found with Nal; Nos. 31, 32, 35 - 37 and 41 are not identified but appear to have northern affiliations. No. 34 is Harappan influenced.

B. - DRAKALO

1. *Makri Mas* (fig. 8).

This site has not been previously recorded. About four hundred metres south-west of the village of the same name there is a very small mound, not more than about 80 metres by 50 metres and having a maximum height of only about 2 metres. Part of the mound is natural rock and gravel ridge. There are no visible indications of foundations. Considering the small area and the apparently shallow depth of deposits the quantity and variety of sherds are remarkable. Finds included Togau, Kulli, Londo and "Unnamed" with a preponderance of Nal polychrome and a few flint blades. There were some sherds of a fairly heavy black-slipped grey pottery having a very uniform well-levigated grey body. Of the sherds illustrated, Nos. 15 - 18 are certainly Nal. Nos. 19 - 29 and 39 are "Unnamed" ware (No. 29 is shown inadvertently upside down); Nos. 30 - 37 are Togau.

2. *Sumer Damb* (figs. 9, 10).

This was discovered quite accidentally when I stopped to take advantage of the shade in a gully by the roadside to eat my sandwiches. The bed of the gully, over a very small length of it and of a tributary gully, had many potsherds, all those clean enough to identify being Nal ware. Investigation showed that about two hundred metres upstream there were foundations about 1.5 to 2 m thick of a wall en-

closing an area about 40 metres square. Only a very few sherds were found near this ruined structure but, where the potsherds were seen in the gully below, there is a thin bed of gravel and sherds which is now nearly 60 cm below the surface. The buried sherds appear to have resulted from a flash flood that transported the material from the ruined structure upstream: later floods have covered the resulting layer of occupation debris. There are also indications of stone foundations beside the gully with Nal ware sherds on the surface. Of the material illustrated Nos. 1, 2, 11 and 12 are dark-slipped Anjira ware; Nos. 4 and 7-10 are Nal; while Nos. 3, 5 and 6 are probably Nal.

3. *Aidu Damb* (fig. 9).

This was visited by Stein and described by him in *Gedrosia* on p. 177. He did not identify Nal or Kulli ware while Togau had not then been identified.

Stone ruins cover most of the slopes of a high isolated outcrop. Failing light and a still far distant destination made it impossible to take even rough measurements of the size. The height appears to be of the order of 25 metres. A recent stone sangar has been built on the top using materials from the ruins. From the top of the dam fairly extensive building foundations are visible at the edges of the surrounding cultivations.

Surface material found was predominantly Kulli including No. 20 which shows a frieze of caprids typical of the non-Harappan type of Kulli. Of the sherds illustrated Nos. 14-22, 24, 25 are Kulli; No. 23 is "Unnamed" ware; No. 28 is Nal and No. 27 is Togau.

4. *Belar Damb* (fig. 9).

This was visited by Stein who referred to it briefly as Belar B on p. 177 of *Gedrosia*. Practically all the material from this site is local Londo ware but the illustrations show probably "Unnamed" ware (Nos. 29-31) and possibly Kulli (No. 32). Some fragments of perforated pot were collected. One sherd showed Togau motif in degenerate form, while one flint blade indicated possibly early occupation.

The site, about 150 metres square, is surmounted by a stone-built citadel about 8 metres above the surrounding land and has extensive house foundations exposed.

5. *Drakalo Damb* (not illustrated).

This is referred to by Stein in *Gedrosia*, with a mention of finding late prehistoric pottery. The site lies on a steep narrow ridge above the modern village of Drakalo. Traces of ruins cover only a very small area and it seems likely that this was a small fort or defence post - possibly an outlying defensive position of Aidu Damb. At the foot of the ridge on the west side are the remains of a small *gabarbant* with

the soil created by it still intact. Surface finds were not numerous and were mainly Kulli: one sherd seemed to depict the tail and hindquarters of a feline.

6. *Drakalo Generally.*

Stein refers to two other sites in the area - Belar A and Haji Mohamed Damb in the Belar side valley. I have not explored either of them.

C. - ORNACH

1. *Nindo Damb* (not illustrated).

This was visited in 1957 by Miss de Cardi who refers to it in "New Wares and Fresh Problems from Baluchistan". Locally it is known as Nindowari Damb, and is now being excavated by M. Casal. Apart from one sherd of Nal ware, most of the decorated sherds and fragments of figurines that I found were Kulli-Harappan. The ruins show that construction was mainly of stone using rounded boulders from the bed of the Kud river or from the sub-recent boulder alluvium terrace on which Nindo is situated. A little downstream, on the same side of the river are remains of abandoned agricultural terraces. The site and its associated cultivations (if such they are) is at the extreme end of the Ornach plain where the Kud enters a narrow gorge-like valley on its way to the Bela plain.

I have explored the whole of the narrow valley of the Kud without finding any distinctive pottery that would indicate settlements of the same date as Nindo. The reasons for the latter's situation are obscure. Perhaps it was on a prehistoric cross-roads formed by the tracks from Ornach to Jhao and from Drakalo down the Kud. An interesting point about this site is that evidently the Kud river (known here as the Ornach river) has been down-cutting since the time when Nindo was occupied.

2. *Kulli Damb* (not illustrated).

