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PRELIMINARY REPORT ON THE PREHISTORIC ARCHAEOLOGY OF THE AFGHAN-BALUCHI AREAS

BY WALTER A. FAIRSERVIS, JR.

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INTRODUCTION

This is a preliminary report on the chalcolithic research of the Second Afghan Expedition of the Department of Anthropology, the American Museum of Natural History. Since the collections are not yet available for study, this brief summary is necessarily based on field notes and on a small sample series of artifacts I brought back from the Middle East. Until it becomes possible to prepare a final report, this brief presentation, obviously inadequate as it is, must serve not only as an outline of the field work but also of the major objectives of the present research.

The excellent results obtained in the excavation of the chalcolithic sites in Iran during the past 30 years by Schmidt (1937), Ghirshman (1938–1939, 1939), McCown (*in* Langsdorff and McCown, 1942), and others (Pumpelly, 1908; Arne, 1935; Wulsin, 1932) have been analyzed by McCown (1942). Similarly, Piggott (1946, 1950) has reviewed and analyzed the reports on the excavations and surveys in the Indus River Valley and in Baluchistan by Marshall (*in* Marshall and others, 1931), Mackay (1938, 1943), Vats (1940), Wheeler (1947), Hargreaves (1929), Stein (1929, 1931), Majumdar (1934), and others.

Based on the evidence, McCown classifies the Iranian wares into buffware and redware areas; the redwares center in northeastern Iran and the buffwares in southern Iran. Piggott (1946, 1950) similarly divides the Baluchi-Indus ceramics into buffware and redware provinces: the redwares (Zhob, Harappan, Cemetery "H") deriving a part of their stylistic impulses from the equivalent redware area in northeastern Iran; the buffwares (Quetta, Amri in particular, Nal, Kulli) with similarly derived styles from southern Iran.

This differentiation of the Baluchi-Indus wares into two type provinces, with parallels in Iran, provides the first real framework that places the numerous prehistoric cultural manifestations of the Baluchi-Indus areas concretely in a spatial and chronological sequence. However, this new frame of reference has posed a number of specific problems. For example, the interrelationships between the Baluchi cultures are not clear. Similarly, the stratigraphic relationship between the buffwares and redwares is uncertain, even though the stylistic relations and, to some extent, the stratigraphic evidence (e.g., Amri-Harappan) assume an earlier development for the buffwares in the Indus Area. In addition, the presence of redwares deep in supposed buffware

areas (Togau) and the discovery of redware design elements exactly paralleled in the buffwares (Zhob bull) are factors mitigating against the McCown-Piggott hypothesis.

Extensive field work in Baluchistan and Afghanistan is an obvious requirement for the solution of these problems. In response, a number of concrete field programs have been undertaken. In 1948, Miss Beatrice de Cardi, in association with the Department of Archaeology of Pakistan, made a 700-mile field trip to Kalat State and explored 47 sites, 21 of which had not previously been known. Her journey extended from Quetta to Khuzdar. As the result of her survey she postulates two new wares: Togau, a fine red pottery with black designs characterized by stylized animals; and Londo ware, a late pottery with rather elaborate designs. Miss de Cardi in the same year also went to Afghanistan where she followed the routes from Kabul to Kandahar and Farah, but except for a possible buffware site on the plain north of Farah, her search for prehistoric material was unrewarded (de Cardi, 1950).

In the summer of 1949, under the sponsorship of the Department of Anthropology, accompanied by Mr. Louis Dupree (palaeolithic archaeologist) and Mr. Henry Hart (surveyor), I made a trip to Afghanistan, in the course of which we surveyed the territory from Bamiyan to Kandahar, Farah, the northern Seistan Plain, and the Helmand Valley south of Kajakai as far as Kirtaka (First Afghan Expedition). Surface indications of prehistoric sites were meager in southern Afghanistan. However, traces of painted pottery and flint working were found north of Juwain in Seistan and in the Helmand River Valley near Girishk. On the return from Afghanistan, the Quetta-Pishin Area was visited briefly, and a number of sites were examined.

On the basis of this initial survey, a second and larger expedition was planned (Second Afghan Expedition). The field work was carried out from August, 1950, to April, 1951. The individuals directly responsible for the field research were: Miss Rose Lilien, Mr. Howard W. Stoudt, Mr. George W. MacLellan, Mr. L. D. Kelsey, and my wife, Jan Fairservis, the Superintendent of Explorations of the Department of Archaeology, Government of Pakistan, Mr. Leslie Alcock, and his wife Elizabeth, and Sadurdin Khan, also of the Department of Archaeology.

The surveys were undertaken in the Quetta-Pishin and Zhob-Loralai areas. Survey parties went, respectively, down the

Bolan Pass beyond Ab-i-Gum rail station, to Nushki in Chagai District, and to Mastung in Kalat. Five sites in the Quetta Valley and one in the Loralai District were excavated. The Afghanistan survey located five prehistoric sites in the Kandahar Area, two of which were tested by excavation. The survey in Afghan Turkestan, limited by time, produced negative results in that no prehistoric sites were located. A journey to Afghan

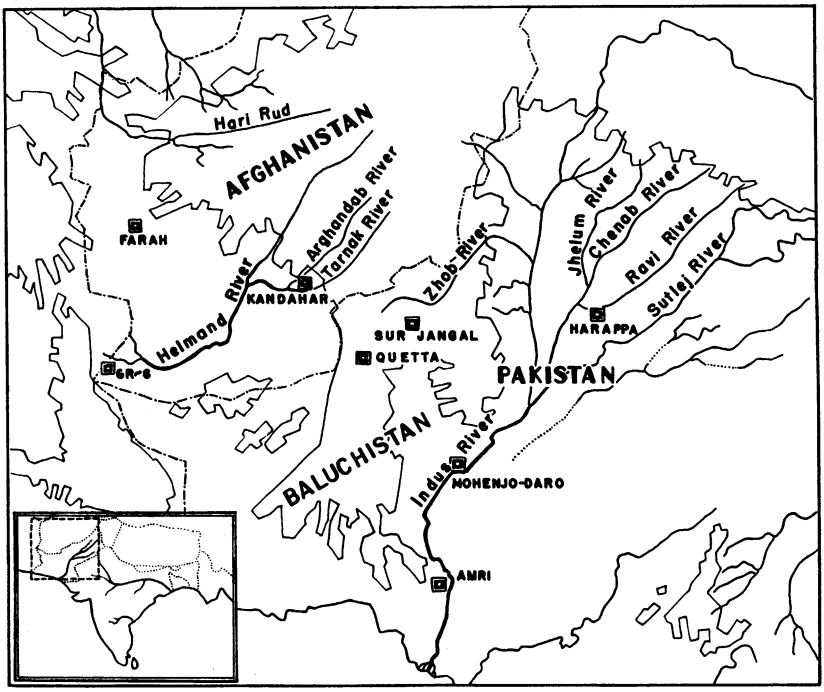

FIG. 1. Archaeological sites in the Indus-Helmand River areas. Insert shows geographical relation to the Indian sub-continent.

Seistan of nearly two months' duration resulted in the discovery of a number of chalcolithic sites in the Afghan portion of the southern delta.[1]

In the planning of the field campaign of the Second Afghan Expedition, the problem of approach was carefully considered.

[1] In the spring of 1951, the French Archaeological Mission to Afghanistan began its field studies of prehistory under the direction of M. Casal. According to informal reports, an extensive site was discovered by this group northwest of Kandahar.

The archaeological data from Baluchistan are quantitatively impressive, but their systematization, as Wheeler (1951, p. 117) expresses it, "approximates to a species of philately rather than to archaeology." On the other hand, the prehistory of Afghanistan was still unknown in spite of efforts to locate prehistoric sites in that country. It seemed an obvious conclusion, therefore, that the negative results of archaeological surveys in Afghanistan indicated that the prehistoric remains there were scattered and insignificant, in marked contrast to the great abundance of sites over a large portion of Baluchistan. Even if it were assumed that prehistoric cultures were located in Afghanistan, they would probably be isolated in context. Until the stratigraphic relationships of the Baluchistan cultures are determined, the prehistory of southern Afghanistan at least will probably remain in the same state of stylistic "philately."

It was obvious then that Baluchistan should be selected as the initial area for investigation. Three areas were chosen in the Baluchi-Afghan region: the Quetta Valley, with supplementary investigation in Zhob-Loralai and Pishin, the Kandahar Basin, and Afghan Seistan.

The Quetta Valley presents a number of advantages to the prehistorian. First, Quetta ware has been regarded as one of the oldest of the wares of Baluchistan (Piggott, 1946, pp. 17–18, 25). Second, in addition to Quetta ware, surface finds of Zhob and Nal wares have been found in the valley, indicating a possible good stratigraphic pattern inherent in Quetta sites. Third, Quetta is ideally situated geographically, as it is at the crossroads for trade routes from Kalat, Kandahar, the Indus Valley, and the Zhob-Loralai Area (see below, p. 8). In consideration of all these factors, the base of operations was established at Quetta City. The proximity of the Kandahar Area to the Quetta Valley made it the obvious center for extending the survey, without minimizing the data gathered in Baluchistan. Finally, the Seistan Basin, contiguous as it is to Baluchistan, Afghanistan, and Iran, was selected. Stein's work in Iranian Seistan (1928, pp. 949–956) and our own preliminary survey in 1950 (Fairservis, 1950, 1951) promised the recovery of prehistoric evidence there.