This was visited by Miss de Cardi in 1957. All the decorated wares that I found on the surface were of Londo ware. This site also is on the sub-recent terrace high above the river bed but it is immediately adjacent, as is the next site described, to a lower terrace of alluvial soil in the river bed that must have been formed after the down-cutting of the river.

3. *Gaji Bhut* (fig. 12).

A small site on a narrow rock ridge parallel with the Ornach river about five km north of Nindo. It is at the edge of the down-cut chan-

nel of the river which, at this point, is noticeably less deep than at Nindo. There are remains of stone walls on both slopes and along the crest, the area covered being about 80 metres square. An interesting feature is that the sandstone and conglomerate rocks of which the ridge is composed have a passageway cut through that leads from the larger area at the east side of the ridge to the side overlooking the river. Foundations of walls are found down to a level that is about 6 metres above the present river bed level.

Of the material illustrated Nos. 18-20 are Nal ware; Nos. 22 and 23 are Londo ware. There were also some glazed sherds and some, with burnished red-brown slip, resembling Scytho-Parthian material from Bambhor. The remaining decorated material illustrated appears to be comparatively recent.

4. *Shori Damb* (fig. 12).

This was first reported by me in 1956 and subsequently visited by Miss de Cardi the following year. Surface finds comprise a very large quantity of Londo ware in addition to plain grey ware and the ware that resembles Scytho-Parthian. Most of the items illustrated are not readily identifiable. No. 1 is a reconstruction of a vase that shows an unusual asymmetry of design. No. 2 appears to represent a head with either a helmet or an unusual coiffure. Nos. 3 and 4 appear to be cult objects of some kind while No. 5, of plain fine grey pottery, is the neck of a horse. Of the pottery illustrated No. 7 is probably Buddhist - it is of smooth cream-coloured ware bearing the impressed leaf form shown. No. 8 appears to owe something to Nal but the material is coarse and the general effect quite un-Nal-like.

5. *Karez Damb* (fig. 12).

This again was first visited by me in 1956 and by Miss de Cardi in 1957.

It is a fairly small, compact mound situated on the sub-recent terrace well above the adjacent nala. There are many indications of wall and house foundations and, like Bandu Damb, described earlier, there are very large numbers of flint blades, gouges, cores and some lunates and miniature blades or flakes. The pottery found on the damb and in the cultivations, fed by karez water, at the foot of it on the side away from the nala, is mostly plain, rather crude and hand-made. The site is very near Kinneru Damb described next, and it is inconceivable that the two were occupied simultaneously. The evidence of down-cutting of the nala channel indicates an early date and the abundant worked flints indicate an earlier date than for Kinneru which is marked by Harappan material - probably Kulli-Harappan. The bull figurine fragment illustrated as No. 28 may have been dropped by children from nearby Kinneru. Even more intriguing, granted an earlier date for Karez Damb, is a single fragment of typical Harappan shell-bangle.

This too may have come from Kinneru: perhaps it was dropped by a pre-historic Lady Archaeologist.

6. *Kinneru Damb* (not illustrated).

This site also was first visited by me in 1956 and by Miss de Cardi in 1957. I have not collected from this site during my subsequent visits and do not have access to my earlier material, which was at the time identified as Harappan. I believe Miss de Cardi has confirmed this site as either Harappan or Kulli-Harappan and a small collection of surface material since made by my wife does nothing to contradict this view.

7. *Koreji Damb* (not illustrated).

This small site is a new discovery. There are remains of a stone wall about 1.5 m thick enclosing an area about 40 metres square. In this respect it resembles Khatti damb, Sumer and Puchur. The two last however had the walls constructed of roughly squared blocks, whereas here the walls were of rough or rounded boulders.

The only decorated material found was one very small sherd that may have been Londo. Not much pottery of any kind was found and what there was consisted of either the very coarse gritty hand-made ware represented at Shori, Gaji Bhut, Kanar etc. (q.v.) or material resembling Scytho-Parthian.

8. *Minki Damb* (fig. 12).

This, which is a new discovery, is a small irregularly shaped mound having ruins of stone walls. It is situated by a small dry nala in an area (where occur also Koreji, Channal Kund, Hurro and Phusi) where air photos show traces of extensive former cultivations. The decorated material is mostly Londo. In addition there is much of the coarse gritty plain ware. No. 10 resembles material found at Shori and No. 11 that found at Khatti damb. No. 17 is not identified.

9. *Channal Kund Damb* (fig. 11).

This mound, which had not been previously visited, is noticeable for the dark-coloured boulders used in the construction of its now ruined walls. The stone contrasts sharply with the buff colour of the local rock: it must have been brought from the bed of the Hurro Nala not far away, where boulders of volcanic origin are mixed with those of sandstone etc.

It is difficult to estimate the full extent of this damb which, apart from the dark stones, is indistinguishable from the low ridge of rock and gravels of which it forms the end.

Of the sherds illustrated No. 11 is black-slipped Anjira ware. Nos. 12, 13, 17 are. Togau and No. 15 could be Kulli (see *Gedrosia*, Pl. XXII

Kul, v, vii). No. 16 is not identified. The remaining sherds are of "Unnamed" ware strongly resembling Amri ware as to design but closer to Nal in form and material. For example Nos. 1 to 5 and 9 show the Nal form illustrated by Hargreaves (*Excavations in Baluchistan*, Pl. XVI, 3) but do not have Nal patterns.

10. *Hurro Damb* (not illustrated).

No decorated ware was found apart from one or two sherds of cordoned ware. Most of the sherds found were of rough hand-made pottery. There was an abundance of worked microlith flints similar to those at Karez and Bandu.

11. *Phusi Damb* (fig. 11).

This is a very large mound first visited by Miss de Cardi's party in 1957. The overall dimensions paced on the ground were 180 metres x 150 metres; but it is difficult on the ground to determine the limits of the damb.

The mound is crowned by a stone-built "citadel" in ruins at a height of 15 metres. On the south-west side there appears to have been a large terrace at a height of 10 metres. On the east the damb descends by a series of terraces with remains of house foundations.

The sherds illustrated include No. 23, possibly Kulli-Harappan; Nos. 22, 26 and 27, Nal geometric or polychrome; Nos. 21, 28, 35 and 40 black-slipped Anjira ware; Nos. 29-31 and 34, Togau; and Nos. 25 and 33, possibly Togau.

Other material included some Londo-type ware, some resembling Scytho-Parthian and a piece of perforated pot.

12. *Hurro Gabarband, Turkabar Gabarband* (not illustrated).

The first-named is a massive stone-built terrace and the second a masonry and earth-fill dam. They are described fully in my article on gabarbands²⁵. A small amount of plain and entirely indeterminate potsherds was found on the downstream side of Hurro gabarband.

13. *Ornach Generally*.

In addition to the sites noted above, Miss de Cardi refers also to a site named Kunar Kull and one that she had named temporarily after me, neither of which I have been able to identify.

Near Nindo and on the other side of the river and at a lower level than the sub-recent terraces, is a large area thinly covered with indeterminate potsherds. Both their general appearance and their location

²⁵ *Op. cit.* See footnote (8).

indicate a relatively recent date. Standing back from the river 800 metres off the right bank and about 800 metres north of Gaji Bhut there is a gravel ridge on which are scattered many plain potsherds.

D. - BELA PLAIN

1. *Jeman Goth* (not illustrated).

This was first visited by Fairservis in 1959-60, and I believe identified by him as a Harappan site. The extensive collection of surface sherds by him has not left much identifiable material, but what I have seen resembles material from Niain Buthi believed to have been identified by McCown as Kulli. It also resembles Kulli material of the Kulli-Harappan type from sites in the hills.

There are, immediately west of this site and probably built over part of it, a number of the stone burial (?) mounds described under Kanar etc. It is worth noting that the rubble filling of the mounds at Jeman Goth consists of potsherds and rubbish from the main site: this indicates a later date for the mounds. A typical burial mound is illustrated in Fig. 4.

2. *Kanar, Giyan Goth, unnamed sites along River Kud etc.* (see sketch map and detail of burial mound).

At Kanar there are about forty of these stone-built mounds of which rather less than half are at Kanar village and the remainder about 1.5 km north. All the mounds are long, varying from about 8 metres to 24 metres; all are about the same width of 6.5 metres; all are aligned due north and south. The method of construction is in every case the same (see sketch). Except as burial mounds they do not seem to have any *raison d'être*.

Only the northern group of mounds has been explored. Throughout the area occupied by them, on the gravelly surface of the sub-recent terrace on which they are built, there are sherds of the same thick gritty pinkish pottery that is found in abundance at Londo culture sites such as Shori Damb. None of this pottery appeared to have been wheel-turned.

At Giyan Goth there are about thirty of these mounds; at Kadr-Bad (Sinchi Bent) about fifteen; at Windri on the Porali a few; at sites along the Kud south of Mai Gundrani a total of about forty including one that has only the walls built and no filling, while the rest have not only been filled but also covered with gravel. Adjacent to these last were plain potsherds and a number of apparently worked rough flints.

3. *Langro Damb* (not illustrated).

These are stone-built ruins covering an area of about 100 metres by 50 metres on a low gravel terrace above existing cultivations in the bed of the Porali. No identifiable decorated pottery was seen apart from one piece having possibly Londo affiliations.

4. *Niain Buthi* (fig. 13).

Visited by Stein on his last journey in Baluchistan. The material has been seen and described by McCown who identified Togau as Niain ware. As the name Togau is in accepted use in Pakistan it is preferred in these notes. Other material collected includes "Unnamed", Nal and Kulli-Harappan. One unusual type of find is a red ware having a deep plum-red slip and black geometric decoration somewhat similar to that of Zhob (Nos. 7-9). Of the material illustrated Nos. 1-6 are Togau, 10-14 are Nal; 15 appears to be "Unnamed" ware; 16-20, 23 and 28 are Kulli. No. 22 is very like fig. 9, 6, from Sumer Damb and therefore probably Nal.

The site is fairly extensive, covering an approximately circular area of about 100 metres diameter or more, and rises to at least 10 metres above the surrounding cultivations. The lowest stone foundations seen are at the level of these cultivations. At one point mud brick construction is visible on a stone foundation.

5. *Ghulam Moh'd Goth* (not illustrated).