In estimating the possibilities for archaeological work in Afghanistan, one should note that, aside from the mountain valleys, such as the Logar, Ghorband, Panshir, etc., both the altitude and climate of which are unfavorable to primitive agri-

culture, four main regions were probably capable of supporting prehistoric village cultures as presently defined. These are: Afghan Turkestan, from the Taliqan River Valley west to the Murghab Basin; the Hari Rud Valley; the Seistan Basin, including the Farah Plain; and the Arghandab-Middle Helmand Plain, i.e., in the vicinity of Kandahar. Our plans, therefore, included two of the four critical regions, Kandahar and Seistan.

Our field techniques were essentially those developed in American archaeology (Strong, Willey and Corbett, 1943; Ford and Willey, 1949; Ford, 1951). In essence, the method includes an intensive survey of a limited area,[1] in which the location of every site is noted, its special features are described, and a random sample of sherds is collected. Ford (1949, pp. 34–35) has discussed the value and need of random sampling. The sites in which a stratigraphy is indicated are chosen for excavation. Strata cuts, rarely less than two to a site, are excavated to virgin soil. Artifacts are located in these cuts by two methods: observation of the natural stratigraphy, and by a system of levels which permits the evaluation of those areas not delineated by the natural stratigraphy. Where possible the strata cuts are expanded to enlarge the cultural content and to check the stratification. The surface material can then be evaluated in relation to the stratigraphic data and assigned a position on the stratigraphic column.

Other areas beyond the immediate locale of the initial intensive survey are examined in the same way. In every case, however, attempts are made to get the stratigraphic trend of the particular area. Occasionally, this can be accomplished because the natives have cut into a site, exposing sections from which *in situ* material can be withdrawn (as at Rana Ghundai, Dabar Kot, Periano Ghundai).

This type of survey has several advantages. In the first place, a broad picture of both the plain and decorated wares of a site can be gained,[2] expanding data useful in relating the site to the known stratigraphy. Second, the ceramics of any one period are usually to be found on the surface of more than one site. Thus

[1] Usually a geographic entity bounded by mountains, rivers, or deserts to form a unit.

[2] Not only prehistoric sites but those of any period, including Islamic, were surveyed. The ultimate goal is to present a representative ceramic index of these areas.

the quantitative evidence needed to place the sites of a particular period in their correct stratigraphic position is enlarged. Third, a certain amount of sociological information is derivable from this type of survey: parallelisms of modern villages and chalcolithic sites, reiteration of geographical or strategic positions, a possible rough scale to estimate ancient populations and the local distribution of ancient villages.[1]

In the field laboratory, sherds were washed and were numbered in relation to the surface site or strata level from which they were obtained. The designs on all decorated sherds were drawn or photographed, and a file of such types was maintained. Other artifacts recovered were treated in the same way.[2]

One of the more dramatic geographic settings of that land of natural drama, the Indian subcontinent, is that encountered on the drive from the desert plain in the vicinity of Sibi, northwest over the Bolan Pass into the Quetta Valley. The road then continues via the upland adjunct district of Pishin through the Khojak Pass onto the broad plain which lies between the Registan Desert and the Arghastan and Tarnak river uplands to the basin of the Arghandab River and the Kandahar Plain at the foot of the Hindu Kush Mountains. This road, a distance of a little over 200 miles, carries one out of the Indus River watershed, through the Suleiman orogenic divide of Baluchistan, onto the Iranian upland and the Helmand River watershed. A comparison of elevations at five points demonstrates concretely how drastic is the geographic zoning.

Locality	Approximate Road Mileage	Elevation above Sea Level
Sibi	0	445 feet
Quetta City	80	5250 feet
Khojak Pass	152	7500 feet
Chaman	160	*ca.* 4000 feet
Kandahar	225	3462 feet

The area from Sibi to Kandahar can be divided into three ecological zones: (1) the Sibi Area is a reflection of the Sind-Punjab semi-tropic vegetative and faunistic zone; (2) the Quetta-

[1] In many cases a system of ecological sampling was also employed by which the modern plant, insect, reptile, and other animal life was collected for comparison with organic materials found in excavations.

[2] This laboratory technique is similar to that described by Ford (1949, pp. 41–43).

Pishin Area illustrates the Baluchi upland valley pattern; (3) the Kandahar Area is part of the Iranian plateau and desert zone.

The three zones have identical semi-arid conditions, i.e., the annual rainfall is less than 10 inches. Sibi and Quetta are out of the summer monsoon rain shadow. The Kandahar Area is at the fringe of an interior desert basin. However, both Sibi and Kandahar are in the piedmont zone of their respective locales and receive the collective moisture of the mountains to the north. To increase the uncertain surface water supplies at Quetta, it is necessary to tap the water reservoirs of the alluvial fans of the surrounding ranges.

The Sibi District is located at the lower entrance to the Bolan Pass, at the head of an intruding "finger" of low land extending from upper Sind northward between the Bambar Ghar (east) and Nakgan (west) ranges of the Baluchistan Mountains. Approximately 95 miles south of Sibi City, the Sind town of Jacobabad marks the beginning of the modern, irrigated area of the Indus Valley. Between Sibi and Jacobabad lies a forbidding desert, in which the Bolan River and its tributaries are lost. It is important to note that Jacobabad is regarded as the "hot center" of the world. It has a mean annual temperature of *ca.* 96° F.; May and June temperatures of 127° F. have been recorded there. In spite of the excessive heat, the Sibi-Jacobabad route forms a major link between the northern Baluchistan mountain valleys and the Indus River.

The Quetta-Pishin Area is in a strategic position, not only because of its proximity to the Afghan frontier and Kandahar and its situation at the head of the Bolan Pass, but also because it is the terminus for three major routes in Baluchistan: (1) the northeastward trending valleys of the state of Kalat to the south; (2) the Shara Rud and the Pishin Lora that open the way to Nushki and the Chagai District to the west (thus to Seistan); (3) the route from Khanozai in the Pishin to Hindu Bagh in the Zhob watershed places the entire Zhob Valley, eastward to the Gomel River, within easy access of Quetta-Pishin.

Kandahar is located in the area of the junction of four rivers (Tarnak, Arghastan, Dori, and Arghandab). The Arghandab is the most important of these rivers, not only because of its copious flow but because its junction with the Helmand River at Kala Bist opens the route to Seistan. The other streams provide routes to the east, especially to Baluchistan (Zhob) and Waziri-

stan. There is also an open plain between Kandahar and the Khojak Mountains. The isolated position of Kandahar in relation to other culturally significant areas is pronounced: the distance to the Seistan Basin via the Arghandab-Helmand rivers is about 300 miles; the Farah Area north of the Seistan Basin is 250 miles west of Kandahar via Girishk and Dilaram across the northern Dasht-i-Margo. To the north, the Koh-i-Baba Range presents a formidable barrier. In the east, the mountain valleys provide access to the Punjab, but it is nearly 300 miles as the crow flies to Dera Ismail Khan. It is only to the southeast that there is a reasonable proximity to a culturally significant area, that is, Quetta-Pishin. The distance between Kandahar and Quetta City is only 150 miles, and it is a little over 80 miles to Kila Abdullah at the head of the Pishin plains. However, the Khojak Mountains are not easily crossed by pack animals; the diversion via the Pishin Lora to Quetta or Panjpai is less arduous, though longer.

QUETTA VALLEY SURVEY

Prior to our explorations in the fall of 1950, only six chalcolithic sites were known in the Quetta Valley (Piggott, 1947, pp. 133–136; Stein, 1929, p. 89). At the close of our survey a total of 19 sites (including the previously recorded six) were assignable to the prehistoric period on the basis of a comparison of the surface finds. Seventeen additional sites of major or minor importance were assigned to later periods. The survey was begun in the Gwandin Valley, at the head of the Bolan Pass, and proceeded by foot and motor northward in the Quetta Valley to the border of Pishin. Drainage systems and all the promising spots on or near the alluvial fans were examined, and native reports of possible sites were checked. The survey was planned on a subarea basis so that the survey teams were guided through each day according to previously arranged traverses on Survey of India maps.

The results of this method of survey are very satisfactory. However, a detriment to the completeness of these surveys is the situation of sites such as Site Q36, which was reported to us by well diggers. There was no sign of a mound, but 1 meter below the surface, mudbrick walls, pottery, and a number of stones were observed. Apparently such a situation indicates that

alluvial deposition has engulfed some sites that were very close to the valley walls.

On the basis of the surface data accumulated, four sites were chosen for excavation: Kechi Beg, Karez Site, Damb Sadaat (Mian Ghundai), and Kili Ghul Mohammad.