There is a small *damb* in this village four or five miles north-west of Bela. I am indebted to Mr. D.B. Morris for a collection of sherds which had necessarily to be small as the village is occupied and there is a mosque on the *damb*. The material appears to be Kulli ware of poor quality similar to some material from Niain Buthi (e.g. fig. 13, No. 17).

6. *Kharkhar Kaur Damb* (fig. 13).

The proper name of this site is not known and it may be one of the so far unidentified sites visited by Stein on his last visit to Las Bela. In this case again I am indebted to Mr. D.B. Morris who found this and the preceding site in the course of geophysical exploration for groundwater. There are two *damb*s which he describes as about 200 metres apart: one is about 8 metres high and about 50 metres in diameter; the other is smaller. They lie in the bed of the Kharkhar Kaur about one mile west of the main Porali channel and a little south of the jeep track leading from Bela to Mai Gundrani. The two *damb*s appear to have been originally parts of one site.

Most of the decorated sherds are of the type and material illustrated although one or two sherds may be late Londo.

The sherds illustrated are of a type that occurs at Shori Damb (and at other sites where Londo ware occurs plentifully) but at those sites is rare compared with Londo. It may represent a new ware. It is thin and wheel-turned, generally has a light red paste, and is decorated in black, red and plum colour on a fawn-coloured slip. The general colour effect is reddish brown and all sherds have an almost burnished smooth finish.

7. *Kaiara Kot* (not illustrated).

This is a medieval site, having quite large quantities of glazed sherds among a majority of plain red wares. It was visited by Stein.

8. *Mai Gundrani* (not illustrated).

These ancient man-made caves are not in any sense a new discovery, having been recorded by the earliest map-makers in the district. The total number of almost identical caves is not known, but appears to be at least 200. They are situated in the vertical sides of a gorge that joins the Kud river just below the shrine of Mai Gundrani. There are three or four rather irregular tiers of them. The original form of them can only be surmised as vertical exfoliation of the conglomerate rocks in which they have been cut has removed the outer portions of all of them. All retain some trace of an outer chamber of width about 4 metres and height just under 2 metres. The depth of this chamber and whether it was open-fronted or had a doorway are not known. In nearly all cases there is a doorway about 45 cm wide and the full height of the cave, leading to an inner chamber.

The latter is generally 4 metres wide, 2 metres high and about 2.5 metres deep. The highest caves are about 10 metres above the steep torrent bed and one can only suppose that originally steps were cut in the rock to give access to them. Having no ladder with which to reach the higher ones I could only examine those within reach of a reasonably active man. The few indeterminate potsherds found in the 20 to 30 cm deep dust and ashes of the floor could therefore have been left there by recent pilgrims to the shrine. I have seen the lower caves in use by pilgrim parties. One of the caves visited had, in the inner chamber, a raised kerb in one corner roughly a quarter circle in plan with an inside radius of about 45 cm. The height and thickness of the kerb were about 15 cm. Above the kerb at a height of about 1 metre there was a small arched niche 40 cm wide, 30 cm high and perhaps 15 cm deep.

The only dating evidence is indirect and somewhat startling. The caves nearest to the Kud river are *tilted* in conformity with the present bedding of the conglomerate. They do not appear to have been cut on a tilt in order to take advantage of softer material as the whole depth of the caves is within a thick homogeneous bed. The inference is that when they were constructed they were level and that conside-

rable earth movement has taken place since that time. A geologist who recently visited the area stated that there was evidence of uplift in this area but that he did not think it had occurred as recently as archaeologically prehistoric times. Neither he nor I had then noticed the tilt of the caves.

I have drawn attention elsewhere to evidence of coastal uplift and of violent earth movements as having been a possible cause of the end of the Harappan civilisation and of the Baluchistan chalcolithic settlements. If this view is accepted it could place these caves in the chalcolithic period or earlier, but not necessarily so, as there is no reason to suppose that tectonic activity has ceased. The caves are not far from sites of extruded "volcanic" mud.

That they were artificially constructed is not in doubt. The conglomerate rock *could* have been cut by chipping away at the calcareous matrix with stone implements but the use of metal tools seems more probable.

9. *Sites in the Porali and Kud Gorges* (not illustrated).

At various points, always on the sub-recent boulder alluvium terraces, there are signs of occupation. Sometimes there is merely a smallish area where plain potsherds are scattered fairly thickly; sometimes there are, as at Windri, ruins of stone walls; sometimes there are cairn burials. I cannot say definitely that there are no identifiable decorated sherds. Even on large sites that yield considerable collections of decorated wares the proportion of these to plain pottery is very small. I have observed all these sites in the gorges in the course of long camel marches with a dead-line to keep and have not been able to afford the luxury of a proper search.

There are in addition many traces of the ancient terraces known as gabarbands.

10. *Bala Kot* (figs. 14, 15).

This site, which was first discovered by me in November 1960, is probably the most important of the new discoveries recorded here. It was immediately identifiable as Harappan. Other cultures are represented but the majority of the decorated sherds and other distinctive artifacts are Harappan with a certain number of sherds that might — on account of the rather paler red slip used and the presence of fragments of design that may have represented bulls — be Kulli-Harappan. Construction appears to have been partly in stone and partly in burnt brick and the height of the mound and its generally high content of silt indicate the probability of mud brick as well. The stone may have been obtained from a previous flood channel of the Windar Dhora: the present flood channel is about three km away. The top of the mound appears to have had a square "citadel" wall

within which and adjacent to which on the outside there is evidence of extensive burning.