Kechi Beg

Four hundred yards west of the Quetta-Sibi Road (Mile Post 5), just outside the eastern wall of the village of Kechi Beg, is a small low mound a little over 2 meters high. A cut 8 by 3 meters[1] was carried from the highest point of the mound to virgin soil at 2.52 meters. The excavations uncovered the remains of a single culture which we have named Kechi Beg.

The occupants of this site used mudbrick and pisé in the construction of small houses. Walls also were constructed of large stones carefully fitted into position and probably braced with wood and mudplaster (a kind of wattle and daub).

Both plain and decorated wares were found. A large percentage of the plainware is made of a rough granular paste, ranging in color from a reddish orange to a light brown. Open bowls with thick walls are typical. One class of decorated wares has, characteristically, a 1- to 2-inch wide band of black or brown paint below the outer rim of the bowl and occasionally in the same position on the interior. The fine painted ware is very interesting because of its close resemblance to the Amri bichrome wares. A pinkish or buff paste has a buff slip and is painted with horizontal bands of black and reddish brown. At intervals of three bands (as a rule), sigmas, hachures, or cross-hatchings occur. The ware is wheel-turned and hard-fired.

Q13, Karez Site[2]

At the 5.1-mile post, 20 yards east of the Quetta-Sibi Road in the midst of an extensive *karez* system, is the small site designated Q13 (50 by 40 by *ca.* 3.5 meters high). A cut 5 by 3 meters was made into the upper portion of the southern slope of the mound. Virgin soil was reached at 1.95 meters, showing that the mound is set on a small hillock.

[1] Later reduced to 6.5 by 3 meters owing to a Moslem grave encountered at the west end.

[2] Each site was assigned a letter and a number. The letter refers to the area (for example, Q for Quetta), and the number, the order of discovery.

FIG. 2. Pottery from three Quetta Valley cultures. A. Damb Sadaat. Kechi Beg ware, black and reddish brown paint on buff slip. B. Kechi Beg. Black and reddish brown paint on buff slip. C. Damb Sadaat. Quetta ware, black paint on buff slip. D. "Karez" site (Q13). Quetta ware, black paint on buff slip. E. Damb Sadaat. Quetta ware, black paint on buff slip. F. Damb Sadaat. Quetta ware, black paint on pinkish slip. G. Damb Sadaat. Quetta ware, black paint on buff slip. H. Damb Sadaat. Sadaat ware, black paint on buff surface. I. Damb Sadaat. Sadaat ware, black paint on buff slip. J. Damb Sadaat. Sadaat ware, reddish brown paint on pinkish slip. No scale.

A single ware is represented at the site, that is, the Quetta ware, surface examples of which have been published by Piggott (1947).

The upper levels of the site were badly disturbed by Moslem graves and surface saturation of water. However, the position of a number of hearths was located. The remnants of mudbrick walls were barely discernible. Lines of small stones suggest that the conventional method of reënforcing mudbrick foundations was employed here. In the lower levels (1.10 to 1.95 meters) a number of hard clay floors were encountered, one of which contained an excellent fire pit.

Among the objects recovered were polished bone spatulas, bone awls, chalcedony endscrapers, alabaster cups, and traces of copper.

The pastes of the Quetta culture plainwares are moderately coarse, varying in color from light to dark brown. Red-fired wares are rare. Open bowls are the commonest form. Small-mouthed jars of a very fine greenish texture, fired hard, were encountered. Often in this latter form, the outer surface of the vessel has been roughened when wet, resulting in a dendritic pattern. In general the plainwares are less coarse and tend to be thinner than those of the Kechi Beg culture.

The painted wares are surprisingly numerous in these Quetta culture occupation sites. Generally the Quetta painted wares are black-on-buff or cream. The clay is buff, but frequently red-fired. Almost invariably the decorated wares are buff- or cream-slipped. Painting is in black or brown, but there is no use of a secondary color. The ware is generally fine, thin-walled, and hard-baked.

The technique of decoration at Q13 may be characterized by a tendency towards "block painting," rather than line drawing, although the latter technique also occurred. There are also frequent examples of careless drawing, and the designs are not composed of the crisp geometric line most often associated with Quetta ware.

Not only were many of the 61 design elements isolated by Piggott (1947, figs. 2–6) encountered on the sherds uncovered, but many new elements can now be added. Noteworthy among the new design elements is the motif of Brahma bulls with interlocked horns. Shapes include stemmed goblets, some closely resembling egg cups in size and form, cylindrical jars, jars with flaring rims, narrow-based open bowls, and beakers.

Interestingly, the black-on-gray sherds, associated with the Quetta ware, are without exception from shallow bowls or dishes.

The designs consist of geometric elements: loops, wavy lines, bands, and zigzags. Closely resembling the black-on-gray wares are the hard-fired light brown platters, with similar designs supplemented by fish and pipal leaf motifs in red or black.

Incised marks at the base of the vessels are common in the painted pottery group.[1] These fall into two types: thumbnail incising and instrument incising. In both types the pattern varies from a single mark to a rather elaborate geometric form.

Damb Sadaat (Mian Ghundai)

The mound of Damb Sadaat (Mian Ghundai) is located 11.7 miles south of Quetta on the southern side of the Nushki-Quetta Road. It lies at the head of the road on which the routes from Kalat State and Chagai District converge before entering the Quetta Valley. The site is also close to the head of the Bolan Pass. Strategically its position is one of the most significant in the entire valley.

A total of three cuts were made into this mound (*ca.* 14 meters high). Cuts 1 and 2 were joined, so that a total area of 14 by 7 meters was excavated on its southeastern slope. Cut 3 actually consisted of a complex of trenches designed primarily for the exploration of the architectural features at the top of the mound. At two places in Cut 1 and 2 (northeast and southeast corners), strata cuts 2 by 2 meters were sunk to virgin soil.

These excavations resulted in the stratigraphic distinction of three cultures: Quetta, Sadaat, and Kechi Beg.

Quetta Culture: The principal culture horizon is that of the Quetta culture.

A series of small rooms connected by narrow alleyways is a feature of the Quetta levels. Construction is with sun-baked mudbrick, with the use of mud mortar (in which there is a strong trace of lime). The walls frequently rest on a foundation of stone slabs. A large platform of mudbrick may have been used as a threshing floor.

Important among the objects recovered from the Quetta levels are the "Mother Goddess" figurines which are quite different from the so-called "Zhob Mother Goddesses" (Piggott, 1950, pp. 126–127). The Quetta figurines are very graceful and delicate. The fertility aspect is apparent in the full, pendent

[1] Most frequent, but some examples occur on the inside rims of the vessel.

breasts and, perhaps, in the narrowness of the waist that emphasizes the broad hips. The legs, at right angles to the body, are thrust out in front, terminating in a converging stem without

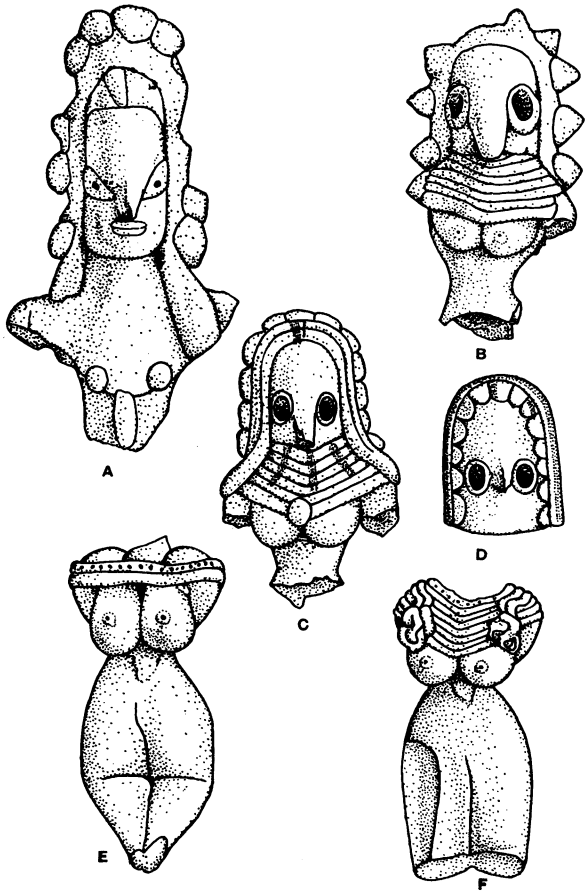

FIG. 3. Figurine types. A. Damb Sadaat. Sadaat culture, baked clay. B. Damb Sadaat. Sadaat culture, baked clay. C. Deh Morasi Ghundai. Morasi culture, baked clay, red paint on necklace. D. Sur Jangal, surface. Probably Sur Jangal II, baked clay. E. Damb Sadaat, surface. Probably Quetta culture, baked clay. F. Damb Sadaat. Quetta culture, baked clay. Actual size 5 by $2^1/_2$ centimeters.

feet. The figurines are unfortunately headless, but in all probability the necks were narrow and the heads perhaps smaller in proportion than those of the Zhob figurines. A feature of the

shoulders and chest is the series of necklaces, some punctated. The hair is coiled down into a knot on either side over the necklaces.