A particularly interesting feature of this site is its location about 18 km from the sea near the boundary between non-saline and grossly saline soils. 1.5 km or so to the west of Bala Kot towards the sea the vegetation becomes largely salt bush and may indicate that the sea reached near Bala Kot when the latter was occupied. Bala Kot must take its place in the chain of Harappan coastal settlements that are now known to exist from Sutkajen Dor to east of Karachi and which were presumably ports serving both a coastwise trade and trade routes into the mountainous interior. Dr. Dales of the University of Pennsylvania filled in one of the gaps in this chain when he identified a Harappan settlement at Pasni in October 1960.

Surface finds in addition to sherds included one very beautiful ribbon flake chert blade, many bangle fragments in shell or clay, a few fragments of coloured inlaid bangles, many fragments of perforated pot, clay and shell beads, several much mutilated terra cotta bull figurines and two fragments of what were probably terra cotta toy carts.

Of the material illustrated Nos. 1 - 8 and 10 - 12 are Harappan as are the pot forms shown as Nos. 13 - 15, 17, 18, 23 (see MacKay, *Chanhu-Daro Excavations*, Pls. XXV - XXVII, XXIX, XXXV). No. 7, although the design is Harappan, is a rather unusual Harappan form. Nos. 32, 33 appear to be Togau; Nos. 38 and 40 Amri or "Unnamed". Nos. 29 - 31 are probably Harappan. Nos. 34 - 36 and 39 are not identified. No. 37 is very like material from Pandi Wahi illustrated by Majumdar (*Explorations in Sind*, Pl. XXVIII, 43, 44).

* * *

It must be emphasised that all the material collected, described and illustrated was found on the surface or, at the best, in exposed sections created by gullying and erosion. It must also be emphasised that although the whole area covered — about 17,000 square km — is quite large, it still only represents a small corner of southern Baluchistan.

APPENDIX II

LISTS AND DESCRIPTIONS OF SURFACE FINDS ILLUSTRATED

CHASMA MURAD KHAN (WAHER) - Fig. 5

No.	Description	Material
1, 8, 10	Black on buff slip	pinkish
2	Black on buff slip (fish design)	pinkish
3	Black on buff slip	pinkish grey
4	Black on pinkish buff	pinkish
5	Black on buff slip above ridge, black on red slip below	pinkish
6	Black on buff slip	pinkish
7	Black on cream slip, raised boss in circle	pinkish
9	Black on buff slip	pinkish
11	Dark greenish grey on greenish buff	greenish buff
12	Black on red slip (fish)	pinkish grey
13	Black, grey, and red-brown (stippled) on buff slip	buff
14	Black and red-brown (stippled) on buff slip	buff
15	Black and red-brown (stippled) on buff slip	pink
16	Black and red-brown (stippled) on buff slip	pinkish buff
17	Black and red-brown (stippled) on buff slip	buff
18	Black on greyish buff slip	grey
19	Greyish white on black slip, black slip outside	reddish
20	Blackish brown slip both sides	pinkish
21	Black on buff slip	pinkish
22	Black on dull red slip, bright red slip outside	pinkish grey
23	Black on red slip	reddish
24	Black on dark purple-brown slip	reddish
25	Black on deep red slip	reddish
26	Black on dull red slip	pinkish buff
27	Black on purple-brown slip	reddish
28	Black on dull red slip	buff
29	Black on dull red slip	red
30	Black on dark purple-brown slip	pinkish grey
31	Chocolate brown on smooth pale grey	grey
32	Black on buff slip	buff
33	Black on buff slip	pinkish buff
34	Black on red slip	pinkish grey, $\frac{1}{2}$ "
35	Black on pinkish buff slip	reddish
36	Black on dull red slip	reddish, $\frac{1}{2}$ "
37	Black on brownish-buff slip	reddish
38	Pale red-brown flint core	—

<i>No.</i>	<i>Description</i>	<i>Material</i>
39	Pale red-brown flint blades	—
40	Incised comb-marked	pinkish
41	Black on pinkish buff	pinkish buff
42	Unidentified object	reddish terra cotta

SORAK DAMB (WADH) - Fig. 6

1	Black on pale reddish slip (stylised tree) .	red-brown
2	Black on pale reddish slip (bull's tail and sigmas)	red-brown
3	Black on pale reddish slip (camel?)	red-brown
4	Black on pale reddish slip (bull's head and pipal leaves)	red-brown
5	Black on red-brown slip (fish and snake?) .	red-brown
6, 7, 13	Geometric pattern, black on pale reddish slip	red-brown
8	Black on buff slip	buff
9	Black on red (fish)	red-brown
10	Black on buff slip	pinkish buff
11	Deep black on pale cream slip (bull's hump)	light pinkish
12	Black on red slip	dull red
14	Dark grey and whitish (triangles)	pinkish buff
15	Black on buff slip (Nal ware, canister shape)	pinkish buff
16	Black on cream slip	pinkish
17	Black on buff slip	pinkish grey, gritty
18	Black on red slip	—
19	Heavy cordoned ware - with pinkish buff slip	—
20	Incised	pinkish buff
21	Ram figurine, black paint	terra cotta