Among other objects recovered are: animal figurines, stamp seals (punctured for suspension), polished bone spatulas, bone awls, chalcedony and flint scrapers and knives, clay rattles, painted clay house models, beads, alabaster cups, and a copper knife.

The pottery very closely parallels that of the Karez Site, previously summarized, in being typical of the Quetta ware. However, additional animal motifs were observed. These decorations have a good deal of gusto, charm, and simplicity, and freedom of action in contrast to the stylized bulls and antelopes so typical of the Zhob cultures. Very charming is a representation of a barking dog (his body is hachured); a dignified peacock can be placed in the same category.

The Quetta ware black-on-gray and the brownware plates are common, as usual. Designs in red instead of black, on the same hard-fired gray, occur as variants of these plate decorations.

A number of polychrome pieces were recovered. Most of these have the sharp, right-angled shoulder commonly found at Nal. Decoration is in red and black on a hard buff-slipped ware. Designs include cross-hatched triangles, concentric diamonds, and alternating broad and narrow bands.

The incised wares identified at the Karez Site are also very common.

SADAAT CULTURE[1]: On the top of the mound a rather extraordinary building complex was revealed. An almost monumental mudbrick platform, which must have stood over 12 feet high, contained a number of stone drains and, under one corner, an apparent ritual cairn which contained a human skull. The entire platform was not cleared, but judging from the corners and the trend of the walls, it appears that it was square and somewhat like a truncated pyramid. The fact that this structure surmounted the very top of the mound, from which it would command attention for many miles around, suggests that it had an important ritualistic role. The recovery of a number of Zhob Mother Goddess figurines in the fill of the building may be con-

[1] The name Sadaat for this uppermost cultural manifestation at Mian Ghundai is derived from the official name of the site, Damb Sadaat.

sidered additional evidence of its possible ceremonial function[1] (Piggott, 1950, pp. 126–127). Painted bull figurines were also recovered. The association of the figurines with this structure implies the existence of a religious cult which centered around a fertility rite, during which animals and perhaps human beings (skull in cairn) were sacrificed.

The pottery of the Sadaat culture horizon at Damb Sadaat consists of the usual buff-slipped wares common to the Quetta horizons. However, the elaborate Quetta design elements have almost vanished, leaving suggestions of the older motifs in the form of black painted loops, bands, and zigzag lines. A characteristic group of motifs has been added, however. Interlocking loops on the interior of open bowls, chevron patterns, and S patterns as body design elements are common.

The rims of vessels tend towards concavity at the lip, in contrast to the more vertical rims of the Quetta horizons.

The excavations at the top of the mound were carried down until material of the Quetta culture was reached. Apparently the site was abandoned for a brief period by the people who made the Quetta ware and then reoccupied by the Sadaat people. The Sadaat material, while different in certain specific details from the Quetta remains (for example, figurine form, motifs in pottery), is over-all very similar (buff slip, parallel motifs, stamp seals, Mother Goddess worship, use of incision). However, the analysis has not yet been sufficiently detailed to decide whether the Sadaat levels are merely another phase of the Quetta culture or an entirely new culture horizon. Whatever the final definition, the Sadaat levels are manifestly the latest occupation of the site.

KECHI BEG HORIZONS: Two strata cuts were carried down to virgin soil in the large excavation on the southeastern portion of the slope. On the lower levels the orange and buff wares of the lower Quetta levels[2] were replaced by the familiar wares of the Kechi Beg culture previously defined (p. 10). These wares continued down to virgin soil.

The transition from the Quetta levels to those of Kechi Beg was carried out without stratigraphic break.

[1] Some of these figurines were painted in black on the back to represent hair; red paint occurs on the necklaces and bodies.

[2] There seems to be a parallel in the plainwares. Associated with Early Quetta decorated pottery are rather coarse paste orange-fired plainwares.

DAMB SADAAT STRATIGRAPHIC COLUMN: Broadly interpreted, the excavations at Damb Sadaat suggest at least two, and possibly three, culture horizons, that is, Kechi Beg, Quetta, and Sadaat. Field observations of the pottery of the Quetta levels indicate a tendency for the block-drawn designs to be later than the line-drawn ones. Tentatively, it is proposed to define two phases within the Quetta horizon: Late Quetta (B), Early Quetta (A).

KILI GHUL MOHAMMAD[1]

Our initial examination of this mound revealed that at least three cultures were represented: Quetta, Zhob, and Kechi Beg. The area available for excavation was limited, because the mound has served as the cemetery for the surrounding villages for a considerable period, and three-quarters of its surface is studded with heaps of stones that mark Moslem graves. An excavation was begun as high on the southern slope as possible. However, since our cut (7 by 7 meters) encountered a number of old Moslem burials, it was abandoned after a depth of 2 meters was attained. A few weeks later excavation was resumed in the only quadrant that contained no burials. Eventually virgin soil was reached at a depth of 11.14 meters (nearly 4 meters below the modern surface of the surrounding plain). The cut was reduced, for obvious reasons, from an original 3.5 by 3.5 meters square to a square of 1.75 by 1.75 meters, greatly limiting the size of the sample for analysis. This qualification must be emphasized in view of the important implications of the material uncovered.

KECHI BEG CULTURE: Kechi Beg ware, already familiar at its type site and in the lower levels of Damb Sadaat, was recovered in the upper levels of this excavation.

KILI CULTURE II[2]: Wheel-made pottery was gradually replaced by hand-made ceramics, some crudely painted with geometric designs in black and red-brown on the original surface. Cord- and mat-marked sherds were common. A number of mudbrick walls were cleared. Stone axes, flaked scrapers, and knives occur here.

It appears that the pre-Kechi Beg horizon was a primitive village culture which had not yet attained the technical knowledge

[1] First identified by Prof. Stuart Piggott (see Piggott, 1947, p. 134).

[2] These pre-Kechi Beg horizons were designated Kili cultures from the name of the type site, Kili Ghul Mohammad.

of the Kechi Beg people. The large quantity of charcoal and animal bones found should reveal something of the degree of dependence of the Kili I pre-pottery people upon hunting, as it also underlines a fairly lengthy occupation of the site.

KILI CULTURE I: The last pottery, a cord-marked sherd, appeared at about the 6-meter level. Below that level, down to virgin soil, not a single sherd was found. Flint flakes and fine polyhedral cores were frequent. A number of mudbrick walls were traced, extending at various angles through the cut. Abundant animal bones (some worked) and charcoal were encountered throughout the cut. No brick was recovered in the lowest level of the deposit.

ZHOB-QUETTA INDICATIONS: Our surface survey of Kili Ghul Mohammad, prior to excavation, had revealed the presence of Zhob-Quetta culture materials. However, our excavations revealed no trace of these cultures. Leslie Alcock has suggested informally that the Quetta-Zhob settlement was probably situated on the southern side of the mound where most sherds of that type have been recovered. A settlement on that side of the mound would be in the lee of the main mound and would therefore be protected from the Khojak wind, which sweeps down from Pishin with great force and is bitingly cold in the winter.

ZHOB-LORALAI SURVEY

A trip was made to the Loralai and Zhob districts via the Ziarat Road to a temporary base at Loralai. From there surveys were made southward to Dabar Kot, the Duki Plain, and Sur Jangal. A number of sites were examined and surface collections made, as in the Quetta Valley.

SUR JANGAL

The geographical situation of Sur Jangal, between the Harappan Site of Dabar Kot and the Zhob Site of Rana Ghundai, makes it of prime importance to a possible correlation of Baluchi cultures with the Indus cultures. Consequently it was selected for testing with strata cuts. Stein's (1929, pp. 73–76, map, pl. 8) main trenches through each of the small mounds which mark the high points of the low mound of Sur Jangal had not reached virgin soil nor had he worked out a possible stratigraphic sequence. Our probing for stratigraphic data, therefore, had several aspects.

1 A surface collection was made to enable us to catalogue

all the culture aspects not covered by our excavations or Stein's report.

2. A strata cut was sunk to virgin soil in the undisturbed area between Stein's Trenches II and VI.

3. At the bottom of Trench III, close to the junction with Trench II in the highest point of the mound, a strata cut was sunk until overlap with our Cut 1 was clearly defined.

4. In Trenches I, II, III, V, and VI, the walls were cleaned of Stein's debris until undisturbed strata were revealed. The material found *in situ* was then recorded and removed.

5. In the undisturbed area, close to Trench I and adjacent to its junction with Trench II, a strata cut was made to confirm the upper levels in conjunction with the work of 4 above.

On the basis of the stratigraphic cuts, it is possible to differentiate at least two ceramic periods at Sur Jangal.

PERIOD I: In the lower levels of the excavation, the pottery, plain or painted, was both wheel- and hand-made of a thick, medium coarse paste, buff in color. Some plainwares were orange, resembling those found in the Quetta A levels at Damb Sadaat. Most important among the scarce painted wares recovered in these levels were the so-called "bull" decorated sherds. The same thick, rather coarse paste as that of the plainwares had apparently been slipped in buff and then painted with a plum-red band around the neck and upper body of the vessel (an open bowl). A dark brown band covers the rim, and a narrow red band circles the interior of the vessel just below the rim. A frieze of stylized bulls was painted in black on the broad, plum-red, exterior band (fig. 4A).

PERIOD II, PHASE A: The typical Sur Jangal wares described by Stein are found in the upper levels at Sur Jangal. These consist of thin, hard-baked wares, fired and slipped in red. The decoration is in black. In addition, a number of brown or buff sherds of the same excellent manufacture have also been recovered. The design elements are identical with those of the red wares, but there is some use of red paint as a secondary color in the latter group. Gray wares that resemble closely those found in the Quetta culture levels at Damb Sadaat are found in this period.

Two classes of female figurines closely paralleling those of the Quetta Valley sequence can be identified at Sur Jangal, but unfortunately, not in stratigraphic context:

1. A rather delicate, almost naturalistic form with legs,

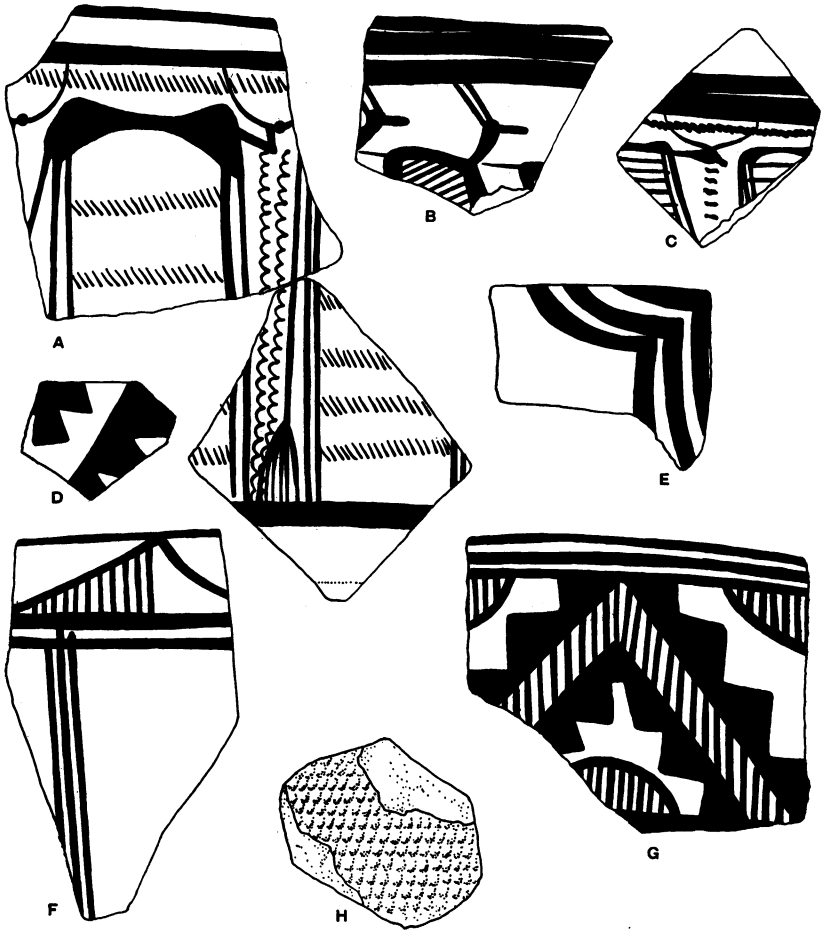

FIG. 4. Pottery from the Loralai and Kandahar areas. A. Sur Jangal I. Black paint on plum-red slip. B. Sur Jangal II. Black paint on dark red-brown slip. C. Sur Jangal II. Black paint on red slip. D. Said Kala Ghundai. Morasi culture, black paint on gray surface. E. Said Kala Ghundai. Morasi culture, reddish brown paint on pink surface. F. Deh Morasi Ghundai. Black-on-buff slip. G. Deh Morasi Ghundai. Black-on-buff slip. H. Said Kula Ghundai. Said Kala culture, mat-marked, light brown clay. No scale.

broad hips, and narrow trunk suggests a close variant of the Quetta culture figurine. (The figurine is broken at the waist; no hints as to style of necklace or hair have been recovered.) A tiny arm with open hand is an additional naturalistic element present in this class.

2. The Zhob Mother Goddess forms are almost identical with those found in the Sadaat levels at Damb Sadaat.

PERIOD II, PHASE B: The pottery belonging to the final period of occupation of this site is generally careless in style of decoration and shows a less disciplined control of the brush and an extreme of stylization. It may therefore be regarded as a phase of Period II, though this is still a debatable division in view of the incompleteness of these studies.

OTHER ZHOB-LORALAI SITES

At Rana Ghundai the famous exposed walls were again the subject for a stratigraphic search (Ross, 1946, pp. 289–316). A collection was made here, with considerable success in that it was possible to obtain a good representation from each level.

Surface exploration at Dabar Kot revealed an extensive Buddhist settlement at the top. It is probable that about one-third of its total height (*ca.* 33 meters) is occupied by remains of that period.[1]

Numerous other sites, known and unknown to Stein, were examined around Loralai.

In the Zhob Valley, with Fort Sandeman as a base, the sites of Moghul Ghundai, Kaudani, and Periano Ghundai were studied. At Periano Ghundai not only Stein's trenches, but a number of new cuts made within the past few years by local residents, are available for possible stratigraphic reëxamination. On the basis of sherds carefully collected in these cuts, an opportunity to work out at least a tentative stratigraphic sequence seems reasonable.

Except for the Fort Sandeman Area, the Zhob Valley is surprisingly lacking in prehistoric sites.

PISHIN

The sub-district of Pishin has singularly few prehistoric sites. Two such sites, Khan Shaib and Lal Ghundai, were found in the shallow valley of the Surkhab Lora, a tributary of the Pishin Lora, but the remainder of the finds were of later periods. The Pishin Lora Valley is generally arid, and much of the area is covered with thick beds of loess. It is only at places close to the mountain springs that modern habitation is generally found, for example,

[1] Apparently on the basis of Stein's report, Piggott (1950, p. 124) has assumed that the final occupation of Dabar Kot was Harappan.

at Kila Abdullah and Gulistan. At Khan Shaib a number of Quetta-ware sherds were found, and at Lal Ghundai there were few painted sherds but an abundance of worked chalcedony flakes.

BOLAN PASS-CHAGAI-KALAT SURVEY

A Harappan-Mehi culture site was found in the Bolan Pass near Kinta Village. The extension of the distribution of Harappan material this distance into the pass expands the known range of the Indus cultures to the limit of the Punjab ecological pattern in Kachhi much as Dabar Kot in Loralai.

Sites that contained Quetta ware were found at Nushki, at Panjpai, and near Lak Pass, north of Mastung in Kalat State. However, the extension of Quetta ware into Kalat State has already been noted by de Cardi (1950, p. 54, pl. 1, figs. 1–3).[1]

KANDAHAR

The expedition headquarters were moved to Kandahar. The survey methods pursued in Baluchistan were continued in the fertile plain which spreads between the Dori Rud and the Arghandab River. It is remarkable that prior to this survey no prehistoric sites were reported in Afghanistan (p. 5). In view of the abundance of known sites in near-by Baluchistan, their apparent absence has seemed strange. However, before long we realized why the sites were difficult to locate. The Kandahar Plain is not only the merging area for four rivers, the Tarnak, Dori, Arghandab, and Arghastan, but also for numerous minor streams. The location of Kandahar at the foot of the piedmont of the Koh-i-Baba ranges places it in a position to receive a large percentage of the moisture which forms on those ranges. By the time the rivers have reached Kandahar, their velocity is reduced, the alluvium is being deposited, and the streams are mature and meander with little topographical obstruction over the surrounding plain. The result is a rich alluvial plain compressed between the Registan plateau and the Koh-i-Baba piedmont. Thus prehistoric sites on the plain are subject to burial in alluvium much as were the ancient cities of the Nile Delta. In addition, because of the nature of their soil structure (loam

[1] Through the kindness of Mr. Leslie Alcock, I had the opportunity, when in Karachi and in Quetta, of examining some of the sherds collected by de Cardi.

and humus), they are popular as sites for contemporary farming.[1] Therefore, the surface material on the prehistoric mounds of the Kandahar Plain is much less abundant than it is in Baluchistan. In addition, the sites are never more than 7 meters high, though several are, without doubt, "capped" by the ruins of later periods.

Deh Morasi Ghundai

The recovery of a number of sherds resembling Quetta ware from this low mound, located some 4 miles to the east of Panjwai, led to a decision to excavate in the site. Noteworthy among the surface finds was the type of black-on-gray ware associated with the Quetta culture and a number of black-on-buff sherds with chevrons and zigzags, and black painted wares like those common in the Late Quetta-Sadaat levels at Damb Sadaat. Three cuts were made into the southern slope of the mound, one of which was sunk to virgin soil. The evidence indicates that the site represents a single culture which we have called Morasi.