KHATTI (WADH) - Fig. 6

22	Black, grey and red (stippled) on buff . . .	buff
23	Black and brown (stippled) on buff . . .	buff
24	Black and red (stippled) on light burnished red	light red
25	Black and red (stippled) on buff	buff
26	Black and red (stippled) on buff	buff
27	Black and red (stippled) on buff	buff

KASHIMI DAMB (WADH) - Fig. 7

<i>No.</i>	<i>Description</i>	<i>Material</i>
1	Black on greenish white, semi-glazed . . .	whitish
2	Deep brown-grey and cream	pinkish grey
3	Nal polychrome - black and blue-green (stippled) on buff slip	—
4	Nal - black on buff slip, embossed	—
5	Cream slip	pinkish buff
6	Black on cream slip	pinkish buff
7	Black on cream slip	pinkish buff
8	. . . . .	bright pale red
9	Dark brown slip	pinkish buff
10	Pale grey on black slip	grey
11	Blackish brown slip	buff
12	Dull brown slip	pinkish buff
13	Black on dull red slip	red
14	Black on dull red slip	red

BANDU DAMB (WADH) - Fig. 7

15	Black on cream slip (fish design)	pinkish
16	Black or dark brown on cream slip	pinkish, gritty
17	Incised	smooth pink
18	. . . . .	plain grey
19	Faint black on pale red	—
20	Black on red slip (inside of flat dish)	thin hard reddish
21	Comb marked	hand-made buff
22	Part of bull figurine	terra cotta
23	Flint gouges	—
24	Flint blades - red-brown, milky grey, varie- gated, etc.	—
25	Flint miniature blades etc.	—
26	Lunates	—
27	Core	—
28	Rough blade of indurated shale	—
29	Polished black-green stone - part of vessel	stone
30	Part of ground banded quartzite, mace head (?)	—

GUNI DAMB (WADH) - Fig. 7

31	Blackish brown on burnished red slip	reddish
32	Animal figurine (right side and front) with black paint	terra cotta
33	Blackish brown on cream slip	reddish

PUCHUR DAMB (WADH) - Fig. 8

<i>No.</i>	<i>Description</i>	<i>Material</i>
1	Grey on black slip inside, black slip outside	pink
2	Black on buff slip	pink
3	Black on white slip	reddish
4	Black, dark green and red-brown (stippled) on buff slip	grey
5	Grey on black slip inside, black slip outside	pink
6	Black on white slip (canister-shaped pot, thick wall)	pink
7	Black on white slip	red
8	Black on pale buff slip	reddish
9	Black on buff slip	pale red
10	Smudged black and red-brown (stippled)	reddish
11	Fabric marked (inside)	red-brown, hand-made
12	Black on light red slip	red
13	Black on red slip	red
14	Black on smooth brown slip outside: black on red slip inside (not shown)	drab

MAKRI MAS (DRAKALO) - Fig. 8

15	Black on white slip	pinkish buff
16	Black on cream slip	buff
17	Black and red (stippled) on cream slip	pinkish buff
18	Black on cream slip	pinkish buff
19	Black on cream slip	reddish
20	Black on cream slip	buff
21	Black on cream slip	buff
22	Black on pinkish buff	pinkish buff
23	Black on cream slip	pinkish buff
24	Black on red slip	greyish
25	Black on cream slip	buff
26	Black on pinkish buff	pinkish buff
27	Black on whitish slip	pinkish buff
28	Black and white on red slip (outside)	red
29	Black and white on buff slip	red
30	Black on red slip	reddish, coarse
31	White outlined with dark on red slip inside, black slip outside	—
32, 33	Black on red slip (inside)	reddish, coarse
34	Black on light red slip	red
35	Black on red slip (inside)	reddish

<i>No.</i>	<i>Description</i>	<i>Material</i>
36	Burnished brown slip (outside)	—
37	Black on dark brown slip	pinkish
38	Cream slipped (outside)	pinkish grey
39	Black and red (stippled) on cream slip (outside)	red
40	Blackish slip (outside)	red
41	Black painted except on base ring	well levigated, hard grey
42	Part of shallow dish, dark brown on grey (inside)	grey
43	Black and red on cream slip	—

SUMER DAMB (DRAKALO) - Fig. 9

1	Grey on black slip	pinkish buff
2	Grey on black slip	pinkish grey
3	Black on white slip	pinkish
4	Black on buff slip	pinkish
5	Black on cream slip	pinkish buff
6	Pale black on cream slip	pinkish buff
7, 8, 9	Black on buff slip	pinkish buff, very fine, hard, 1/16" thick
10	Black on bright pinkish buff	pinkish buff
11	Black slip (inside and out - one-inch margin at outside rim not slipped)	grey buff
12	Brown slip (outside)	buff
13	Bright red slip (inside)	—

AIDU DAMB (DRAKALO) - Fig. 9

14	Black on pale buff slip	pale red, 5/16"
15	Black on reddish, with paler wash as background to wavy design	reddish, 5/16"
16	Black on dull red slip	reddish, 3/8"
17	Black on dark red slip	reddish, 1/2"
18	Black on red	red
19	Black on pale red slip, white slipped inside	pale reddish, 5/16"
20	Black and brown on buff slip (frieze of capitals)	reddish
21	Black and dark brown (stippled) on dull red slip	—
22	Black on red slip	reddish, 5/16"
23	Black or dark brown on deep buff slip	reddish