The plainware is wheel made but distinguished by a general crudeness, being generally rather thick walled and coarse in paste. The painted wares are wheel made and well fired. The paste of these is also somewhat coarse and sandy, though the ware is thin and well made. The decoration is in black paint on both a buff slip and red-fired original surface. Red-slipped wares are rare. A few sherds with very fine black-on-buff geometric design, possibly trade wares, were presumably from the Quetta Area (fig. 4F). Loop designs on the interior of open dishes are common.

Alabaster cups, pestles, spindle whorls, bone awls, stamp seals, and copper fragments were also recovered *in situ* at this site.

Louis Dupree, who had been excavating in caves in the search for possible paleolithic evidence in the Kandahar Area, made a more extensive cut at the top of the southern slope of this mound. The recovery of a Zhob Mother Goddess at the 4.6-meter level,[2] identical with figurines found at the Sadaat level, confirmed the evidence of the pottery as to affinities with Baluchistan.

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[1] A similar situation is common in Afghan-Turkestan, especially in the triangle of Baghlan-Khanabad-Kunduz.

[2] Virgin soil was reached at about 6 meters.

Said Kala Ghundai

The mound of Said Kala stands in the midst of ploughed fields 9 miles east of Kandahar. It is surrounded by a shallow swamp. Two cuts were made into the top of the mound, at the east and west, respectively.

Morasi Culture: The latest occupation was of the Morasi culture. Bull figurines, stamp seals, and a number of flaked chalcedony tools were found, in addition to Morasi pottery types.

Said Kala Culture[1]: The wheel-made Morasi pottery was gradually replaced by a complex of hand-made pottery. Only an occasional wheel-made sherd was found in these levels (that is, below Morasi). These are Quetta or Zhob trade wares. The hand-made pottery includes a number of mat- and cord-marked sherds. The pastes vary from a very coarse granular consistency to a rather fine but still sandy type. Straw temper is frequently used; the resulting ware is of poor quality.

A baked clay and unpainted bull figurine was found in a Said Kala level. Other Said Kala objects are: bone awls, flaked chalcedony scrapers and knives, and mortars and pestles. The soil was very damp so that no trace of copper was found, owing to probable complete disintegration. One body sherd was unusual in that it bore the imprint of a rectangular stamp seal on its exterior. The design consists of a series of concentric diamonds.

Architectural remains consisted of small rooms conforming in size to those of the Quetta B horizon at Damb Sadaat. Construction was, as usual, with mudbrick. Pisé occurs frequently in both Morasi and Said Kala.

An attempt was made to reach virgin soil in Cut 1, but after reaching a depth of 6.3 meters, water rushed into the cut in quantity, and the excavation was abandoned. Under drier weather conditions several weeks later, the excavation was resumed, but the seepage from the surrounding swamp made further work impossible.[2]

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[1] Said Kala is the type name given to the pre-Morasi horizon here.

[2] It is probable, however, that virgin soil was not more than 1 meter below our lowest cut. I say this because the virgin soil reached at Deh Morasi Ghundai was only slightly below the level of the modern flood plain. Both sites are close to the alluvial gravel fans on the northern side of the plain, and the silt deposits there are naturally shallower than those nearer the river courses. Thus Said Kala Ghundai parallels the situation at Deh Morasi Ghundai. This, however, is a moot point.

Range of Sites on Kandahar Plain

It is possible to stand on an elevation in the midst of the Kandahar Plain and observe numerous mounds in almost every direction. Most of these are Islamic, or at least Islamic-capped. One proved to be Buddhist, and other periods are doubtless represented. However, the prehistoric remains seem to be fairly comprehensively represented by the mounds tested. Lack of time and the condition of equipment prevented the complete survey needed for all these areas. However, three additional Morasi culture sites were located. No other prehistoric elements than those of the Morasi and the Said Kala cultures have been so far identified in the Kandahar Area.

AFGHAN SEISTAN

The interior basin of Seistan, which is actually the delta of the Helmand River, has undergone considerable change in topography during the many centuries of its written history. That there have been parallel changes during the prehistoric period is substantiated by the concrete evidence of the chalcolithic settlements reported by Sir Aurel Stein well to the south of the modern Hamun-i-Seistan (Stein, 1928, pp. 949–956). The series of sites from Hauzdar south to the vicinity of Ramrud are in the delta arc of the extinct Rud-i-Biyaban, the dry course of which breaks from the channel of the modern Helmand River 12 miles west of Chahar Burjak (Afghanistan) and runs almost due west across the Iranian boundary, where its branches fan out in characteristic delta fashion. Swamps and alluvial deposits of the modern Helmand delta to the north conceal the traces of chalcolithic settlement there, and thus it is only in the ancient southern delta that occupation sites are available for study by the twentieth century archaeologist.[1]

The Seistan Basin is actually a system of sub-basins. Of these, two are of major importance, that is, the Hamun-i-Sabari and the Gaud-i-Zirreh. The Hamun-i-Sabari is now the principal catch basin for the waters of the perennial Helmand River and the intermittent Farah and Harut rivers. In seasons of heavy flow, water may reach other smaller basins, for example, to Hamun-i-Puzak. In flood years all the basins expand tre-

[1] Exception to this may be found by deeper excavation in mounds such as those of Nad-i-Ali (see Ghirshman, 1939).

mendously, spreading sheets of water over the alluvial plain to the limits of the respective sub-basins. The water that rises beyond the boundaries of the sub-basin finds an outlet to the south via the normally arid channel of the Shela Rud to the broad saline basin of the Gaud-i-Zirreh, transforming the latter into a large shallow lake. Evaporation and sub-surface infiltration then absorbs the flood waters, and the basin returns to its normally arid status. Significantly, the salinity of the residual flats is very high (Hedin, 1910; Stein, 1928; Tate, 1909).

The extinct Rud-i-Biyaban indicates that in earlier times a large percentage of the Helmand River flood waters flowed directly into the southern portion of the present Hamun-i-Seistan Basin and therefore to the immediate head of the Shela Rud.[1] This means that the Gaud-i-Zirreh received water perennially from the Helmand River, a significant situation in terms of geography in view of the position of chalcolithic sites in the Rud-i-Biyaban delta.

The failure of the First Afghan Expedition to locate significant prehistoric sites in northern Seistan (Fairservis, 1950, 1951), the French surveys that reported no prehistoric sites in the Sar-o-Tar tract, and Stein's recovery of prehistoric material only to the south of Hauzdar, all implied that the most critical area for prehistoric research in Afghan Seistan would be in the Rud-i-Biyaban–Gaud-i-Zirreh Area, to the south and west of the modern Helmand.

With considerable difficulty, the expedition made its way south of Chakansur and set up a base camp in the late Islamic ruined fort of Kala-i-Amir, 7 miles west of Chahar Burjak. From here, survey parties visited the Helmand Valley northward to Kala-i-Fateh and eastward to the "neck" of the funnel of Jehannum. No prehistoric sites were observed on these traverses.

Rud-i-Biyaban

As the Helmand River was low during the time of the reconnaissance (January-February), a truck was guided across a ford at Chahar Burjak with the help of the local governor. With the aid of the Sirdar Mohammad Omar, a Baluchi chieftain, it

[1] Surface collections made along the edge of the channel in the Rud-i-Biyaban Area revealed many sites of Partho-Sassanian and Islamic times. It is apparent that a canal had been built in an effort to draw water from the Helmand River, but it dried up with the shift in the Helmand channel.

was possible to send supplies across the Helmand River from Kala-i-Amir at regular intervals. As a result, a party was maintained in the waterless Rud-i-Biyaban area for a considerable period. A field base was set up in an Islamic tomb at Gumbat on the Rud-i-Biyaban, about 11 miles west of the ruins of Trakun.

The entire Rud-i-Biyaban channel (including deltaic branches) was diligently searched from New Gina westward to the Iranian frontier, with negative results in so far as prehistoric sites are concerned, but we did recover excellent representative material from 30-odd historic period sites.[1]

The survey of the Dasht-i-Zirreh, south of the Rud-i-Biyaban, discovered numerous remnants of an extensive canal and reservoir system that had been utilized both in pre-Islamic[2] and Islamic times.

Gardan Reg

The low desert plateau that forms the Dasht-i-Zirreh falls off rather abruptly, approximately 20 miles south of the Rud-i-Biyaban. The escarpment line forms the northeast wall of the low plain through which the Shela Rud flows. Between the Dasht-i-Zirreh escarpment and the Shela Rud, there exists a "sea" of sand dunes called the Gardan Reg. These dunes are the eroded products swept off the Dasht-i-Zirreh and other northern deserts and deposited by the prevailing northwest wind.[3] They effectively blanket the portion of the alluvial plain northeast of the Shela Rud. An exception to this "blanketing" is found in a narrow strip of wind-eroded alluvium (*ca.* 2 miles in average width) that lies between the bluffs of the Dasht-i-Zirreh and the dunes of the Gardan Reg. The maps of the Seistan Boundary Commission of 1904–1905 (MacMahon, 1906) indicate that this strip may be the channel for one of the arms of the Rud-i-Biyaban which curved to the south-southeast en route to join the Shela Rud and to flow into the Gaud-i-Zirreh. It seems

[1] A painted sherd and a stone arrowhead were found in association with historic materials at two separate sites near the Iranian frontier.