<i>No.</i>	<i>Description</i>	<i>Material</i>
24, 25	Black on pale terra cotta animal figurines .	terra cotta
26	Black bands on pale red slip. No slip inside except at neck	pale reddish
27	Black on dull white slip	reddish-grey
28	Black on buff slip	pale reddish

BELAR DAMB (DRAKALO) - Fig. 9

29	Black on buff slip	rough, pinkish
30	Black and light red (stippled) on buff slip .	fine, pinkish
31	Black on reddish buff slip	reddish
32	Black on red slip	red, thick
33	Black on brownish buff slip	wheel turned, drab
34	Black on red slip	red, thin

CHANNAL KUND DAMB (ORNACH) - Fig. 11

1	Grey-black on buff slip	pink
2	Black on pinkish-buff slip	pink
3	Black band inside at lip, black all over out- side	pinkish buff
4	Black and red-brown (stippled) on buff slip	pinkish buff
5	Black and red-brown (stippled) on buff slip	pinkish
6	Black and red (stippled) on whitish slip . .	pinkish
7	Black and red-brown (stippled) on buff slip	pinkish grey
8	Black and dull red (stippled) on buff slip	pinkish
9	Black and brown (stippled) on pale cream slip (brown margin inside)	buff
10	Plain (possibly miniature)	pinkish
11	Black slip inside and out	—
12	Black on red slip	pale reddish
13	Black on red slip	dark reddish
14	Black on pinkish-buff slip	pinkish
15	Black on grey slip	greyish
16	Grey-black on buff slip	pink
17	Black on red slip	pale reddish
18	Black on cream slip	pale red

PHUSI DAMB (ORNACH) - Fig. 11

19	Dark brown on buff slip	grey-brown
20	Dark blackish brown on grey-brown slip (fish- scale pattern)	reddish grey

<i>No.</i>	<i>Description</i>	<i>Material</i>
21	Black slip (inside and out), pale grey decoration inside	greyish pink
22	Black and bright red (stippled) on buff slip	pale red
23	Black on deep red slip	—
24	Black on greenish-grey slip (? fish)	coarse, buff-grey
25	Deep black on bright red slip inside (part of shallow bowl)	red
26	Black on buff slip	reddish
27	Black and red (stippled) on pink slip	reddish
28	Pale grey-brown on black slip inside, black slip outside	reddish
29	Black on red slip	red
30	Black on light red slip (outside)	—
31	Black on dark brown inside, outside margin pale brown	reddish grey
32	Black on buff slip	pale brownish
33	Black on red slip	red
34	Black on warm buff slip	pale red
35	Black slip inside and out	reddish
36	. . . . .	pale reddish grey
37	? Miniature pot	pale pink
38	. . . . .	rough, gritty, pale red
39	Buff slipped with raised wavy cordon	reddish grey
40	Dark red-brown slip outside	pale reddish

SHORI DAMB (ORNACH) - Fig. 12

1	Black and dark red on reddish (almost complete pot)	reddish
2	Cult object (? head of figurine) (cf. hair-do of Mohenjodaro-Kulli dancing girl)	terracotta
3	Cult object (? breasts of mother goddess)	terracotta
	(a) perspective	
	(b) side view	
	(c) top view	
4	Cult object (? phallus)	terracotta
	(a) side view	
	(b) plan view	
5	Part of horse's neck and harness	heavy, dark, smooth, grey
	(a) side view	
	(b) section	
6	Black on red slip	thin, reddish
7	Impressed leaf pattern, smooth cream slip	buff

<i>No.</i>	<i>Description</i>	<i>Material</i>
8	Black on white slip	gritty, reddish
9	Black-burnished outside	heavy, smooth glaze

MINKI DAMB (ORNACH) - Fig. 12

10	Black on burnished brown slip	drab
11	Black on dark buff slip	drab
12	Black and dark brown (stippled) on buff slip	drab
13	Pink-slipped cordoned ware	thick, drab
14	Burnished dark brown on buff slip	drab
15	Black and dark brown (stippled) on grey-brown burnished slip	drab
16	Black and dark brown (stippled) on reddish-buff slip	drab

GAJI BHUTT (ORNACH) - Fig. 12

17*	Black on red slip	greyish red
18	Black on cream slip	pinkish buff
19	Black on cream slip	fine, pinkish
20	Black on cream slip	pale brownish pink
21	Black on red	brittle, porous, red
22	Deep black-brown and dark grey-green on cream slip	pale reddish, gritty
23	Black on cream slip	reddish, gritty
24	Black and red (stippled) on cream slip	brittle, porous, red
25, 26	Black, red (stippled) and buff painted outside, sand slipped inside	brittle, porous, red