[2] Sherd collections from associated sites may aid in identifying the canal builders and their successors.

[3] The prevailing wind direction is northwest-southeast. In the summer months a wind phenomenon known as the "wind of 120 days" blows steadily at velocities of above 20 miles an hour, attaining blasts of 60 to 70 miles. In winter the winds can reach extraordinary velocities (the British recorded a gale of 120 miles per hour), though the winter months are generally mild. (See Tate, 1909.)

reasonable to support this hypothesis in view of the parallel curve of the Dasht-i-Zirreh escarpment.

The topography of this strip between the Dasht-i-Zirreh and the Gardan Reg is similar to that found by Stein (1928, pp. 949 ff.) in the Rud-i-Biyaban delta and by Tate (1910–1912, pl. opposite p. 132) in the Surh-dagal, a series of limey silt bluffs wind-eroded into fantastic forms. Some of these bluff slopes are littered with thousands of potsherds, stone artifacts, and other prehistoric objects.

One site in particular, GR6, covers an area measuring approximately 250 by 180 meters, most of which is heavily covered with sherds. Almost all the artifacts showed signs of erosion, and the paint from some sherds had been almost completely wind eroded.

Although several other sites with comparable materials were located in the area, it was decided to concentrate on GR6, since its size and the quantity of surface artifacts promised valuable results. An excavation was begun on the southern slope of the mound, but virgin soil was encountered at 37 centimeters. On the highest part of the eastern side of the mound two additional cuts were attempted in two different positions, but virgin soil was reached at 35 centimeters (slope) and 15 centimeters (top), respectively. All the excavated materials were, without exception, eroded in varying degrees. This may explain a curious feature of the mound. We had noticed that some areas of the site were covered with small heaps of sherds set in fairly regular order, with rather precise gaps between each pile.[1] In our initial attempt to cut into the site, we had cleared one of these piles but found no clue as to the reason for its existence. Later, however, a logical and possibly correct explanation was suggested, i.e., the violent wind erosion to which this region is subjected[2] wore down and blew away the mudbrick walls of the prehistoric structures, leaving only the soft fill of the rooms which was also eventually blown away. The heavy sherds and stone objects sank steadily until they rested on virgin soil in piles, marking the locale of rooms, while the intervening gaps marked the sites of the walls.

Some 300 yards to the southwest of GR6 a cemetery was discovered. Its position and comparable artifacts suggest that it probably belongs to GR6. Numerous burials were eroded out,

[1] These sherd piles measured on the average slightly less than 75 centimeters in height and 2 by 2 meters in diameter.

[2] See footnote, page 27.

FIG. 5. Pottery from southern Seistan. A. Gardan Reg 6. Black paint on buff slip. B. Gardan Reg 6. Stamped decoration on dark brown clay. C. Gardan Reg 6. Black paint on gray surface. D. Gardan Reg 6. Dark brown paint on red-brown slip. E. Gardan Reg 6. Dark brown paint on buff slip. F. Gardan Reg 6, Cemetery A. Black paint on buff slip. G. Gardan Reg 6. Black paint on greenish buff surface. No scale.

but 10 of these, all fragmentary, were recovered. Most of the funeral pottery, as well as many of the bones, had been broken and scattered. The skeletons are all loosely flexed; each lay on the left side with face to the north along the east-west line.[1]

[1] Compare this orientation with Schmidt (1937, p. 65).

Disc, barrel, and tubular beads were found in association with the skeletons, one in position at the neck of one skeleton. The sherds *in situ* suggest no particular orientation of grave furniture. Two of the skeletons lay on a vestige of a mudbrick grave floor that may indicate mudbrick tomb construction. Cursory field examination of the skeletons indicates a slender, moderately tall, dolichocephalic people.

The pottery is comparable in every way with that recovered by Stein in Iranian Seistan. The decorated wares are largely black-on-buff, though sherds of black-on-dark-brown are not uncommon. Design elements are identical with those published by Stein, with a few additions. A new element, hitherto unreported, is a naturalistic goat or antelope (sherd unfortunately broken at the body). These wares are well fired, but tend to be thicker and somewhat coarser in paste than the Quetta ware. The black-on-gray wares closely parallel those found in the Quetta culture, being hard fired and similarly decorated with black bands on rim and body.

Plainwares include almost metallically hard-fired open bowls and a series of red, brown, gray, and buffwares of moderate thickness.

Objects of stone include alabaster cups, mortars, and pestles; arrowheads and awls of chalcedony, flint, and basalt; fine flint needles and stone spindle whorls.

Fragments of copper bowls, beads (or spindle whorls), knives, and a decorative plaque, or seal, have been recovered. That copper smelting was carried on in this area by subsequent people in great volume is attested by the large amount of copper slag that covers the bluffs to the southeast of the site. The slag is mingled with sherds similar to those from some of the sites found in the Rud-i-Biyaban area to the north. In all probability the occupants of GR6 and the later historic people utilized the same source for the metal. The presence of the metal may well have been one of the attractive features of the area.[1]

Nad-i-Ali–Farah

The curtailment of operations in southern Seistan was forced by the shortness of supplies and the possibility that the spring floods would cut off our exit. As it was, it took 19 days to reach

[1] The source is unknown today, though it is probably in the mountains to the south and west.

Farah. We were delayed by sandstorms and rain and the rise of the river which opened the irrigation systems across our route. However, the delay permitted a brief survey of the mounds of Nad-i-Ali where sherds were collected.

On the Farah Plain, just north of Farah City, we visited a site, known locally as Tepe Barangtud (see de Cardi, 1950), where several black-on-buff sherds suggestive of those we had recovered in Seistan were found. The site has a loam surface and is partly cultivated by the local villagers. As a result, sherds were scant, and the collection was generally unsatisfactory.

Numerous mounds are located on the plain of Farah. Some of these are certainly Islamic, but we saw a number of sites from Tepe Barangtud which we were unable to visit but which may be prehistoric. Certainly Farah is in a critical geographical position at the junction of the Herat-Seistan-Kandahar routes.

SUMMARY

A tentative correlation of the Zhob-Loralai and Kandahar cultures with the stratigraphic sequence of the Quetta Valley is attempted in table 1.[1]

The Zhob Mother Goddess figurines were recovered in stratigraphic context in the Sadaat horizon at Damb Sadaat and in the Morasi culture; a surface find at Sur Jangal, a similar goddess figurine, is most probably from Sur Jangal II[2]; black-on-gray wares are found in Quetta B, Morasi, and Sur Jangal II (A and B).

There are also possible correlations in the similarities of the Quetta A orange ware with that of Sur Jangal I. The Quetta-Sadaat range of ornamental design contains elements represented at Sur Jangal and in the Morasi culture. Wheel-made trade sherds (of black-on-buff linear designs) in the Said Kala horizons indicate affinities to an earlier Quetta-Zhob phase.

A close similarity exists between the polychrome Amri wares of Sind and those of the Kechi Beg horizon in the Quetta Valley. In the Quetta horizons there is ornamentation with a number of hachure-bodied animals, including bulls with interlocking horns. Nal polychrome wares have been recovered in Quetta B levels.

[1] No attempt is made here to relate the Seistan cultures to the Baluchi-Kandahar stratigraphy because of the other problems involved in Seistan relations to Bampur, etc.

[2] Found on the edge of Stein's Trench VI which does not reach virgin soil and contains materials only of Sur Jangal II type.

TABLE 1

TENTATIVE COMPARATIVE STRATIGRAPHY OF BALUCHISTAN, AFGHANISTAN, AND THE INDUS VALLEY

Kandahar	Quetta	Kalat	Sind	Loralai[a]	Punjab
Morasi[b]	*Sadaat*[b]	?		Harappan	*Harappan*[b]
	?				
	Quetta[b]	NAL[c]		*Sur Jangal II*[b]	?
Said Kala[b]		?	*Harappan*[b] (9 bldg. periods)		
			?		
?	*Quetta*[b]	NUNDARA[c]		*Sur Jangal I*[b]	*Pre-Harappan*[b]
	Kechi Beg[b]	TOGAU[c]	*Amri*[b]		
	Kili II[b]		[Forest cultures]		[Forest cultures]
	Kili I[b]				

[a] The relations of the sequence at Rana Ghundai to that of Sur Jangal have not been dealt with here because of the need for an examination of the collections made at Rana Ghundai. However, there is an apparent relationship of types between Sur Jangal I and II and Rana Ghundai I and II, respectively. Periano Ghundai has been omitted for a similar reason.

[b] Stratigraphically located in column.

[c] Stylistically identified.