* Illustrated in error with Minki Damb

KAREZ DAMB (ORNACH) - Fig. 12

27	Black slip	reddish grey
28	Painted animal figurine	terra cotta

NIAIN BUTHI (LAS BELA) - Fig. 13

No.	Description	Material
1	Black on red slip	red
2	Black on red slip, inside open bowl	red
3	Black on dark brown slip.	reddish-brown
4	Black on bright red slip, inside open bowl	red
5	Black on pinkish cream slip, inside open bowl	reddish
6	Black on dark brown slip, inside open bowl	reddish-brown
7, 9	Black on deep plum red burnished slip	light red
8	Black on deep plum red slip	light red
10	Black on buff slip	pinkish grey
11	Brownish-black on grey-buff slip	pinkish grey
12	Black on buff slip (less fine than good Nal)	pinkish grey
13	Black loops on pale reddish grey	pale reddish grey
14	Black on buff slip	pinkish grey
15	Black on buff slip	pale pinkish buff
16	Black on buff	buff
17	Black on reddish slip	pinkish buff
18	Black on pink slip	pinkish
19	Black on buff slip	pinkish buff
20	Black on dark buff slip	brownish buff
21	Black on buff slip	pinkish buff
22	Pale black on buff slip	pink
23	Black on buff slip	reddish
24	Deep plum red slip	light red
25	Black bands at bulge on reddish	reddish
26	Black bands at bulge on reddish	pinkish buff
27	Black slip outside and inside rim	pinkish buff
28	Fragment of perforated pot	—

KHARKHAR KAUR (LAS BELA) - Fig. 13

29	Black and red (stippled) on light burnished red	light red
30	Black and red (stippled) on light burnished red	light red

BALA KOT (SONMIANI) - Fig. 14

1	Black on red slip	red
2	Black on red slip	red, thick
3	Black on dull red slip	pinkish
4	Black on dull red slip	pale red, fine

<i>No.</i>	<i>Description</i>	<i>Material</i>
5	Black on buff slip	reddish, 1/4"
6	Black on red slip (pipal leaf)	reddish
7	Black on dull red slip	pale red, fine
8	Body of animal figurine	terra cotta
9	Hollow spout or leg (?) with black and purplish red stripes	buff
10	Long-horned bull	terra cotta
11, 12	Part of model cart	terra cotta
13	Red slip	pale red
14	. . . . .	buff
15	Red-brown slip above horizontal rib	buff
16	. . . . .	reddish buff
17	. . . . .	pale red
18	Pale red slip (offering stand)	pale red
19	. . . . .	buff
20	Dark red slip (outside)	pale red
21	. . . . .	buff
22	. . . . .	pale red
23	Red slip	buff
24	. . . . .	buff
25	Black lines on red slip (outside)	pinkish, hard, thin
26	. . . . .	buff
27	. . . . .	reddish buff
28	Pale red slip	buff
29, 30, 31	Black on red	red, 5/16"
32	Black on pinkish (inside)	pinkish
33	Black on light red (inside)	light red
34	Black and reddish (stippled) on buff	buff
35	Black on red	red
36	Black on red slip	reddish
37	Black on pale red	pale red
38	Black on pinkish buff	pinkish buff
39	Incised	grey
40	Black on buff	buff

RIASSUNTO

Dopo un breve riferimento alle ricerche archeologiche già compiute in Jhalawan, sia nel campo esplorativo sia in quello degli scavi, si procede ad una descrizione della zona e si delinea il tipo di studio, essenzialmente esplorativo, compiuto dall'A. nella medesima. Le diverse ceramiche raccolte sulle superfici dei tumuli sono descritte con appositi commenti e viene preso in esame, sotto il termine di « un-named ware », un tipo di ceramica che sembra sia lo stesso di quello denominato « Baluchistan Hybrid Ware » da Majumdar. Gli aspetti fisici ed ambientali sono descritti in classi morfologicamente e climatologicamente distinte, ciascuna delle quali ha reazioni umane specifiche. Sono presi in esame i legami tra questi aspetti e la distribuzione conosciuta delle culture preistoriche, come anche alcune apparenti correlazioni. Da questo esame risultano talune conclusioni provvisorie che possono fornire qualche dato circa il problema complicato delle cronologie relative del Baluchistan e le loro relazioni con la civiltà dell'Indo. Gli insediamenti sono descritti in dettaglio in Appendice I mentre il materiale raccolto e illustrato nelle figure viene elencato in Appendice II. Un breve *post-scriptum* fu aggiunto non appena fu pubblicato il rapporto della Sig.na De Cardi su una parte della stessa zona e su altre zone adiacenti, il quale sembra poco o nulla contraddire il concetto di una ceramica anonima di larga distribuzione.

SUMMARY

A brief reference to archaeological studies, both explorations and excavations, already carried out in Jhalawan prefaces a description of the area and of the essentially reconnaissance nature of the work carried out in the area. The various ceramic wares found by the author on the surface of mounds are described and commented on with the tentative reintroduction under the designation of "un-named ware" of a ceramic that appears to equate with Majumdar's "Baluchistan Hybrid Ware". The environmental settings are described under a number of classifications that are geomorphologically and climatically distinct, each requiring a different human response. The relationship between these settings and the known distribution of prehistoric cultures and certain apparent correlations are examined. From this tentative conclusions are drawn that may have a bearing on the complicated question of Baluchistan relative chronologies and their relationship with the Indus Civilisation. Sites are described in detail in Appendix I and descriptions of the surface finds illustrated are listed in Appendix II. A brief postscript was added as soon as Miss de Cardi's work in part of the same area and in neighbouring areas was published indicating that there may be little if any contradiction between this and the concept of an "unnamed" and widespread ware.