Range and Origins of Baluchi Cultures

The range of the various cultures, our knowledge of which we have amplified or defined in the course of our field work, can be examined tentatively in the light of the buffware and redware-province hypothesis. The following facts should be considered:

1. The presence of Quetta ware elements in the Kandahar Area in association with the Morasi culture which supersedes the primitive ceramic horizon of the Said Kala culture. No other prehistoric culture types have been recovered in this area.
2. The Seistan affinity with the Makran and the possibility of an extension of the Seistani phase of the buffwares into the Farah Area.
3. The establishment of the redware Togau by de Cardi, as centered in Kalat State, and its association with the Amri culture.[1]
4. The presence of the Amri culture (Kechi Beg) immediately underlying the Quetta cultures in the Quetta Valley.

McCown and Piggott defined two redware provinces in northeast Iran and the Zhob-Loralai Area of Baluchistan. Intervening between them is the desert area of southern Afghanistan. There are three possible routes across southern Afghanistan to the Zhob-Loralai Area: (1) Across the Koh-i-Baba ranges from the Hari Rud Valley. This mountain route is infrequently used today. It has never been examined for its archaeological potential and cannot, therefore, be ruled out as a possibility. However, in view of the accessibility of other routes and the seasonal nature of mountain travel, it is most probable that this was a secondary route. (2) Via Farah Rud (or Harut Rud), the Seistan Basin, the Helmand River, and the Kandahar Area: water and food supply are available over the entire route. There are no effective barriers but the distance, a span of over 500 miles. (3) Via Farah across the northern Dasht-i-Margo or via the piedmont of the Koh-i-Baba to the Kandahar Area. The Farah-Girishk route is short (*ca.* 250 miles to Kandahar), and travel is over flat, hard country. However, the region is extremely arid; even close to the piedmont fans there are few natural springs. The Khash Rud at Dilaram is the only dependable water source between the Farah Rud and the Helmand River.

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[1] It is notable also that the only occurrences of the Togau antler motif in the Quetta Valley are associated with Kechi Beg sites.

From the archaeological point of view, the presence of buff-ware cultures at both Kandahar and Seistan, with only slight indications of redware types, suggests that southern Afghanistan was not the channel for redware contacts between northeastern Iran and northern Baluchistan, but was instead peripheral to the Baluchistan buffware culture centers.

If we eliminate temporarily the northeastern Iranian derivation for the redwares, where do those of Zhob originate? This question is seemingly unanswerable on the present evidence, but there are strong indications of a solution in the Togau-Amri relationships.

The Togau ware is a hard-fired thin redware decorated with black paint. A number of its geometric designs are in general parallel with those of Amri. Some of its stylized animal ornamentation includes the goat or ibex horns which are reduced to mere hooks. Interestingly, the sherd shown by de Cardi (1950, pl. 1, no. 9) illustrates the antelope form so familiar in Sur Jangal II. The range of these wares is wide: they appear in Sind (Majumdar, 1934, pl. 24, no. 33), in Kalat State (at least as far south as Gidar; see also de Cardi, 1950, p. 54, pl. 1), and in the Quetta Valley at three sites: Kechi Beg, Q19, Kili Ghul Mohammad.

On the basis of the relations previously described, the stylistic equation in relative time of Sur Jangal II with the Quetta B-Sadaat cultures places Sur Jangal I generally contemporary with Quetta A in the Quetta sequence. The Togau-Amri range on the basis of present evidence seems to be centered in Kalat State, with extensions into Sind and the Quetta Valley. The similar design elements of Togau ware and Sur Jangal II indicate a relationship, which suggests Sur Jangal II wares as influenced by or derived from Togau ware. Such an influence would be probable via Sibi and the Nori Beji River drainage into Loralai. Thus the Zhob redwares might be derived eventually from the Togau-Amri cultures of Kalat State.[1]

[1] The occurrence of pre-Harappan redwares similar to Zhob types in the Punjab has been established by R. E. M. Wheeler. Zhob-appearing sherds were removed from the mudbrick fortification and rampart of the citadel at Harappa. (Note especially Wheeler, 1947, p. 91, pl. 16, no. 6, with the wavy line elements of Sur Jangal I.)

Pre-Amri Cultures: North Baluchistan

The question of the derivation of these ceramic cultures is complicated by our scant knowledge of the pre-Amri pottery elements present in the Baluchi hills and the Indus Valley. From the Kili cultures of the Quetta Valley we know of the presence of hand-made wares, some cord or mat marked. The Said Kala culture of Kandahar is probably a localized remnant of the Kili culture. Sur Jangal I presents a peculiar problem. Both hand- and wheel-made pottery appears. The pottery as a whole is rather coarse and thick, but its decoration shows high sophistication in contrast to its manufacture. What is significant about Sur Jangal I, for example, in comparison with Togau, is that the Togau reflects Iran in the stylized antelope and ibex motifs, whereas the bull of Sur Jangal I is an Indian element. Thus Sur Jangal I may have an importance above and beyond its immediate stratigraphic aspects in its reflection of an indigenous Indic culture.

Pre-Amri Cultures: Indus Valley

The problem of the pre-Amri Indus Valley cultures is one that needs examination because the indigenous Indian contribution to the later Indus and Baluchi cultures is not clear. There is little material evidence of the pre-Amri cultural status of the Indus Valley, but the following brief hypothesis may be a reasonable, though speculative, picture of that status.

The theory that the Indus Valley was the recipient of greater rainfall which, in turn, fostered the growth of tropical vegetation in ancient times is often postulated. The vast amount of fuel needed to burn the bricks for the Harappan buildings, the Indian fauna illustrated on Harappan seals, and perhaps the number of drains in the Harappan cities contribute to its support. If its validity be assumed on the evidence that a tropical forest growth was present in the Indus Valley, even in Harappan times, the pre-Amri cultures may have been adapted to a forest environment, much as in tropical India today, with wood dwellings, a hunting and gathering economy, primitive agriculture, and probably the domesticated cow and goat. The Amri-Togau influence may have brought the Mesopotamian developments such as irrigation, wheat cultivation, and a wider range of technological advance, which gradually superseded the forest economy. The

clearing of forests and the establishment of large villages surrounded by spreading fields of wheat would occur in this period.

In Baluchistan, the Kili cultures seem to have been a carryover of the neolithic Asiatic west. Here ibex and antelope hunting, goat and sheep herding, gathering, and a degree of primitive agriculture probably maintained small villages near the sources of water supplies. The Amri-Togau developments which supersede permitted better control of the water drainage, irrigation, larger villages, and the technological advance in the use of copper and stone. The use of the potter's wheel developed a fine pottery which was diffused into the Punjab and was used there until replaced by the Harappan much later. Presumably other Amri-Togau techniques accompanied the ceramic technique.

The Amri-Togau technical advances, western Asiatic in their origin, blended with the pre-Amri cultural traits, among which may be included the domestication of the Brahma bull and the worship of certain fertility deities. This blend produced perhaps the elaborate urban patterns of the Harappan cultures and the florescence of the Zhob cultures as expressed in Sur Jangal II. Quetta B and Sadaat may also stem from this Indic-Iranian culture, but there is also a close connection with the sources for the diffusion of Iranian traits, especially in Quetta B.

Harappan Culture in Loralai and Punjab

The Baluchi site of Sur Jangal is about 25 miles north of the large site of Dabar Kot, an extensive Harappan settlement located on the Ismail Shahr Plain, 1200 feet above sea level. On the other hand, Sur Jangal is located in a narrow valley above the 3500-foot mark. No Harappan artifacts were found at Sur Jangal in spite of the proximity of Dabar Kot. The indication is that Sur Jangal was abandoned before the Harappan settlement was founded at Dabar Kot. I would suggest, then, that the Harappan succession in the Indus Valley was earliest in Sind (Harappan immediately over Amri) and later in the Punjab (relation of pre-Harappa[1] to Sur Jangal I). Thus the appearance of the Harappan culture in Loralai after the Sur Jangal II period may be a demonstration of the late Harappan expansion out of Sind.[2] Sind is also the area closest to the western Asiatic

[1] See footnote on page 34.

[2] Note also our discovery of a Harappan site in the Bolan near Kinta Village (p. 22).

routes from the Makran and was more likely to be stimulated by outside contact than was the more remote Punjab.

It is suggested then that there existed in the Indus Valley an extensive forest growth, most probably tropical, to which a cultural pattern of primitive forest economy and localized agriculture had adapted itself. In Baluchistan a highland valley economy which included hunting, gathering, and primitive agriculture was the basis for small camps and villages, concentrated near water sources. The influx of Togau-Amri traits which stimulated broad expansion of agricultural method, architecture, pottery manufacture, and other techniques changed the pattern of life in the two areas. In Baluchistan, for example, the villages were larger and more solidly constructed; localized esthetic and religious elements asserted themselves, causing the growth of locally differentiated communities. In Sind the forest cultures and the Amri-Togau traits were integrated, and the basis for Harappan civilization and economy was formed. The Harappan diffusion to the north was gradual. Harappan culture elements appeared late in the Punjab and in northern Baluchistan. The flourishing village cultures of Quetta and Loralai in northern Baluchistan had already passed their climax when the Harappan culture penetrated the foothills.

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